

VIRGINIA COASTAL RESILIENCE MASTER PLAN

Task 9: Outreach

Public and Stakeholder Meeting Summaries

NOVEMBER 2, 2021



FINAL REPORT

PREPARED BY

Vision Planning and Consulting and
The Miles Agency under subcontract to:

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060

SUBMITTED TO

Department of Conservation and Recreation
600 East Main Street
Richmond, Virginia 23219



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1. INTRODUCTION

This document provides a compendium of individual meeting summaries captured for each of the outreach meetings conducted by the Virginia Coastal Resilience Master Plan. Meeting summaries are presented in three main groups:

- Public Meetings
- Other Stakeholders Meetings
- Underserved Community Meetings

Individual meeting summaries are captured within in sub-section under these three groups.

2. PLANNING DISTRICT AND REGIONAL PLANNING COMMISSION PUBLIC MEETING SUMMARIES

Eight public meetings were held in each of the eight coastal Planning District Commissions (PDCs) and Regional Commissions (RCs) in Virginia between July 27 and August 11, 2021. These meetings were scheduled the same day of workshops with PDC/RC, locality, and stakeholder participants engaged in resilience activities within each region.

2.1. GEORGE WASHINGTON REGIONAL COMMISSION PUBLIC MEETING SUMMARY

Meeting Date: July 27, 2021	Type: In-Person
Meeting Location: Fredericksburg Germanna Community College	Attendees: 0

2.1.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.1.2. SUMMARY:

On Tuesday, July 27, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/open house to involve and inform residents, stakeholders, and communities in the GW Regional Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

No individuals from the public attended the meeting; therefore, no public feedback was received to inform the CRMP efforts. Future efforts to conduct public meetings in the GW Regional Commission will better utilize local contacts to distribute public notices, as well as provide more advanced notice of the meeting on a variety of platforms.

2.2. PLAN RVA REGIONAL COMMISSION PUBLIC MEETING SUMMARY

Meeting Date: July 28, 2021	Type: In-Person
Meeting Location: Richmond, VA	Attendees: 3
PlanRVA Boardroom	Time: 6:00-8:00 pm



2.2.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
- Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.2.2. SUMMARY:

On Wednesday, July 28, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/open house to involve and inform residents, stakeholders, and communities in the PlanRVA Regional Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

Since the attendees arrived at different points throughout the 2-hour meeting period, a presentation of the project's purpose, background, and progress to date was not provided. Instead, attendees gained information on the project through discussions with Rear Admiral Ann Phillips, Dr. Brian Batten, Matt Dalon, and the remainder of the Dewberry team.

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- **Visioning Station** – Attendees were asked to describe what their resilient PDC/Communities would look like in 30-50 years. The results of this Activity can be found in the section below.
- **Mapping Station** – Attendees were invited to markup maps to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. The results of this Activity can be found in the PlanRVA Compiled Public Markup Maps document.
- **Survey Station** – Attendees were given the opportunity to complete the public survey (if they had not already) in either electronic (tablet) or paper format. Results to the survey can be found in the CRMP Public Survey Summary document.
- **Comments Box** – Attendees were given to opportunity to provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.). Comments can be found in the section below.

The community input capture documents can be found in the Appendix.

2.2.3. PUBLIC ATTENDEES:

Community/Organization	Community/Organization
CCAN-Williamsburg/HR	SELC-Charlottesville

2.2.4. VISIONING STATION:

Attendees were asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – "A resilient PlanRVA Regional Commission would look like ..." No attendees provided feedback for this exercise.

The two public attendees indicated that they did not reside in the PlanRVA jurisdiction, but rather were curious about the project and came to RVA as it was the closest meeting to their homes. Therefore, they did not feel comfortable providing input on the local conditions or assets.

2.2.5. COMMENT CARD FEEDBACK:

Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project. No public attendees at this meeting provided feedback via comment cards.

Note: It was suggested that the low attendance was likely due to a local minor league baseball game the same evening. Recommendations included setting up a booth/table at one of these games for future outreach efforts, as the games are a point of pride for many residents and businesses, and provide a consistent and centralized gathering place for multiple communities.

2.3. CRATER PDC PUBLIC MEETING SUMMARY

Meeting Date: August 2, 2021	Type: Hybrid (in person/virtual)
Meeting Location: Petersburg, VA	Attendees: 9
Tabernacle Baptist Church Community Life Center	Time: 6:00-8:00 pm



2.3.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.3.2. SUMMARY:

On Monday, August 2, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/open house to involve and inform residents, stakeholders, and communities in the Crater Planning District Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

Attendees were provided a thirty (30) minute presentation by Rear Admiral Ann Phillips which covered: the project's purpose, background, progress to date, and presented the findings of the impact assessment for the PDC, which included impacted sectors (transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. A brief Question and Answer period followed the presentation before attendees were invited to move through the four (4) Public Participation Stations.

Admiral Phillips and Dr. Brian Batten fielded questions posed by the public, which covered major themes, seen throughout all PDC meetings, such as:

- Inland rainfall flooding
- Consideration of historic and cultural resources
- Improved stormwater drainage systems, especially in underserved communities

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- **Visioning Station** – Attendees were asked to describe what their resilient PDC/Communities would look like in 30-50 years. Residents of Crater PDC focused on:
 - Adaptation of existing structures
 - Development of flood-resistant and resilient infrastructure
 - Protection of cultural and natural resources
 - Improved water drainage systems
 - Creating safe communities that promote healthy living

The complete results of this Activity can be found in the section below.

- **Mapping Station** – Since the public meeting was held virtually, in-person interaction with and markup of maps could not be facilitated. However, Dr. Brian Batten provided a detailed walkthrough of all maps produced for the impact assessment. Attendees were invited to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. The results of this Activity can be found in the Crater PDC Public Map Markup document.
- **Survey Station** – Attendees were provided with both the QR code and the link to complete the public survey (if they had not already) after the conclusion of the meeting. Results to the survey can be found in the CRMP Public Survey Summary document.
- **Comments Box** – Attendees were given to opportunity to provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.). Comments can be found in the section below.

The community input capture documents can be found in the Appendix.

2.3.3. PUBLIC ATTENDEES:

Community/Organization	Community/Organization
Chester	Petersburg
RVA	Friends of Lower Appomattox
Eastern Henrico (Highland Springs)	Surry County
City Planning Commission	

2.3.4. VISIONING STATION

Attendees were asked to identify assets or resources in their community that are most important to protect from current and future flooding events. The following statements were captured during this exercise:

- Residential areas
- Infrastructure
- Beach-front communities (like Sunken Meadows) and beach-front land
- Wildlife and trees
- Historical resources
- Public education
- Manufacturing plants
- Strong commitment to conserving existing natural resources, even if it conflicts with zoning or economic development

Attendees were then asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – "A resilient Crater PDC would look like ..." The following statements were captured through this exercise:

- Social resilience
- Protection of immobile populations
- Saltwater-resistant infrastructure
- Funding for environmental planning
- Fair and safe water withdrawals
- Adapting existing structures
- Safe I-95 and 295
- Resilient water and sewer treatment plants

- Protection of cultural/natural resources
- Protection of trees
- Maintain rural feel but have modern resources and amenities
- Our streams and riverfront land is protected
- Public green spaces that are maintained and safe
- NJ Blue Acres model for long-term maintenance and management
- Buyouts of repetitive loss structures
- Smooth water drainage system
- Safe place for recreation and pets
- Built-up capacity

2.3.5. COMMENT CARD FEEDBACK:

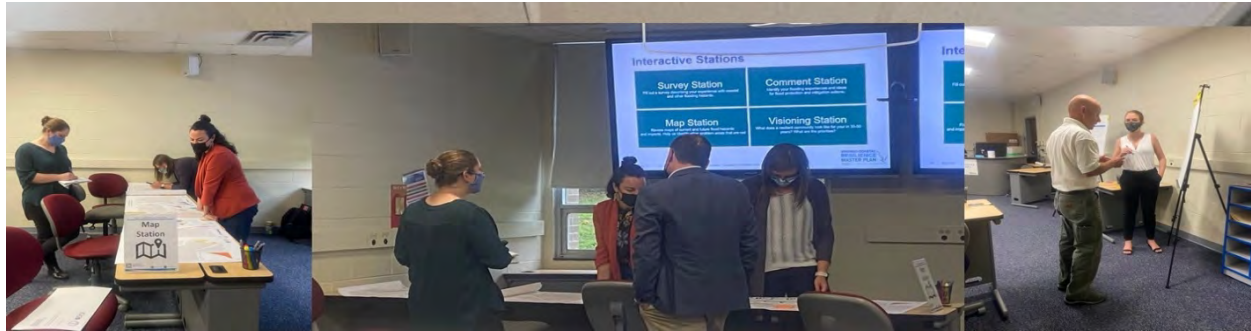
Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project. The Comment Cards from Crater PDC are listed in the bullets below:

- Policy recommendation for CRMP: Require a shoreline/sea level rise assessment at each real estate transaction. When a house is being sold, tell/show buyers about the potential impacts of sea level rise.
- Policy recommendation for CRMP: Bind local land use planning and development decisions to natural infrastructure tools like DCR Natural Heritage – Conserve Virginia
- Policy recommendation for CRMP: Prioritize buyouts of repetitive loss structures (FEMA) and convert those to natural infrastructure – protects people and increases natural solutions.
- From Chesterfield, notice of the public meeting was not well-communicated, compared to the PlanRVA public meeting
- Send email to all citizens who signed in at the public meeting when the online viewer is up and running.

Verbal follow-up discussions regarding these cards indicated that the community wants a more dedicated effort to restrict development in vulnerable areas and increase buyer awareness of flooding risks, considering prevalence of inland flooding. Additionally, the public attendees emphasized the need to address inadequate stormwater drainage systems in their communities. Issues regarding limited public notice of the public meeting can be avoided in the future by utilizing local contacts to disseminate notices.

2.4. MIDDLE PENINSULA PDC PUBLIC MEETING SUMMARY

Meeting Date: August 3, 2021	Type: In-Person
Meeting Location: Glenns, VA	Attendees: 4
Rappahannock Community College – Glenns	Time: 6:00-8:00 pm



2.4.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.4.2. SUMMARY:

On Tuesday, August 3, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/open house to involve and inform residents, stakeholders, and communities in the Middle Peninsula Planning District Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

Attendees were provided a thirty (30) minute presentation by Rear Admiral Ann Phillips which covered: the project's purpose, background, progress to date, and presented the findings of the impact assessment for the PDC, which included impacted sectors (transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. A brief Question and Answer period followed the presentation before attendees were invited to move through the four (4) Public Participation Stations.

Admiral Phillips and Dr. Brian Batten fielded questions posed by the public, which covered major themes, seen throughout all PDC meetings, such as:

- Inland rainfall flooding
- Impaired transportation systems due to flooding
- Consideration of historic and cultural resources
- Improved stormwater drainage systems, especially in underserved communities

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- **Visioning Station** – Attendees were asked to describe what their resilient PDC/Communities would look like in 30-50 years. Residents of Middle Peninsula PDC focused on:
 - Diversified economy and protection of the area's tax base
 - Preservation of natural resources
 - Resilient infrastructure that utilizes new technology

The complete results of this Activity can be found in the section below.

- **Mapping Station** – Attendees were invited to markup maps to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. The results of this Activity can be found in the MPPDC Compiled Public Markup Maps document
- **Survey Station** – Attendees were given the opportunity to complete the public survey (if they had not already) in either electronic (tablet) or paper format. Results to the survey can be found in the CRMP Public Survey Summary document.
- **Comments Box** – Attendees were given to opportunity to provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.). Comments can be found in the section below.

2.4.3. PUBLIC ATTENDEES:

Community/Organization	Community/Organization
Virginia Sea Grant	Virginia Department of Forestry
Environmental Defense Fund	

2.4.4. VISIONING STATION:

Attendees were asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – "A resilient Middle Peninsula PDC would look like ..." The following statements were captured through this exercise:

- New technologies to combat climate change impacts- more green technologies, internet-based technology
- Less hardening of the shoreline
- Control of invasive species (Japanese stilt grass and Phragmites)
- Preservation of native species
- Increase tax base to reduce reliance on waterfront development
- Keep young people and families here
- Diversified economy: high-quality white-collar jobs and more emphasis on trades
- Infrastructure/high-quality internet

2.4.5. COMMENT CARD FEEDBACK:

Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project. No public attendees at this meeting provided feedback via comment cards.

2.5. NORTHERN NECK PDC PUBLIC MEETING SUMMARY

Meeting Date: August 4, 2021	Type: Hybrid (in person/virtual)
Meeting Location: Warsaw, VA Northern Neck PDC Office	Attendees: 3 Time: 6:00-8:00 pm



2.5.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.5.2. SUMMARY:

On Wednesday, August 4, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/open house to involve and inform residents, stakeholders, and communities in the Northern Neck Planning District Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

Attendees were provided a thirty (30) minute presentation by Rear Admiral Ann Phillips which covered: the project's purpose, background, progress to date, and presented the findings of the impact assessment for the PDC, which included impacted sectors (transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. A brief Question and Answer period followed the presentation before attendees were invited to move through the four (4) Public Participation Stations.

Admiral Phillips and Dr. Brian Batten fielded questions posed by the public, which covered major themes, seen throughout all PDC meetings, such as:

- Inland rainfall flooding
- Impaired transportation systems due to flooding
- Consideration of historic and cultural resources
- Improved stormwater drainage systems, especially in underserved communities
- Generating greater involvement from local groups and residents in the CRMP project
- Implementing effective mitigation efforts that directly address local flooding issues

Additionally, Pamela D'Angelo, a reporter from Virginia Public Radio, attended and developed a thoughtful article and radio piece on the necessity of the CRMP and the outreach efforts. This can be found at: <https://www.wvtf.org/news/2021-08-08/virginia-wants-your-climate-change-stories>.

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- **Visioning Station** – Attendees were asked to describe what their resilient PDC/Communities would look like in 30-50 years. Residents of Northern Neck PDC focused on:
 - Protection of the nature-based economy
 - Preservation of natural resources and habitats
 - Resilient infrastructure that utilizes new technology
 - Improvements to roadways to ensure communities are not isolated during flood events

The complete results of this Activity can be found in the section below.

- **Mapping Station** – Attendees were invited to markup maps to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. No markups were made to the maps by the attendees at this public meeting.
- **Survey Station** – Attendees were given the opportunity to complete the public survey (if they had not already) in either electronic (tablet) or paper format. Results to the survey can be found in the CRMP Public Survey Summary document.

- **Comments Box** – Attendees were given to opportunity to provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.). Comments can be found in the section below.

2.5.3. PUBLIC ATTENDEES:

Community/Organization	Community/Organization
Lancaster	Colonial Beach

2.5.4. VISIONING STATION FEEDBACK:

Attendees were asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – "A resilient Northern Neck PDC would look like ..." The following statements were captured through this exercise:

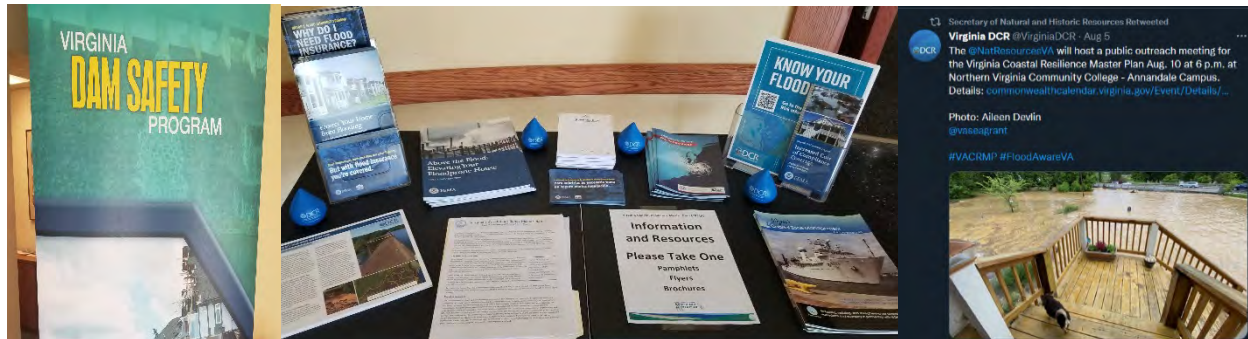
- Forested
- Clean water and filled, filtered aquifers
- No more paper mill, riprap/bulkhead, or flooded roadways
- Natural way to keep land intact along waterways
- Community focused on natural habitat of marine life
- Abundance of native aquatic species
- Safe place for migratory birds
- Jobs for everyone
- Improved infrastructure, including broadband
- Protecting the nature-based economy

2.5.5. COMMENT CARD FEEDBACK:

Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project. No public attendees at this meeting provided feedback via comment cards.

2.6. NORTHERN VIRGINIA PDC PUBLIC MEETING SUMMARY

Meeting Date: August 19, 2021	Type: Virtual
Meeting Location: Zoom Meeting https://us02web.zoom.us/j/88043444359	Attendees: 12
	Time: 6:00-8:00 pm



2.6.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.6.2. SUMMARY:

On Thursday, August 19, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/ open house to involve and inform residents, stakeholders, and communities in the Northern Virginia Regional Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was originally scheduled to be a hybrid in-person/virtual meeting on Tuesday, August 10, 2021; however, severe thunderstorms led to a loss of power to the Northern Virginia Community College - Annandale campus, which resulted in the meeting being cancelled and rescheduled as a virtual meeting on Thursday, August 19, 2021. The meeting was held from 6:00 to 8:00 pm

Attendees were provided a thirty (30) minute presentation by Rear Admiral Ann Phillips which covered: the project's purpose, background, progress to date, and presented the findings of the impact assessment for the PDC, which included impacted sectors

(transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. A brief Question and Answer period followed the presentation before attendees were invited to move collectively through the four (4) Public Participation Stations.

Admiral Phillips and Dr. Brian Batten fielded questions posed by the public, which covered major themes, seen throughout all PDC meetings, such as:

- Inland rainfall flooding
- Consideration of historic and cultural resources
- Impaired transportation systems due to flooding
- Backwater or tailwater effects not included in the impact assessment
- Interest in providing further input and desired avenues for providing input
- How the CRMP will address environmental and ecological impacts
- Continued building/development, granting permits, and updates to building codes
- Consideration of critical utility service and transportation system locations and vulnerabilities in the impact assessment

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- Visioning Station – Attendees were asked to describe what their resilient PDC/Communities would look like in 30-50 years. Residents of Northern Virginia RC focused on:
 - Improvements to transportation systems (roadways, public transportation, airports, and active transportation such as biking)
 - Preservation of natural resources, habitats, and waterways
 - Resilient infrastructure and utilities that utilize new technology
 - Changes to building codes and land use planning
 - Creating an informed community and improving communication before and during flood events
 - Improved stormwater management systems

The complete results of this Activity can be found in the section below.

- **Mapping Station** – Since the public meeting was held virtually, in-person interaction with and markup of maps could not be facilitated. However, Dr. Brian Batten provided a detailed walkthrough of all maps produced for the impact

assessment. Attendees were invited to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. The results of this Activity can be found in the section below.

- **Survey Station** – Attendees were provided with both the QR code and the link to complete the public survey (if they had not already) after the conclusion of the meeting. Results to the survey can be found in the CRMP Public Survey Summary document.
- **Comments Box** – Considering the virtual nature of the meeting, attendees were advised by Admiral Phillips that they could provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.) by emailing them to resilientcoastVA@governor.virginia.gov.

The community input capture documents can be found in the Appendix.

2.6.3. PUBLIC ATTENDEES:

Community/Organization	Community/Organization
Friends of Dyke Marsh	WMATA- Office of Sustainability
Audubon Naturalist Society	Fairfax County
Fairfax County	NVRC
FCPA Energy	EPA

2.6.4. VISIONING STATION:

Attendees were asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – "A resilient Northern Virginia Regional Commission would look like ..." The following statements were captured through this exercise:

- Dyke Marsh is an important natural resource for our area and with coastal flooding it is almost certain that it will no longer provide the habitat that it does today.
- For Dyke Marsh, concerns to address would include loss and degradation of habitat; increased sediment and nutrient inputs; impacts to upland areas linked to the marsh. A resilient community would reduce or eliminate these impacts as much as possible.
- Undergrounding utilities help to keep power on during windstorms but also to allow more room for larger tree canopy, particularly near sidewalks where

pedestrians will most benefit from shade, which helps mitigate heat island effects.

- A resilient community should be informed (understand what areas are vulnerable, especially if it is where they live), plans should be in place to address an emergency (e.g., flooding of residential areas), the responsibilities for the different activities from informing residents to providing emergency shelter should be known and widely shared, reasonable steps should be taken to improve resiliency.
- My priority is to ensure coordinated system and regional adaptation to climate change to ensure the continued provision of safe, equitable and reliable transportation to the region. I'm also interested in seeing VA enable jurisdictional decision making around building codes and land use.
- 1) Improved stormwater management (less runoff generation in communities, restoration of natural bogs and flood environments); and 2) Preservation of critical services, utilities, and emergency response during all climate events.
- Much of northern Virginia was developed prior to SWM regulations. There are many opportunities for retrofitting for SWM that should be taken advantage of.
- For my community (Belle View), a resilient community would address the impacts of flooding by making sure building utilities, access, parking, roads, etc. are protected. communication before and during flood events is critical. development of a plan, and knowledge of that plan by residents are also critical.
- Our waterways and RPAs must also be better protected from development and impervious surfaces. One big issue we are seeing is the lack of "complete streets" which allow SAFE biking on our roads where we already have impervious surface impacts. Instead, because of CBPO exceptions for transportation and passive recreation, we are increasingly seeing trees cut down and paved paths put in our RPAs and floodplains. We absolutely need biking infrastructure to allow multi-modal transportation. But this infrastructure must also be more resilient - these paths impact natural resources and with heavier rains will be flooded out, less accessible more often, and be expensive to maintain. But protecting RPAs and floodplains from larger scale development is a really important thing we can be doing too. Allow our streams the space the need to spread the water out, slow it down, and soak it in.

2.6.5. MAPPING STATION:

Attendees were asked to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The following statements were captured during this exercise:

- Location of concern: New Alexandria
- The ability of tidal marshlands to migrate up stream is limited by the private ownership of upland properties. Is there a thought that it may be necessary to condemn upland properties to allow for costal marshes?
- Locations of concern: Harmony Place Trailer Park (8018 Richmond Hwy, Alexandria, VA 22306) is an example of a challenge - it's built, in part, in the floodplain of Little Hunting Creek - this is an equity concern for sure because this community provides affordable housing residents may not be able to find elsewhere.

2.6.6.COMMENT CARD FEEDBACK:

Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project by emailing resilientcoastVA@governor.virginia.gov. Additionally, the floor was opened to all public attendees to provide additional comments at the end of the meeting. Comments and questions included:

- For this study, what will happen next? What is the deadline for the public and organizations to provide input through the survey? What do you expect / want from the public and organizations going forward?
- When do you expect the study to be wrapped up?
- What information do you suspect we will be able to get in a digital format when you have fully wrapped this up?

2.7. HAMPTON ROADS PDC PUBLIC MEETING SUMMARY

Meeting Date: August 5, 2021	Type: In-Person
Meeting Location: Chesapeake, VA	Attendees: 36
HRPDC Boardroom	Time: 6:00-8:00 pm



2.7.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.7.2. SUMMARY:

On Thursday, August 5, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting/open house to involve and inform residents, stakeholders, and communities in the Hampton Roads Planning District Commission, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

Attendees were provided a thirty (30) minute presentation by Rear Admiral Ann Phillips (Special Assistant to the Governor for Coastal Adaptation and Protection) which covered: the project's purpose, background, progress to date, and presented the findings of the impact assessment for the PDC, which included impacted sectors (transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. A brief Question and Answer period followed the presentation before attendees were invited to move through the four (4) Public Participation Stations.

Rear Admiral Phillips and Dr. Brian Batten (Dewberry Engineers) fielded questions posed by the public, which covered major themes, seen throughout all PDC meetings, such as:

- Inland rainfall flooding
- VDOT pipes /ditches maintenance
- Use of permeable surfaces in lieu of concrete
- Continued building/development and granting permits
- Consideration of historic and cultural resources
- Taking land from Native Tribes and African American Freedmen Communities for acquisition/demolition
- Drainage pipes installed that drain affluent communities into underserved communities
- Generating greater involvement from local groups and residents in the CRMP project

As the same questions had been encountered throughout the PDCs, it was suggested that a "Frequently Asked Questions" (FAQ) page be developed and included on the project website to provide the SNR's formal responses to these concerns going forward.

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- **Visioning Station** – Attendees were asked to describe what their resilient HRPDC/Communities would look like in 30-50 years. Residents of HRPDC focused on:
 - Adaptation of existing structures
 - Implementation of nature-based solutions
 - Development of flood-resistant and resilient infrastructure
 - Protection of cultural and natural resources
 - Improved water drainage systems
 - Implementing economic incentives to protect natural resources
 - Resilient use of public funds
 - Improved transportation systems
 - Greater coordination between local and state agencies

The complete results of this Activity can be found in the section below.

- **Mapping Station** – Attendees were invited to markup maps to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. The results of this Activity can be found in the HRPDC Compiled Public Markup Maps document.
- **Survey Station** – Attendees were given the opportunity to complete the public survey (if they had not already) in either electronic (tablet) or paper format. Results to the survey can be found in the CRMP Public Survey Summary document.
- **Comments Box** – Attendees were given the opportunity to provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.). Comments can be found in the section below.

2.7.3. PUBLIC ATTENDEES:

Community/Organization	Community/Organization
City of Norfolk	Chesapeake
Hampton Roads Alliance	Hampton
City of Virginia Beach	Gloucester
Hampton Roads Military and Federal Facilities Alliance	Suffolk
City of Williamsburg	Portsmouth
City of Newport News	Coastal Virginia Tourism Alliance (COVA)

2.7.4. VISIONING STATION

Attendees were asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – "A resilient Hampton Roads PDC would look like ..." The following statements were captured through this exercise:

- Living shorelines
- Tidal gates
- Litter prevention
- Green infrastructure
- Oyster reefs
- Submerged Aquatic Vegetation (SAV)- increase vegetation
- Filling basements
- Environmental justice

- Equal services
- Prioritize existing residents
- Proper maintenance of infrastructure
- Healthy ecosystems
- Resilient use of public funds
- One coordinating state agency
- Using building materials that are adaptable and respond to flooding
- Managed retreat: recognizing when it is most cost-effective to retreat, how, and to where
- Finding economic incentives to protect natural resources
- Assigning economic value to maintaining/protecting vegetative resources/trees
- Enforcement of building codes
- Utilizing technology to limit loss of personal property
- Raised houses, in addition to the adaptation of existing structures
- Clear communication to the public to avoid risk
- Funding supplied to localities that need it
- Provide funding for low-income houses to allow mitigation/adaptation
- Reevaluate structure of flood insurance program
- "Use our money in our community, not others"
- Inter-city communication about regional resilience strategies
- Fixed flooding in underserved communities
- Balance/integration of green and gray infrastructure
- Integrate community resources into green stormwater infrastructure
- Historic preservation element to promote equity - how does new development affect existing residences?
- Increase protection of the Northwest River. Prohibit septic, building, and nonporous surfaces in this area
- Raising roads and prioritizing transportation- fostering ability to live daily life and maintain access to services
- Coordination between state and federal agencies to help localities address resilience; combine and facilitate efforts and mediate. Holistic thinking across agencies.

- Stakeholder mapping- include in the CRMP as an appendix. Who has power and influence? Who regulates? What strings to pull? Who to talk to? Defined roles.

2.7.5.COMMENT CARD FEEDBACK:

Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project. The Comment Cards from Hampton Roads PDC are listed in the bullets below:

- I like the maps and request for “on-the-ground” local feedback.
- Consider: change 500/100 year to percentages for easier community understanding.
- The presentation was a little technical for the general public.
- Need localities to coordinate on managed retreat. Where are the options – i.e. where does Virginia Beach migrate to?
- COCORAHS.org – Community Collaborative Rain, Hail, and Snow – demonstrates daily precipitation measurements across the country. Consider using their data.
- Historic Resilience needs to be incorporated into the plan. The Community Flood Preparedness Fund (CFPF) grant manual awards more points to demolish a historic community than to provide a mitigation strategy to preserve the community – Matt Simons, City of Norfolk
- Community Meeting Request: Pughsville Civic League
- Community Meeting Request: Crittenden Eclipse Village Preservation

2.8. ACCOMACK NORTHAMPTON PDC PUBLIC MEETING SUMMARY

Meeting Date: August 11, 2021	Type: Hybrid (in person/virtual)
Meeting Location: Melfa, VA	Attendees: 15
Eastern Shore Community College	Time: 6:00-8:00 pm



2.8.1. AGENDA:

- Presentation
- Q&A
- Public Participation Stations
 - Visioning Station
 - Mapping Station
 - Survey Station
 - Comments Box

2.8.2. SUMMARY:

On Wednesday, August 11, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted a public meeting to involve and inform residents, stakeholders, and communities in Accomack and Northampton Counties, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 6:00 to 8:00 pm in an open house format, allowing attendees to leave at their convenience after completing the public participation stations.

Attendees were provided a thirty (30) minute presentation by Rear Admiral Ann Phillips which covered: the project's purpose, background, progress to date, and presented the findings of the impact assessment for the PDC which included impacted sectors (transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. A brief

Questions and Answer period followed the presentation before attendees were invited to move through the four (4) Public Participation Stations.

Admiral Phillips and Dr. Brian Batten fielded questions posed by the public, which covered major themes, seen throughout all PDC meetings, such as:

- Inland rainfall flooding
- VDOT pipes /ditches maintenance
- Use of permeable surfaces in lieu of concrete
- Continued building/development and granting permits
- Consideration of historic and cultural resources
- Taking land from Native Tribes and African American Freedmen Communities for acquisition/demolition
- Drainage pipes installed to drain affluent communities into underserved communities

Attendees on the Eastern Shore were very informed regarding the challenges and efforts currently in place in their communities. Additional questions posed included:

- The difference between intensity and amount of rainfall.
- Grants and the use of carbon credits funds for resilience.
- Whether or not the grants had been awarded and the kind of projects receiving grants.
- The nature of the 84 projects in the CRMP database from the Eastern Shore and whether the public could view these projects.
- Coordination between different agencies for a single project.
- Aligning this work and addressing complexities of working with federal partnerships.

The majority of public feedback came in the form of activities and discussions with attendees at the Participation Stations. The Public Participation Stations invited attendees to provide feedback through the following avenues:

- **Visioning Station** – Attendees were asked to describe what their resilient PDC/Communities would look like in 30-50 years. The residents of Accomack and Northampton Counties focused on:
 - Environmental Benefits
 - Habitat Creation

- Beach and Dune Restoration
- Sustainable Aquaculture
- Improved Agricultural Practices
- Infrastructure
 - Transportation
 - Communications
 - Wastewater Management
 - Sustainable Development

The complete results of this Activity can be found in the Visioning Station Section below.

- **Mapping Station** – Attendees were invited to markup maps to identify particular areas in their communities where flooding often occurs, as well as identify any vulnerable communities or infrastructure that would be impacted by the flood projections. The intent of this exercise was to utilize local knowledge to further inform the impact assessment and recognize any vulnerabilities that may not have been sufficiently captured on the flood projection maps. The results of this Activity can be found in the ANPDC Compiled Public Markup Maps document.
- **Survey Station** – Attendees were given the opportunity to complete the public survey (if they had not already) in either electronic (tablet) or paper format. Results to the survey can be found in the CRMP Public Survey Summary document.
- **Comments Box** – Attendees were given to opportunity to provide feedback on any topic (presentation, meetings, surveys, data, projections, etc.). Comments can be found in the section below.

2.8.3. PUBLIC ATTENDEES:

Community/Organizations Represented	Community/Organizations Represented
Onancock/Accomack	Cape Charles/Northampton
Harborton/Accomack	Franktown
Silver Beach/Northampton	Chincoteague
Onancock/Accomack	Library
Accomack/A-NPDC	

2.8.4. VISIONING STATION FEEDBACK:

Attendees were asked to describe what their flood and sea level change resilient Communities would look like in 30-50 years. A prompt asked participants to finish the following statement – “A resilient ANPDC would look like ...” The following statements were captured through this exercise:

- Beach and dune restoration
- Shoreline stabilization and restoration
- Habitat creation
- Environmental benefits to the Bay
- Safe and resilient roads and infrastructure
- Wastewater management
- Comprehensive approach to development and resilience
- Communication with residents
- Shifting perspective from short term to long term solutions
- Community care for natural resources
- No pollution or litter
- Stainable building practices
- Education about stormwater management, preparedness, responsible agricultural practices, litter
- Fewer people
- Responsible development away from the water
- Historic resource preservation
- Better or more intelligent stormwater drainage
- Responsible lawn maintenance
- Equitable information access and communication
- Change or improve agricultural practices
- Safe evacuation routes
- Resilient utilities
- More resource conservation zoning
- Conservation of marshes and habitat
- Capacity building

- Sustainable funding sources
- More political will for resilience projects
- New aquatic industries
- Subsidize broccoli!!

2.8.5. COMMENT CARD FEEDBACK:

Attendees were invited to provide candid comments or feedback on the CRMP project, the meeting, the survey, flooding issues, outreach efforts, or any other topic related to the project. The Comment Cards from Accomack-Northampton PDC are listed in the bullets below:

- "Location of room"
- "Lawn signs with arrows"

Verbal follow-up discussions regarding these cards indicated that the community is used to attending meetings in the "old" college building, not the new building where the meeting was actually held. Better exterior signage would have alleviated this issue.

3. OTHER STAKEHOLDER MEETINGS

The Federal Installation Partnerships Subcommittee assisted the Commonwealth in scheduling and gathering federal installation partners for an outreach opportunity for the Coastal Resilience Master Plan. A summary of the meeting is provided below:

3.1. FEDERAL INSTALLATION PARTNERS OUTREACH MEETING SUMMARY

Meeting Date: August 18, 2021	Type: Hybrid (in person/virtual)
Meeting Location: Chesapeake, VA	Attendees: 26
Hampton Roads PDC Boardroom	Time: 10:00 am – 12:00 pm

3.1.1. AGENDA:

- Presentation of Goals and Objectives of Virginia’s first Coastal Master Plan
- Overview of Hazard Data Assets
- Project Data Call – Federal Installations
- Technical Advisory Committee – Federal Installations Partnerships Subcommittee – Overview and Update
- Q&A
- Roundtable Discussion

3.1.2. SUMMARY:

On Wednesday, August 18, 2021, the Secretariat of Natural and Historic Resources, with the assistance of the Special Assistant to the Governor for Coastal Adaptation and Protection, hosted an outreach meeting to involve and inform partners representing federal installations, on the comprehensive Coastal Resilience Master Plan (CRMP) project. The meeting was held from 10:00 am to 12:00 pm.

Attendees were provided a presentation by Rear Admiral Ann Phillips which covered: the project’s purpose, background, and progress to date. Dr. Brian Batten of Dewberry then presented the findings of the impact assessment for the eight coastal PDCs of Virginia, which included impacted sectors (transportation, energy, communications, etc.) and 20-, 40-, and 60-year projections. Dr. Batten also reviewed the process and results of the Project Data Call, particularly as it relates to projects affecting federal installations. Following Dr. Batten’s presentation, Thomas Crabbs, Chair of the Federal Installations Partnerships Subcommittee, provided an overview of the Subcommittee’s purpose statement and established lines of effort. He also provided updates regarding the Subcommittee’s current

effort to produce a tool for localities that will provide clarity and allow them to better understand available funding opportunities, how to plan towards those opportunities, and how to implement them.

A brief Questions and Answer period followed the presentation. Admiral Phillips and Dr. Brian Batten fielded questions posed by the meeting attendees, which covered major themes, such as:

- The potential for the federal infrastructure bill to act as an opportunity for funding resilience
- The inclusion of JLUS studies in the Project Data Call
- The requirement on federal installations to prepare a Climate Resilience Assessment Plan by the end of calendar year 2022
- Analyzing the impact of the emergency relocation of installations due to flooding hazards – how it affects particular capabilities and continuity of operations in an area.

Following the Question-and-Answer Period, Rear Admiral Phillips and Dr. Batten led a Roundtable Discussion to elicit feedback from all meeting attendees who wished to provide comment. Attendees were prompted with the following topics:

- Executive Order 14008 (Executive Order on “Tackling the Climate Crisis at Home and Abroad”): What activities, approaches, and data are occurring in response to this Order?
- How can the coordination of coastal resiliency efforts be improved?
- What needs does your installation have, and how can the State help address those needs?

Dr. Batten opened the floor to each attendee individually to ensure that all participants had the ability to contribute feedback and comments. The following statements were captured during the Roundtable Discussion:

- What data from the CRMP will be made available?
- Notice of funding received to conduct resiliency reports for specific military installations and the desire to receive further information that can inform efforts in this space.
- While the coordination of coastal resiliency efforts is a complicated, detailed, and tedious process, it is absolutely necessary. We are thankful for the work you are conducting.
- Excitement to support the CRMP effort moving forward.

- As part of a resilience grant, multiple installations have partnered with the University of Maryland to lead a forum and compile best practices based on recently conducted studies. This information can be provided, and Virginia should look to conduct a similar effort to use lessons learned to inform future efforts.
- Could we see a list of all projects received in the data call to ensure that our inputs have been included?
- The Hampton Roads Federal Planners Cohort has been established and meets quarterly. That would likely be a good avenue for disseminating information and providing continued updates on the project.
- Naval Air Station Oceana is conducting an impact analysis on vegetation change and species of concern associated with coastal resilience at various levels of sea level rise.
- Research being conducted to identify the economic value of marshes and measure water quality for military installations.

3.1.3. ATTENDEES:

Name	Affiliation
Kevin DuBois	DoD Chesapeake Bay Program
Samson Stevens, Capt.	U.S. Coast Guard Sector Virginia
Keith Cannady	Hampton Roads Planning District Commission
Tom Crabbs, Capt.	Office of the Secretary of Veterans and Defense Affairs
Scott Balough	
Joshua Behr	Old Dominion University
Blake Waller	Naval Facilities Engineering Systems Command
Kelly Busquets	NASA Wallops Flight Facility
Jefferson Flood	VA Coastal Zone Management Program
Benjamin Galke	NASA Langley Research Center
Gene Lambert	Naval Station Norfolk
Catherine Johnson	National Park Service, Region 1
Michael King	
Michael Wright	Naval Air Station Oceana
Rick Dwyer	Hampton Roads Military and Federal Facilities Alliance
Kathryn Schlegel	National Park Service
Scott Spencer	OLDCC
Thomas Olexa	Naval Weapons Station Yorktown
Peter Van Dyke	NASA Langley Research Center
Thomas Vivero	Office of Congressman Bobby Scott
Craig Quigley	Hampton Roads Military and Federal Facilities Alliance
Michael Bonsteel	
Landon	
John Barresi	U.S. Coast Guard
Joe Howell	Navy Region Mid-Atlantic
E M	

4. UNDERSERVED COMMUNITY MEETINGS

Twelve underserved community meetings were held between September 2 and October 28, 2021. Meetings were held in the communities of Portsmouth, Norfolk (two meetings), Newport News, Hampton (two meetings), Virginia Beach, Gloucester, Chesapeake, Cape Charles, Aquia, and Dahlgren. Summaries of all meetings are provided below:

4.1. PORTSMOUTH

Meeting Date:	September 2, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Tidewater Community College – Portsmouth Campus
Attendance:	24 in person; 10 via Zoom
Commonwealth Staff:	Ellen Bolen, Special Advisor to the Secretary of Natural Resources; Meryem Karad, Assistant Secretary of Natural and Historic Resources

4.1.1. OVERVIEW:

Ellen Bolen welcomed everyone and conducted a power point presentation. Questions were asked by her and there was good audience engagement. Many stayed after the meeting adjourned for further discussion and participate in the map exercise. Participants made notes about flooding challenges on the map and circled where they lived. NBC affiliate, WAVY TV sent a reporter and camera to cover the meeting. They stayed for the entire meeting and interviewed Ellen Bolen and Meryem and some of the participants. When asked to raise their hands, about half of the participants noted they experienced flooding in their homes. When questioned about their experience with flooding incidents, several noted their homes were flooded. Others acknowledged they had to evacuate due to flooding or pending storm events.

4.1.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Flooded yard due to lack of drainage
- Blocked drainage in the streets causing flooding
- Concerns about access to emergency resources, schools, jobs, etc.
- Stormwater system is inadequate
- Floods are impacting quality of life.

- Foundations and crawl spaces are under water
- Under resourced communities make things more complicated and stressful
 - Make sure their voices are heard
- The ability to navigate different roadways when flooding occurs prevents daily route.
 - Impacts school bus routes
 - Getting to work especially military facilities
- Mold is created and can become an asthma trigger
- Those who live on a down slope have a different reaction than those who don't live on a slope.
- Flood victims need more follow up from FEMA and other agencies to address their situation.
 - Community Flood Fund was mentioned but participants were convinced the locality would use the money in areas that really need it

4.2. NORFOLK (MEETING #1)

Meeting Date:	September 7, 2021
Meeting Time:	5:00 pm – 7:00 pm
Meeting Location:	Norfolk State University
Attendance:	4 in person; 7 via Zoom
Commonwealth Staff:	Ellen Bolen, Special Advisor to the Secretary of Natural Resources; Meryem Karad, Assistant Secretary of Natural and Historic Resources; Darryl Glover, Deputy Agency Director of Dam Safety, Flood Preparedness, and Soil and Water Conservation at Virginia Department of Conservation and Recreation

4.2.1. OVERVIEW:

Ellen Bolen welcomed everyone and conducted a Power Point presentation. She addressed participants' questions one-on-one since attendance was small. Participants made notes about flooding challenges on the map and circled where they lived. There were no questions posted in the Zoom chat.

4.2.2. PARTICIPANT COMMENTS AND QUESTIONS

- Along with flooding, COVID-19 seems to be impacting transportation due to staff shortage. (Not too concerned with flooding but focus on cities throughout the map that are being impacted via transportation.
- Nuisance Flooding with rain throughout the city. Buses often have to reroute. Locations: Grandy Park, East Brambleton Avenue, Vermont Street, Monticello Avenue.
- Here to get a general idea of how flooding may be impacting the community.

4.3. NORFOLK (MEETING #2)

Meeting Date:	September 14, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Old Dominion University
Attendance:	12 in person; 14 via Zoom
Commonwealth Staff:	Josh Saks, Deputy Secretary of Natural and Historic Resources; Meryem Karad, Assistant Secretary of Natural and Historic Resources

4.3.1. OVERVIEW:

Josh Saks welcomed everyone and conducted a power point presentation. He addressed participants' questions. Participants made notes about flooding challenges on the map and circled where they lived. There were several questions and comments posted in the Zoom chat that were read by Meryem.

4.3.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Regular flooding is seen once a week in certain neighborhoods
- Concerns regarding the possibility of roads being washed away and not usable; or the flooding never going away
- Flooding concerns by those who live fairly close to Hampton Blvd.
- Would like a direct partnership with the government (both local and state) due to significant impacts on the Lafayette River
- The cost of flood insurance: concerns regarding what is covered by flood insurance as well as being able to afford the cost
- The bridges in the flooding, effecting people's ability to get to work and services, as well as evacuation routes when there is a storm
- The cost of not having enough resources available to communities of color as well as communities of middle and lower income
- Is there even enough road space for victims to evacuate if need be?
- Water does not get diverted easily in the area
- Has the state started funding resilience projects? If so, where are they? How does the state or locality decide which projects?
- What city department is actually responsible for applying for state funding?

- Are the proposed projects public when submitted? (Re Flood Preparedness Fund)
- How are seniors and people with disabilities supposed to evacuate? Are there plans for seniors or people with disabilities?
- Low-income communities are at risk of being completely destroyed by constant flooding. Kids possibly getting harmed from the danger of the flooding when the flooding is close to their schools and neighborhoods. People are not able to get to school on normal routes. Money was donated (over 30 million) but has not been put to use. More flooding now than before these issues began. (Re: Ohio Creek project – Grandy Village resident)
- What is needed from citizens in order for something to be done? “It seems that this is a meeting of you all telling us what you all plan to do, but citizens are expressing city related concerns.”
- Bring everyone to the meetings to make decisions on behalf of the city of Norfolk. Many people are unaware of what is going on within their community or what the city is planning. Citizens are suffering from this and need somewhere to go to express these concerns and find information.

4.4. NEWPORT NEWS

Meeting Date:	September 20, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Downing-Gross Cultural Arts Center
Attendance:	8 in person; 7 via Zoom
Commonwealth Staff:	Josh Saks, Deputy Secretary of Natural and Historic Resources; Meryem Karad, Assistant Secretary of Natural and Historic Resources

4.4.1. OVERVIEW:

Josh Saks welcomed everyone and conducted a power point presentation. He addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. There were several questions and comments posted in the Zoom chat that were read by Meryem.

4.4.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Salter's Creek deals with major flooding, however, there have been major improvements made. There still needs to be a plan executed and funds are needed.
- Low-income homeowners do not have the funds or means to begin home repair and it results in mold and other damages, which then leads to further problems (health and costly medical bills as a result of the flooding). How can we go about creating relief programs for these low-income communities?
- Lack of sewage systems and major problems with standing water impacting college students (Hampton University). The surrounding streets are all in water. 80th Street to Jefferson Avenue is experiencing major flooding issues. Blackout's due to floods are increasing crime rates. Making it extremely difficult financially for college students at Hampton University.
- Concerns that if VA does not get ahead and execute flood plans that communities will be "under" the flooding.
- How does the community protect themselves from flooding in the lower east end?
- Funding is going towards the community preparedness fund and lower income communities
- \$80,000,000-\$100,000,000 dollars a year for Virginia preparedness

- At the state level the goal is to help people think beyond the short-term plan of flood resilience and think long term
- In the master plan they would like to work with the state, local, communities, etc.
- What is VA doing to help schools to become more resilient? Can we incorporate more funds in creating schools in areas that are not flood prone?
- Has this organization designated what you all consider flood zones so the community knows who can apply for the funds?
- One does not need to be in a flood zone, unless you are doing a project. The engineering firm is doing sophisticated mapping so that the state is aware of these flood prone areas and who needs the most funding.
- People can hardly afford rent, let alone flood insurance. Is there funding to help members that cannot afford flood insurance.
- The plan is to reduce insurance rates, by generating plans to reduce flooding as a whole. The master plan is to create safety so that people do not have to solely rely on flood insurance.
- What does the state require for more recycling bins in low income communities and equal housing? Plastic and trash are backing up sewage drains.
- Maybe start a petition to bring in more recycling centers in the community because the drains being stopped up by trash is creating a lot of flood related issues.
- Can the funds encourage swales and settlement bases that will help reduce flooding and heat islands?

4.5. HAMPTON (MEETING #1)

Meeting Date:	September 21, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	HRCAP
Attendance:	7 in person; 2 via Zoom
Commonwealth Staff:	Matt Dalon, Department of Conservation and Recreation, Virginia Coastal Master Plan Program Manager

4.5.1. OVERVIEW:

Matt Dalon welcomed everyone and conducted a power point presentation. He addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. There were no questions or comments posted in the Zoom chat.

4.5.2. PARTICIPANT COMMENTS AND QUESTIONS

- Briarfield is dealing with flooding. Ditches are not being maintained, however, when they are cleaned out it does reduce flooding. During Hurricane Ida, a tree fell over the ditch causing blockage that prevented the flood water from draining.
- Intense rainfall, very frequently causing lots of flooding in the neighborhoods and communities – not just the coastal areas. Hope is that the state will begin looking at intense rainfall. Mercury Blvd flooded significantly recently.
- Attendee from Buckroe does have significant flooding in her yard as a result of rainfall.
- When houses are condemned, is the state planning to replace the housing?
- If a mass evacuation is needed, how do we go about that? How can we help neighbors that are most vulnerable and how can we best serve them in the process?
- Evacuation is costly. There are not enough people here to express the financial burden evacuation has or can have on them.
- Everyone in the city of Hampton is in a flood zone. There is not enough understanding within the community of this. Would like to make sure the state can help everyone understand their risk.
- Looking at putting storm sensors on roads that will then be linked with Waze and maps. Hampton is actively working on updated technology and strategies to protect citizens. The challenge really does come from budget.

- Next Door and Neighborhood Watch groups could be effective in spreading the word.

4.6. VIRGINIA BEACH

Meeting Date:	September 27, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Corporate Landing Middle School
Attendance:	10 in person; 24 via Zoom
Commonwealth Staff:	Ellen Bolen, Special Advisor to the Secretary of Natural Resources; Meryem Karad, Assistant Secretary of Natural and Historic Resources

4.6.1. OVERVIEW:

Ellen Bolen welcomed everyone and conducted a power point presentation. She addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. Meryem announced questions and comments posted in the Zoom chat. Mayor Bobby Dyer and Deputy City Manager Ron Williams shared information about the city's bond referendum that's on the November ballot.

4.6.2. PARTICIPANT COMMENTS AND QUESTIONS:

- The surrounding neighborhood is Fox Run. Issues with rainfall and no place for the water to go when the areas get heavy rainfall.
- During Hurricane Matthew it flooded badly. Issues with runoff during flooding. Impacting way of life and those simply wanting to retire in the community. Needing long term solutions due to increasing sea levels. Lives in the mid region of Virginia Beach. Also impacts the naval base.
- Coastal erosion
 - storm surge flooding
 - investment property is being impacted by flooding
- Flooding impacting cars, ability to get around, sewage backup, and surrounding areas in Virginia.
- Forces families to have to work from home due to inability to access vehicles. People simply can't (financially or mentally) evacuate. Developing plans for generating funds. Providing more information on resources and educating people on the importance of evacuating.
- Participant questions regarding Virginia Beach ballot referendum. These were addressed by Mayor Bobby Dyer and Deputy City Manager Ron Williams.

- Having a meeting with engineers and the community to discuss future plans for development
- Series of virtual and in person meetings starting on Thursday that will discuss this.

4.7. HAMPTON (MEETING #2)

Meeting Date:	October 5, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Thomas Nelson Community College
Attendance:	17 in person; 19 via Zoom
Commonwealth Staff:	Josh Saks, Deputy Secretary of Natural and Historic Resources

4.7.1. OVERVIEW:

Thomas Nelson Community College president, Dr. Towuanna Porter Brannon welcomed everyone. Josh Saks conducted a power point presentation. He addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. There were questions and comments posted in the Zoom chat.

4.7.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Buckroe
 - Floods regularly with high tides, significant rainfall, and severe storms
- Concern is that a lot of construction is taking place, but this may be causing Hampton to sink with frequent flooding throughout the city.
- Grandview Island
 - Lost house in the Grandview Island area, due to flooding during hurricane Isabel
 - New home in Grandview Island has lots of flooding that often floods the attendees' backyard.
- Foxhill and Grandview deal with significant flooding after 3-4 inches of rain.
- Briarwood Terrace (New Market Creek specifically) deals with significant flooding
- Can you explain the pollution allowance?
- Shoreline hardening and environmental justice concern
- Since Hampton is sinking, how can citizens be protected?
- Is the state working with Hampton so that the state can address Hampton's direct concerns?
- How can wetlands move in to protect communities from flooding if construction is still occurring? Zoning concerns.

- Since the Newmarket Creek also runs through Newport News, are the two cities working together?
- What practical steps can the community (specifically Phoebus) take to follow the Coastal Resilience Master Plan?
- Is there any kind of plan to help people rebuild instead of relocating?
- Who can apply for the fund? What does the funding go to?
- What do NGO and PDC stand for?
- Are there any specific tree funds?

4.8. GLOUCESTER

Meeting Date:	October 14, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	VIMS
Attendance:	8 in person; 8 via Zoom
Commonwealth Staff:	Ellen Bolen, Special Advisor to the Secretary of Natural Resources

4.8.1. OVERVIEW:

Ellen Bolen conducted a power point presentation. She addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. There were questions and comments posted in the Zoom chat.

4.8.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Will coastal erosion be considered in the plan?
- How can we balance subaqueous vegetation vs. breakwaters needed for the shoreline?
- Most data comes from combine ODU, OSGS and NASA
 - Land is rising in Norfolk
 - Fund can be used to implement resilience plan or mitigation – not research
 - No high resolution data in Middle Peninsula
- Gloucester Point resident has flood insurance and in high elevation area
 - Inadequate stormwater management is the cause of flooding
 - Septic system problems
 - Failing system impacts development
 - There's no sewer system plan
- Nor'easters cause more damage than hurricanes
- Some communities replace individual septic systems and pump to higher community system
- King Tide was gathering data

- App does not work any more
- First responders watch tides and have a lot of local knowledge – were they engaged for this project?
 - Any private initiatives to reach volunteer emergency workers?
- Ash Wednesday Storm of 1962
 - Building codes modified to have higher elevation due to the damage caused by that storm
- State buildings are under certain codes to be built to a standard to minimize flood damage
- Building elevation is just one piece of the problem
 - Roads and septic system still affected no matter how high the buildings are
 - Road network affects everybody including during evacuations

4.9. CHESAPEAKE

Meeting Date:	October 28, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Tidewater Community College – Chesapeake Campus
Attendance:	6 in person; 4 via Zoom
Commonwealth Staff:	Meryem Karad, Assistant Secretary of Natural and Historic Resources

4.9.1. OVERVIEW:

Meryem Karad conducted a power point presentation. She addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. There were questions and comments posted in the Zoom chat.

4.9.2. PARTICIPANT COMMENTS AND QUESTIONS

- Extreme flooding events
- No drainage improvements and construction
- Storm surges, tides from the Elizabeth River, low tides in the river
- Concerns of not being able to sell home due to the possible flooding damage
- Houses are being destroyed through FEMA rather than improvements to the drainage issues that are occurring. (Location was not given)
- Would go to a hotel if had to evacuate
- 3 out of 5 attendees do have flood insurance
- Cars at home being destroyed and prevents families from getting out of driveways
- What can we do to protect ourselves from flooding?
- If the sewers are overflowing, then there is nowhere for the water to drain.
- Tides are being blown in
- Is the city planning to develop flood vents?
- How does the city plan to help the community?
- What are the plans and what happens next?
- Are there any plans for people to get transportation for people that have been impacted?

- George Point Ave and Deep Creek have experienced significant flooding that has prompted many shutdowns

4.10. NORTHAMPTON COUNTY (CAPE CHARLES)

Meeting Date:	October 13, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Cape Charles Civic Center
Attendance:	14 in person; 11 via Zoom
Commonwealth Staff:	Ellen Bolen, Special Advisor to the Secretary of Natural Resources

4.10.1. OVERVIEW:

Ellen Bolen conducted a power point presentation. She addressed participants' questions. Participants made notes about flooding challenges on the maps and circled where they lived. There were questions and comments posted in the Zoom chat.

4.10.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Stormwater causes a lot of the flooding
- Flooding concerns
 - Losing their home
 - Nor'easter more than hurricanes
 - Storms up bay instead of offshore more of a problem
 - More beach and ecostructure erosion
- Hurricane Sandy damaged apartment complex and caused more erosion
- Property along waterfront is private and affects coastal flooding coming in
- Bureaucratic delays and poor agency coordination cause more damage and slow flooding mitigation
 - Local and state agencies need to work better and faster together
- Cemetery Road floods
- Seaside and Willis Wharf and other agricultural companies are on the waterfront
 - Employees park upland and walk down to work
 - Boat ramps get flooded and hard to use –affects watermen's boat launches
- Septic systems affected by flooding
 - Need to space when toilets are flushed

- Don't use dishwasher in the winter
 - Rising water table
 - Yard wet and pipes gurgle
- Road is higher than neighbor's yard
 - Had to dig ditch to drain flood waters
 - Consider adding culvert
- Silver Beach is at the end of the Peninsula
 - Just one road in and out of the community that floods all the time
 - Impacts emergency vehicles, school and work travel
 - Flooding is mainly from storms
 - Fields are higher than road and water just sits there
- Roadside drains and fields are not open – ongoing problem
 - VDOT issue
- On Eastern Shore there is more wind impacts to consider
- Hospitals, schools, emergency shelter and other facilities are on higher ground along Highway 13
 - If cannot get out of community then cannot access those facilities
- Vulnerable infrastructure in Chincoteague and Wallops Island
- Should look at what is beyond just the 40-year forecasts
- Vehicles are built lower and closer to the ground
- Sewage treatment plant should be protected
- Most get their weather information from local radio station that stays on 24-7
 - When power is out there is no internet or mobile phone service
 - Not a lot of redundancy in the power grid – big storm knock out power for 24 hours or longer
 - Word-of-mouth and knowledge of flooding hazard areas are other means of communication and getting information
- Barriers to evacuation
 - Having pets and finding shelters that allow them
 - Communication
 - Confusion about the Zone system – doesn't make sense

- Hurricane Matthew came from inland and caused more damage than Hurricane Florence which caused far less damage
 - Caught many by surprise since they evacuated for Florence but not for Matthew
- As a peninsula region, gridlock happens very fast
 - Route 301 and Route 9 are there but still does not help much
- Many do not evacuate to protect their property
- It was confirmed that localities can apply for the Community Flood Fund more than once and for more than one locality within its region.

4.11. AQUIA

Meeting Date:	October 20, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	Stafford County Government Center Board Chambers
Attendance:	8 in person; 5 via Zoom
Commonwealth Staff:	Joshua Saks, Deputy Secretary of Natural Resources

4.11.1. OVERVIEW:

Joshua Saks conducted a power point presentation to relay the importance of coastal resiliency in the face of increased flooding. He also explained the goals of the Coastal Resilience Master Plan and its relationship to the Community Flood Preparedness Fund. He addressed participants' questions and asked participants to communicate the needs of their community. Attendees participated in a mapping exercise to identify flooding challenges in Stafford County. Attendees participating via Zoom were asked to post any questions or comments in the Zoom chat.

4.11.2. PARTICIPANT COMMENTS AND QUESTIONS

- Brooke Road is a primary concern for Stafford County, as when Accokeek Creek floods, the Creek and Brooke Road merge.
 - There are over 350 houses that become isolated when it floods – there is no route in or out.
 - Brooke Road floods very often, and the surrounding residents have limited access to safety services.
 - The houses themselves do not flood, but it is a major public safety issue because there is poor cell coverage and lack of access to communication, so it is difficult for residents to seek help.
 - The County has limited emergency services. When Brooke Road floods, it is difficult to offer emergency services to those residents that become isolated.
 - The County is spending over \$100,000 to study Brooke Road specifically and also the watershed along Accokeek Creek. The goal is to better understand the underlying cause of the issue, what impact development has had on the road, what solutions are available to us, and what the cost of those solutions are. The County is hoping to apply for a grant in the future to address the problem.

- Brooke Road is not the only area in Stafford County that has this issue, but it is the largest threat to public safety.
- All of the docks in Aquia Harbor have been impacted by flooding; many people have had to raise their docks. The issue of coastal resiliency is often placed on the backs of the individuals living in this area.
- County staff appreciate the acknowledgement that the combined effect of multiple flooding types has heavily impacted the area.
- In the Aquia Harbor area, an erosion project to protect the bridge from the erosion of Aquia Creek was completed. This was the second major project completed in the area- the first was conducted at Austin Run.
- The bridge near Austin Run was almost completely destroyed by a heavy rain event, which resulted in tens of thousands of dollars in repair. Hurricane Isabella in 2003 caused extreme flooding in Aquia, which resulted in fire department hovercraft having to evacuate elderly individuals in need of aid.
- County staff reported that they do not yet have enough information to outline a project-specific strategy; however, they would like to take advantage of funding opportunities.
 - Joshua Saks encouraged County staff to reach out to DCR to gain advice regarding project-specific information. He also assured staff that local resiliency plans do not have to include detailed project information; the plan can demonstrate how a locality is identifying problem areas and exploring resiliency solutions while maintaining a broad perspective, so that the locality can revisit project-specific decisions when they have more information.
- Participants asked for clarification regarding the scale at which communities can apply for funding.
- Participants asked for clarification regarding the relationship between the Community Flood Preparedness Fund and the Coastal Resilience Master Plan.
 - In particular, participants asked if funding through the CFPF was only for projects that address coastal flooding. Joshua Saks clarified that the CFPF is meant to address any type of flooding throughout the Commonwealth of Virginia.
- County staff asked whether localities will have influence over the decision criteria for the CFPF grant manual. They expressed concern that the grant manual did not appropriately weigh the impact on public safety due to flooding, such as is the case at Brooke Rd.

- County staff expressed concern that projects related to Brooke Road flooding would not be appropriately weighted, as the community impacted would likely not be considered socially vulnerable.
- Participants expressed concern with the grant manual and the ability to receive funding if the project does not focus on green infrastructure. Joshua Saks provided clarification that the grant funding is not solely focused on green infrastructure projects.
- County staff expressed concern that projects need to be shovel-ready in order to receive funding, but the development of projects that are high-cost, only to potentially not receive supportive funding, could negatively impact the area financially.
- Participants asked if it is preferable for the planning district commission or the locality to apply for grants. Joshua Saks clarified that it is the choice of local governments- either entity can apply.
- Participants expressed concern regarding dam safety and asked if Service Districts could apply for CFPF grant funding, because the Dam Safety Fund is often underfunded. Joshua Saks responded that Service Districts could not apply for grant funding, but that hopefully the creation of the CFPF will free funds in the Dam Safety Fund.
 - Joshua Saks encouraged participants to continue raising the issue of dam safety and its connection with coastal resiliency, as well as applying for funds to address such issues.
- Participants identified that many property owners would like to implement their own, small-scale resiliency projects, but they are limited and overwhelmed by permitting, regulations, and the cost of engineering studies. Should be taking advantage of small groups and individuals who want to contribute resources to promote coastal resiliency, especially if these efforts can prevent the government from having to contribute extensive costs if or when something disastrous happens.

4.12. DAHLGREN

Meeting Date:	October 25, 2021
Meeting Time:	5:00 p.m. – 7:00 p.m.
Meeting Location:	University of Mary Washington - Dahlgren
Attendance:	14 in person; 24 via Zoom
Commonwealth Staff:	Rear Admiral Ann Phillips, Assistant to the Governor for Coastal Adaptation and Protection (SACAP)

4.12.1. OVERVIEW:

Rear Admiral Ann Phillips conducted a power point presentation to relay the importance of coastal resiliency in the face of increased flooding. She also explained the goals of the Coastal Resilience Master Plan and its relationship to the Community Flood Preparedness Fund. She addressed participants' questions and asked participants to communicate the needs of their community. Attendees participated in a mapping exercise to identify flooding challenges in King George County. Attendees participating via Zoom were asked to post any questions or comments in the Zoom chat.

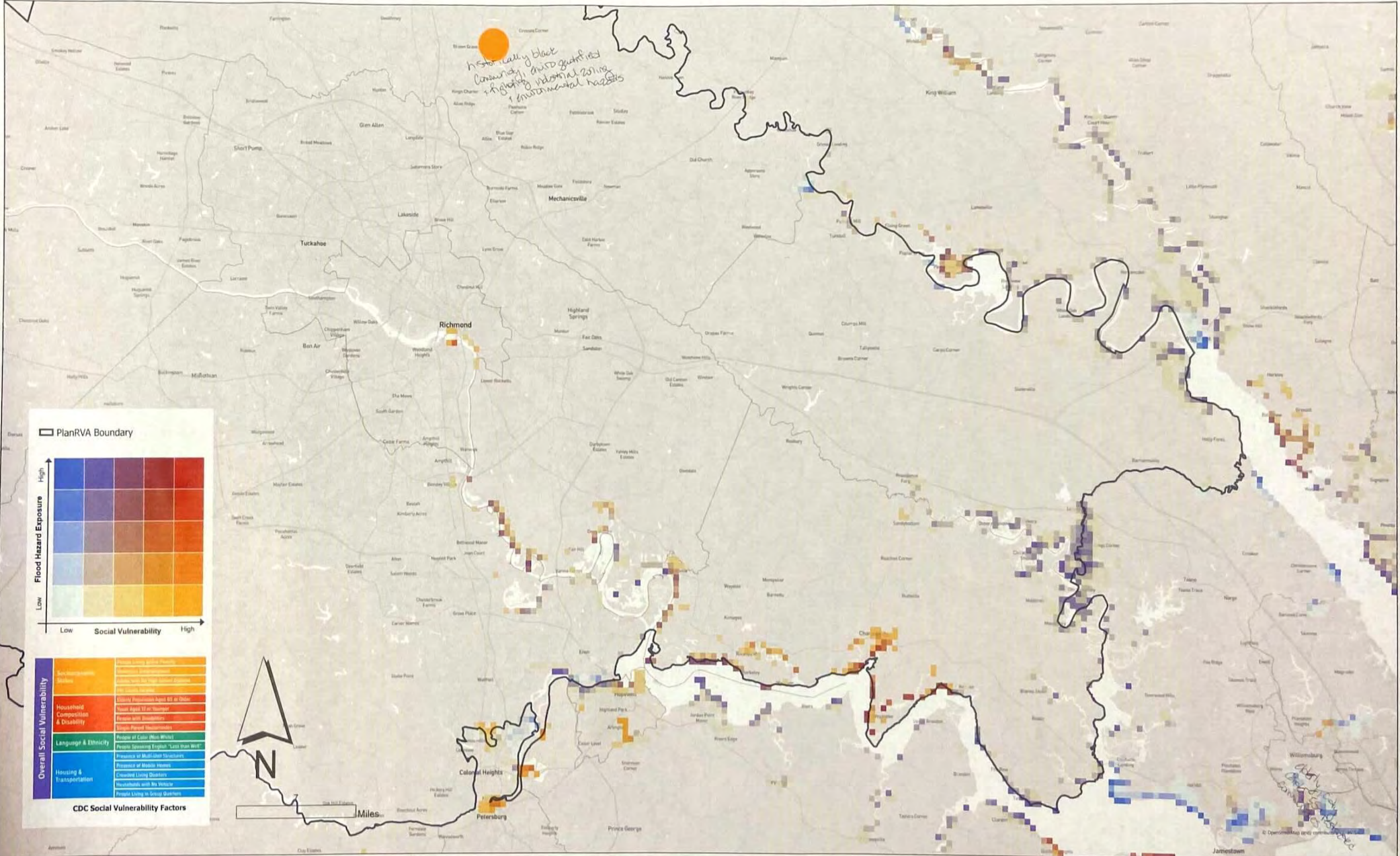
4.12.2. PARTICIPANT COMMENTS AND QUESTIONS:

- Community members asked for advice regarding how to make their individual properties more resilient.
- Attendees asked Rear Admiral Phillips whether there are programs that could help them find solutions that address resiliency while promoting economic development. How can the county or locality apply for funding to promote economic development? Are there best practices that have been used in other communities across Virginia, as well as in other states, to promote resiliency and economic development?
 - Rear Admiral Phillips suggested researching the GO Virginia grant and reaching out to the GO Virginia Region 6 coordinator, who advises King George County.
 - Rear Admiral Phillips also referenced the Regional Investment in Startups & Entrepreneurs (RISE) collaborative and advised that businesses can apply to receive funding from RISE.
- Community members asked whether the funds attributed to the Community Flood Preparedness Fund cover only public land areas, or if private properties could receive funding as well.

- A representative from the Friends of the Rappahannock asked for a clear explanation of nature-based solutions so that everyone in the room could better understand what nature-based solutions are and how they are emphasized in the Coastal Resilience Master Plan.

PlanRVA

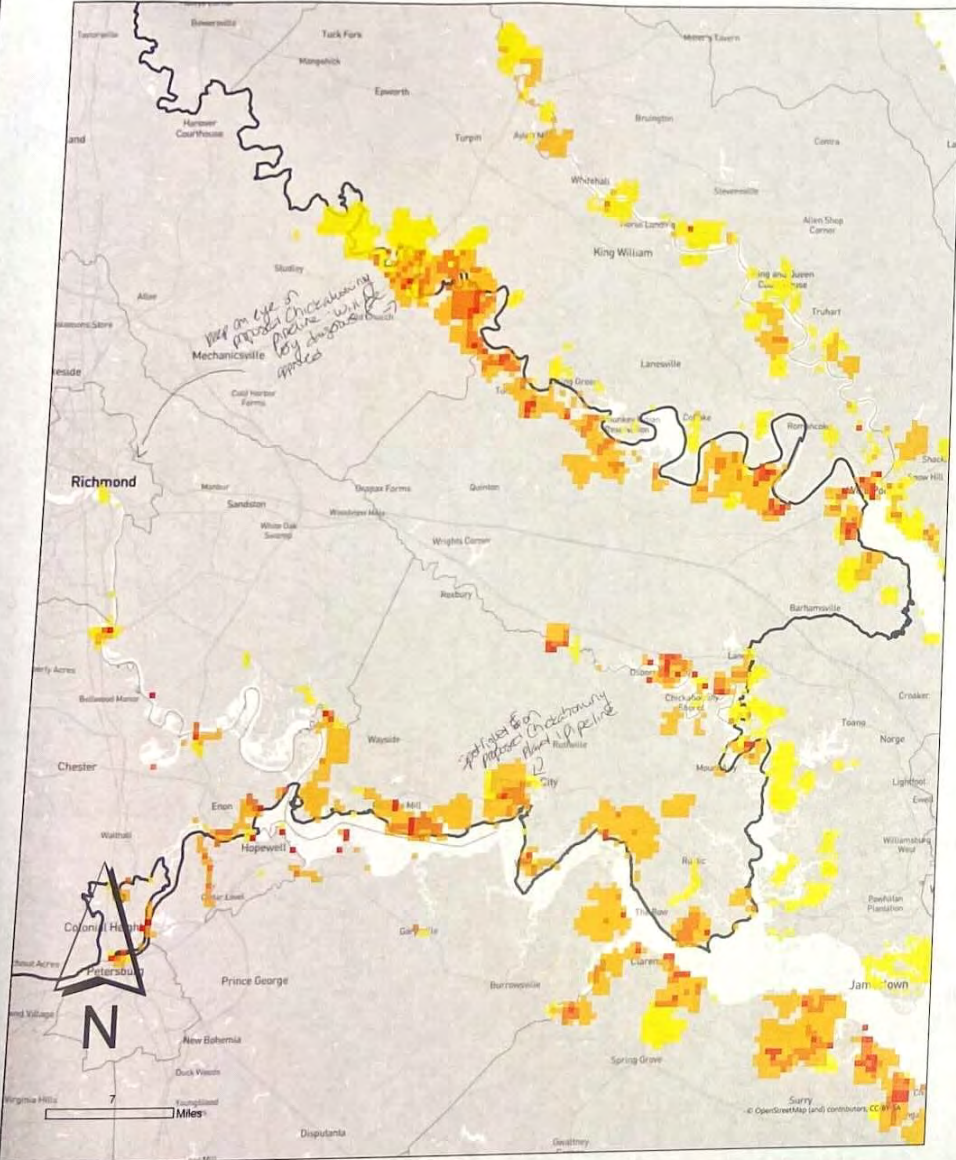
Community Hazard Exposure and Social Vulnerability - 2020



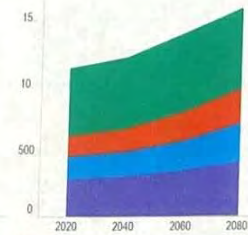
PlanRVA Critical Sector Impacts

2020

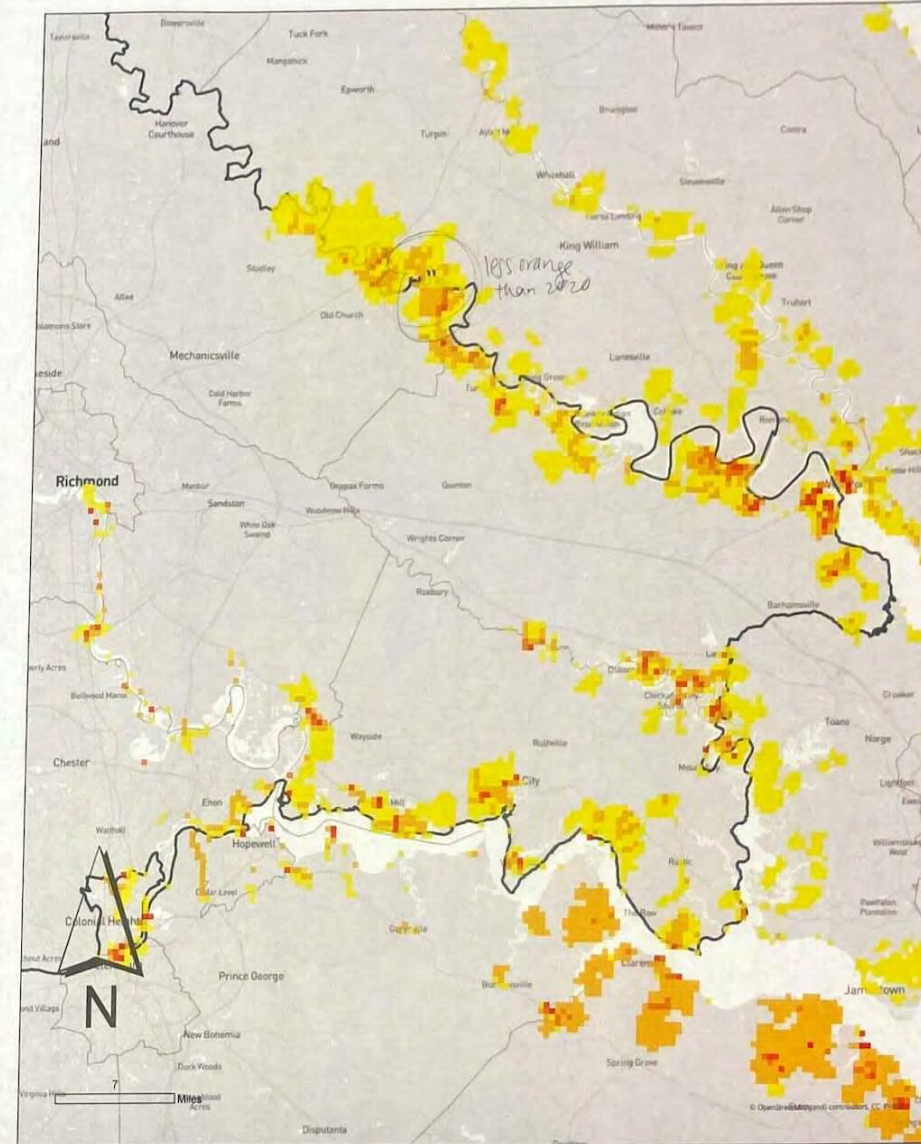
2080



Critical Assets Impacted
Average annualized number of critical assets exposed to coastal flooding, by infrastructure sector.



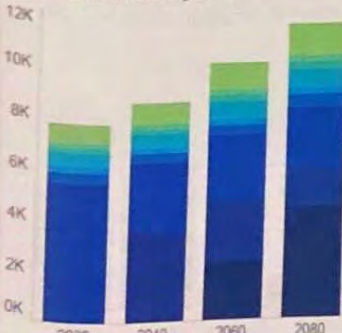
- Relative Impact Level**
- Very Low (Yellow)
 - Low (Light Orange)
 - Moderate (Orange)
 - High (Dark Orange)
 - Very High (Red)
- PlanRVA Boundary



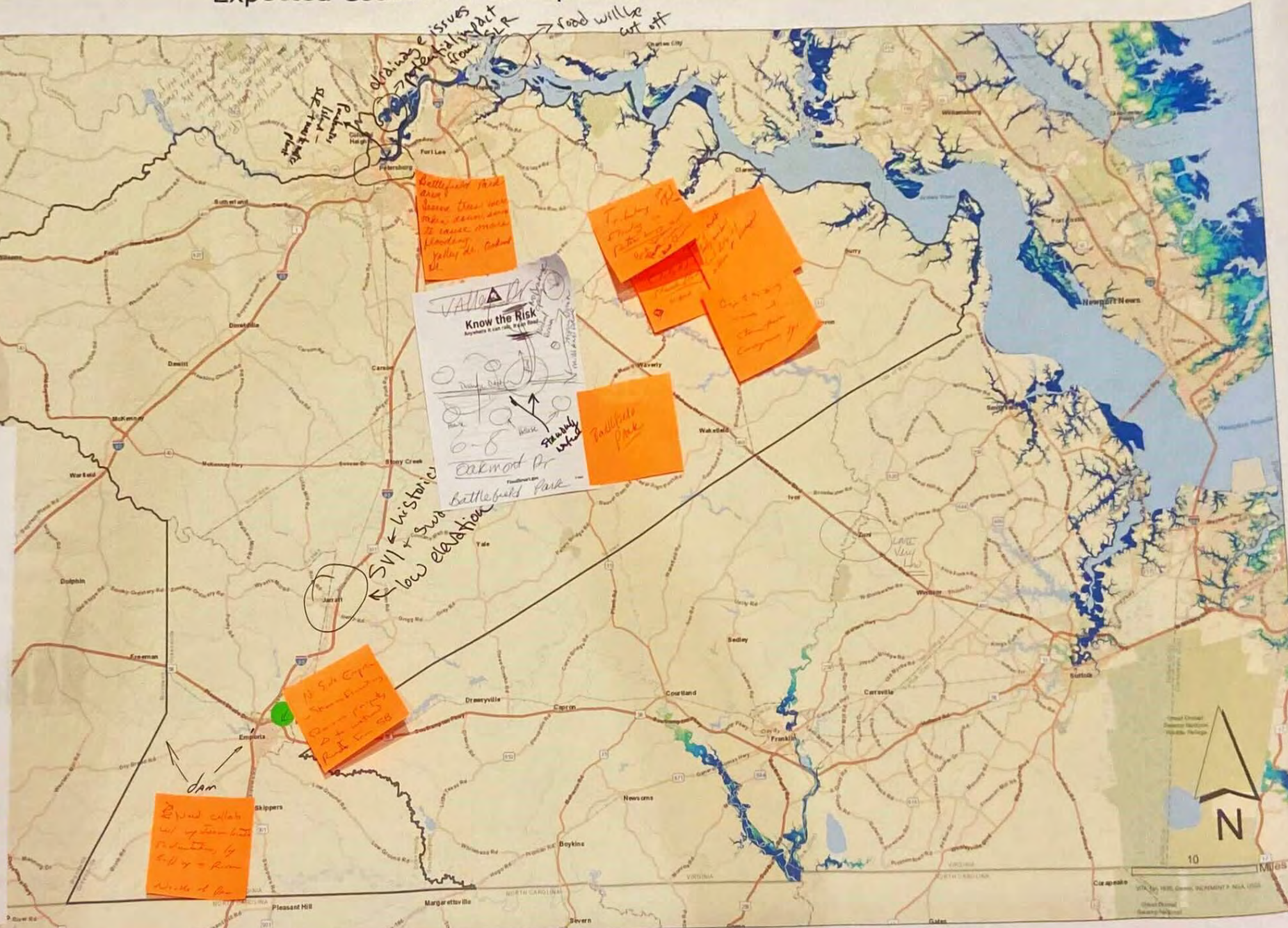
Crater Planning District Commission

Expected Coastal Flood Exposure - 2020

Land Area
Acres of land area inundated by event type, relative to 2020 mean high water



- Crater Boundary
- Event Type
 - Mean Low Water
 - Mean High Water
 - 2-Year Flood Event
 - 5-Year Flood Event
 - 10-Year Flood Event
 - 25-Year Flood Event
 - 50-Year Flood Event
 - 100-Year Flood Event
 - 500-Year Flood Event



Middle Peninsula Planning District Commission Impacts to Natural Infrastructure

2040

2080

Magnitude of Impacts
(relative to Middle Peninsula PDC)

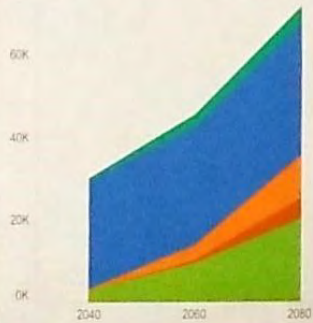
- Very High
- High
- Moderate
- Low
- Very Low

Magnitude of Impacts
(relative to Middle Peninsula PDC)

- Very High
- High
- Moderate
- Low
- Very Low

Habitat Loss

Acres of aquatic habitat, coastal habitat, and recreational areas anticipated to be permanently lost and converted to open water (relative to a 2020 baseline)



- Public Parks & Wildlife Areas
- Oyster Habitat
- Beaches & Dunes
- Non-Tidal Marsh Habitat
- Woodlands & Scrub-Shrub
- Tidal Marsh Habitat

Farmer Island

forests already inundated

Phragmites in the woods

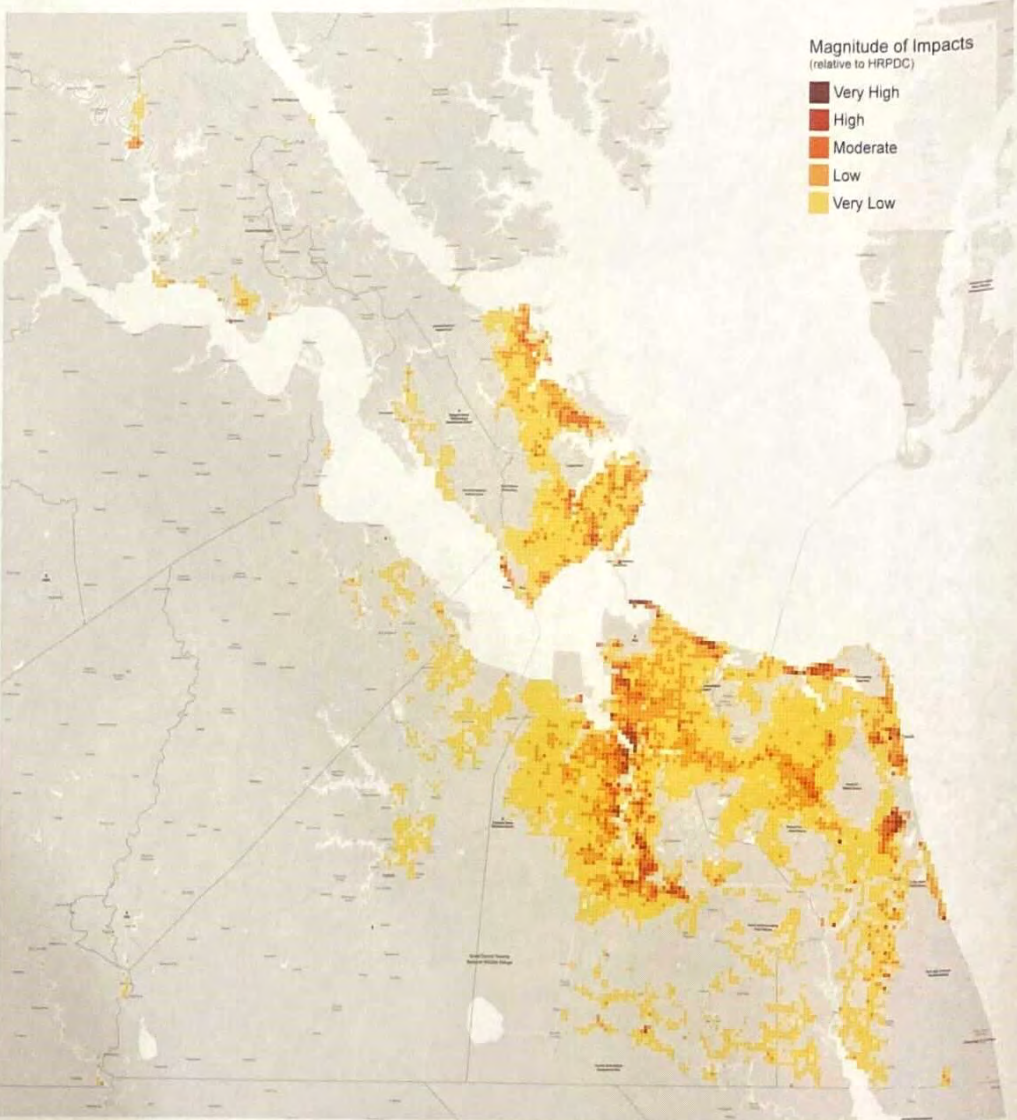
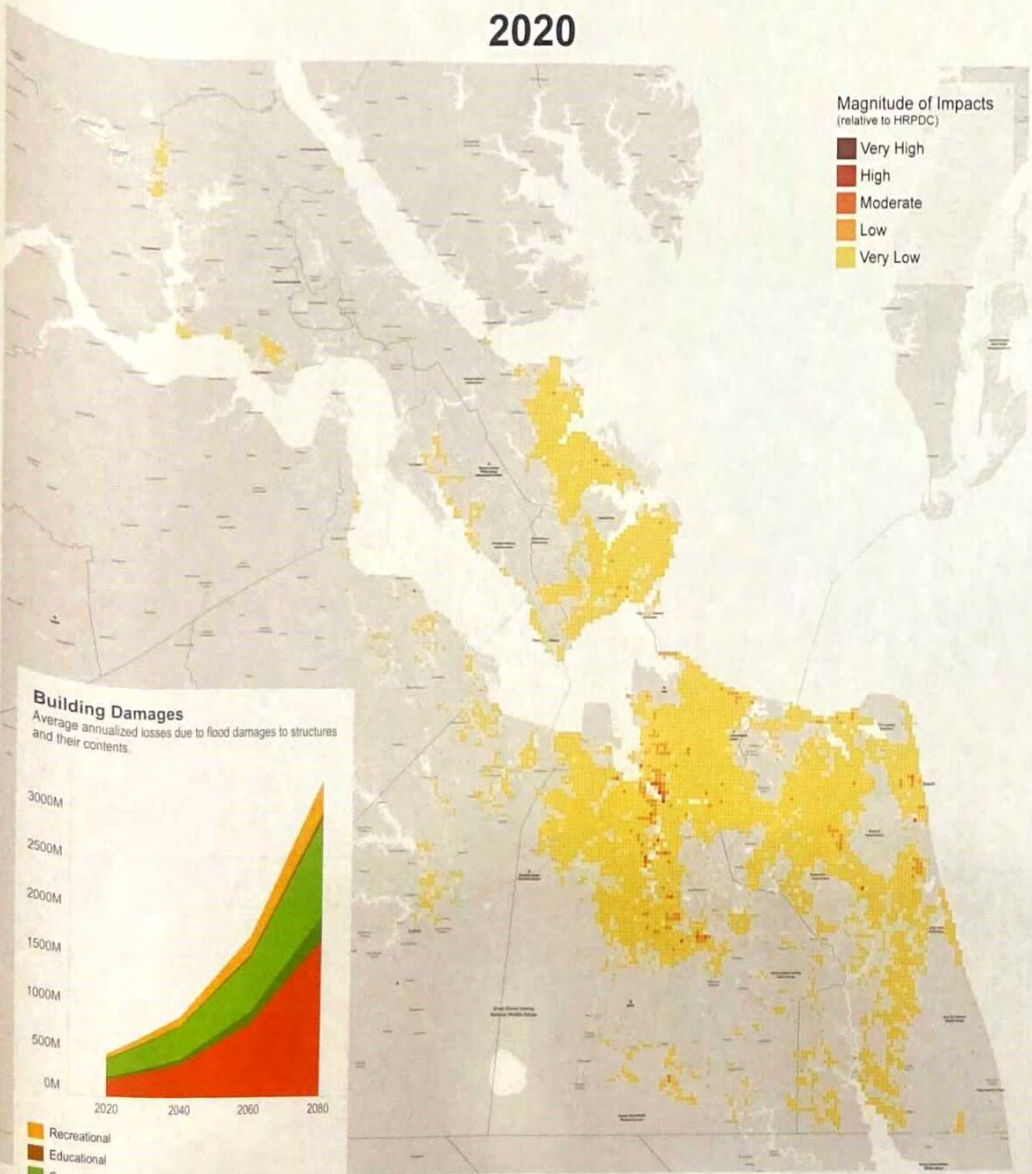
loss of trees "ghost forests"



Hampton Roads Planning District Commission Impacts to Community Resources

2020

2080



Magnitude of Impacts
(relative to HRPDC)

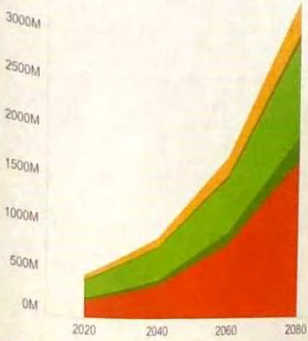
- Very High
- High
- Moderate
- Low
- Very Low

Magnitude of Impacts
(relative to HRPDC)

- Very High
- High
- Moderate
- Low
- Very Low

Building Damages

Average annualized losses due to flood damages to structures and their contents.

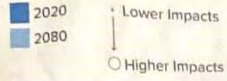


- Recreational
- Educational
- Commercial
- Industrial
- Agricultural
- Residential

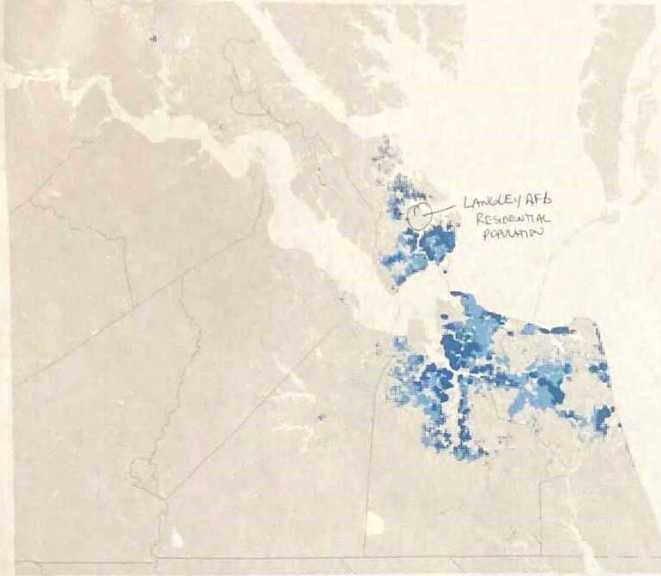


Community Resources

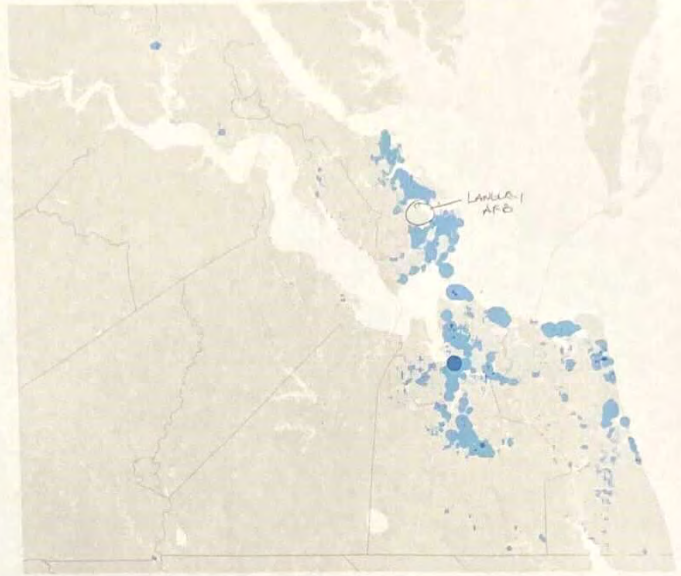
Residential & Commercial Impacts



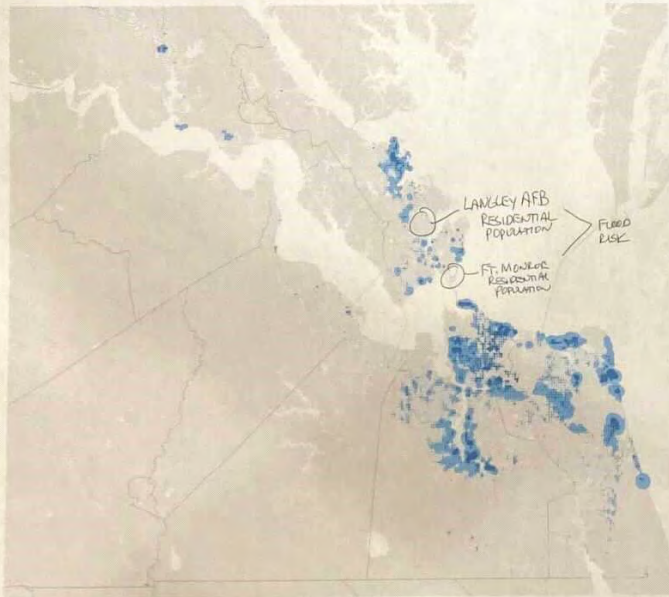
Residential Population Exposure



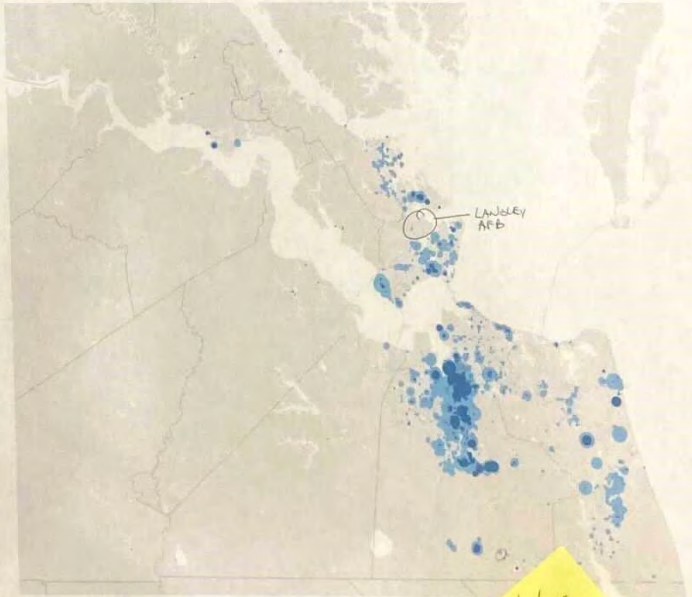
Residential Population Displacement



Residential Building Damages



Non-Residential Building Damages

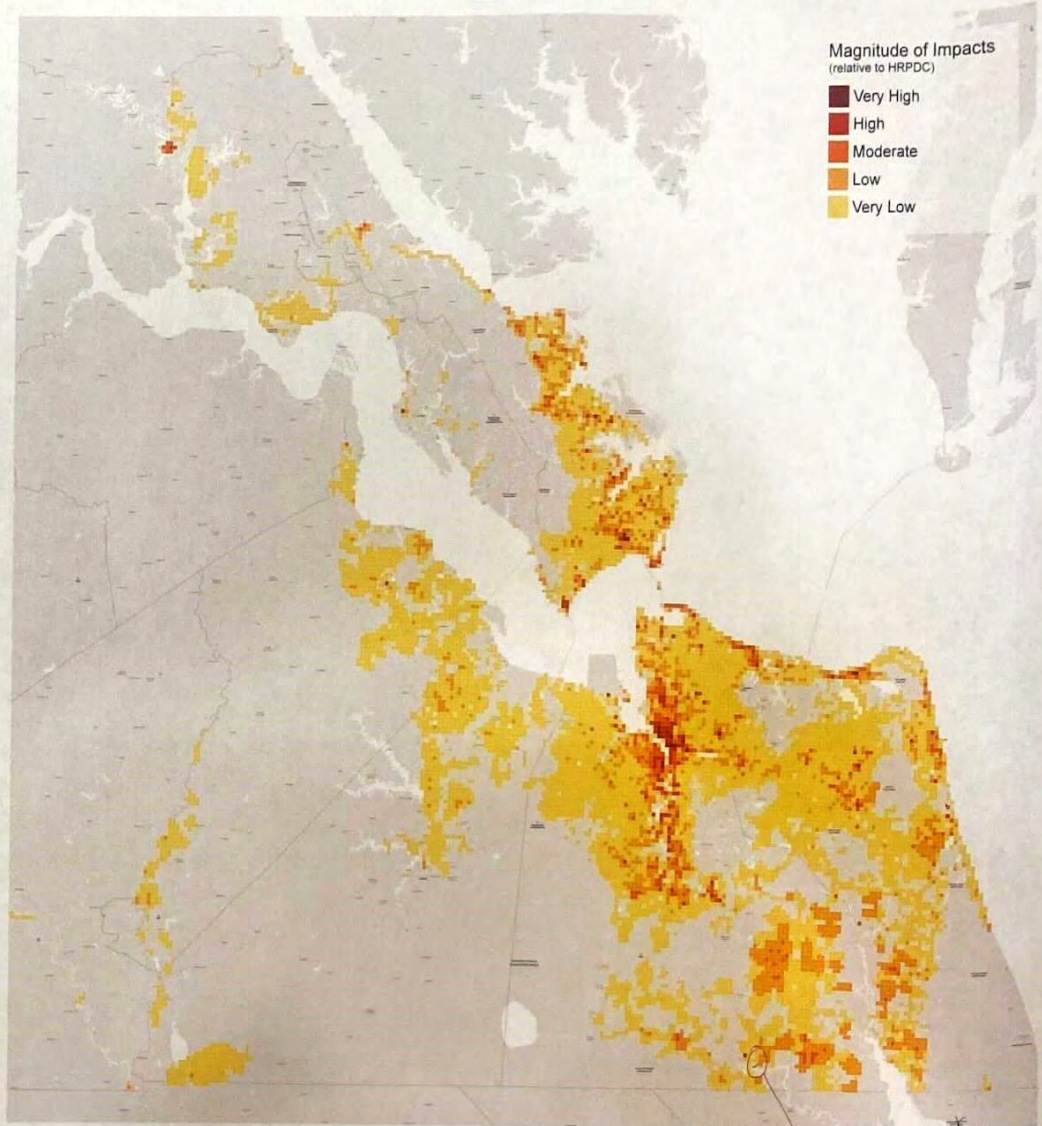
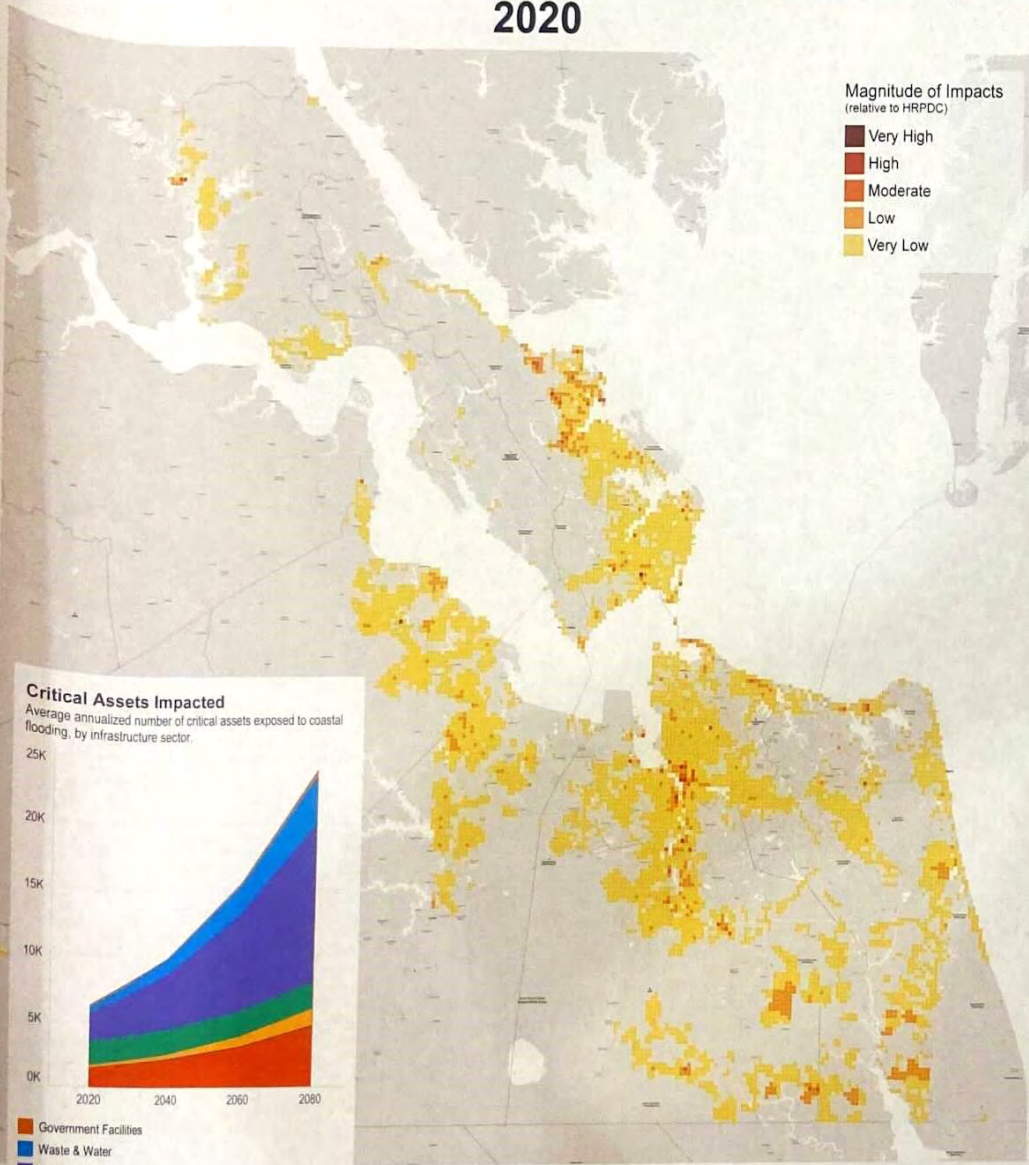


what is this?

Hampton Roads Planning District Commission Impacts to Critical Infrastructure Sectors

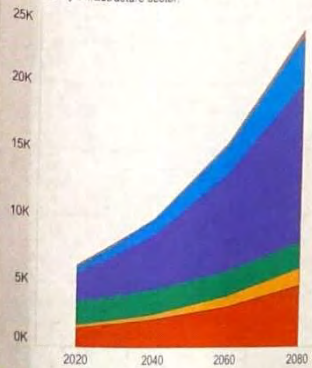
2020

2080

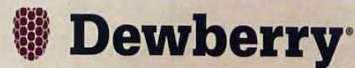


Critical Assets Impacted

Average annualized number of critical assets exposed to coastal flooding, by infrastructure sector.



- Government Facilities
- Waste & Water
- Transportation
- Food & Agriculture
- Energy
- Communications
- Commercial & Manufacturing
- Defense Industry
- Health & EMS



New River Water Treatment Plant

VIRGINIA COASTAL
RESILIENCE
MASTER PLAN
2021

Hampton Roads Planning District Commission Impacts to Critical Infrastructure Sectors

2020

2080

Magnitude of Impacts
(relative to HRPDC)

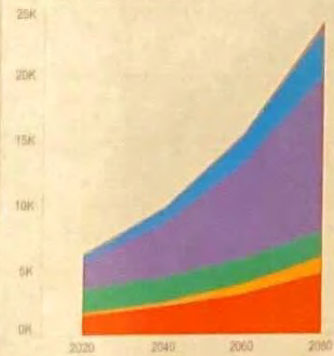
- Very High
- High
- Moderate
- Low
- Very Low

Magnitude of Impacts
(relative to HRPDC)

- Very High
- High
- Moderate
- Low
- Very Low

Critical Assets Impacted

Average annualized number of critical assets exposed to coastal flooding, by infrastructure sector



- Government Facilities
- Waste & Water
- Transportation
- Food & Agriculture
- Energy
- Communications
- Commercial & Manufacturing
- Defense Industry
- Health & EMS

Close-located projects were captured in the database

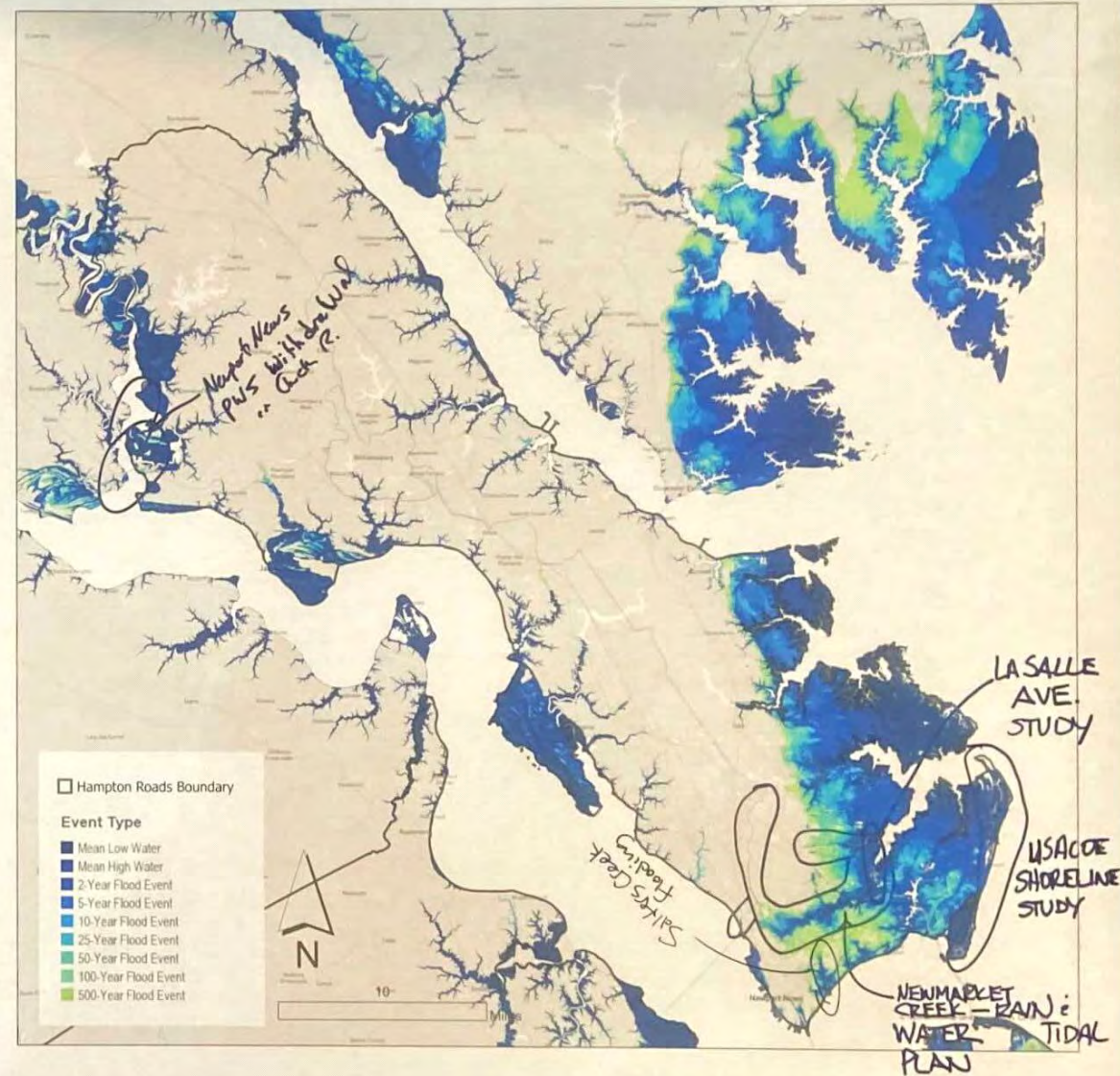
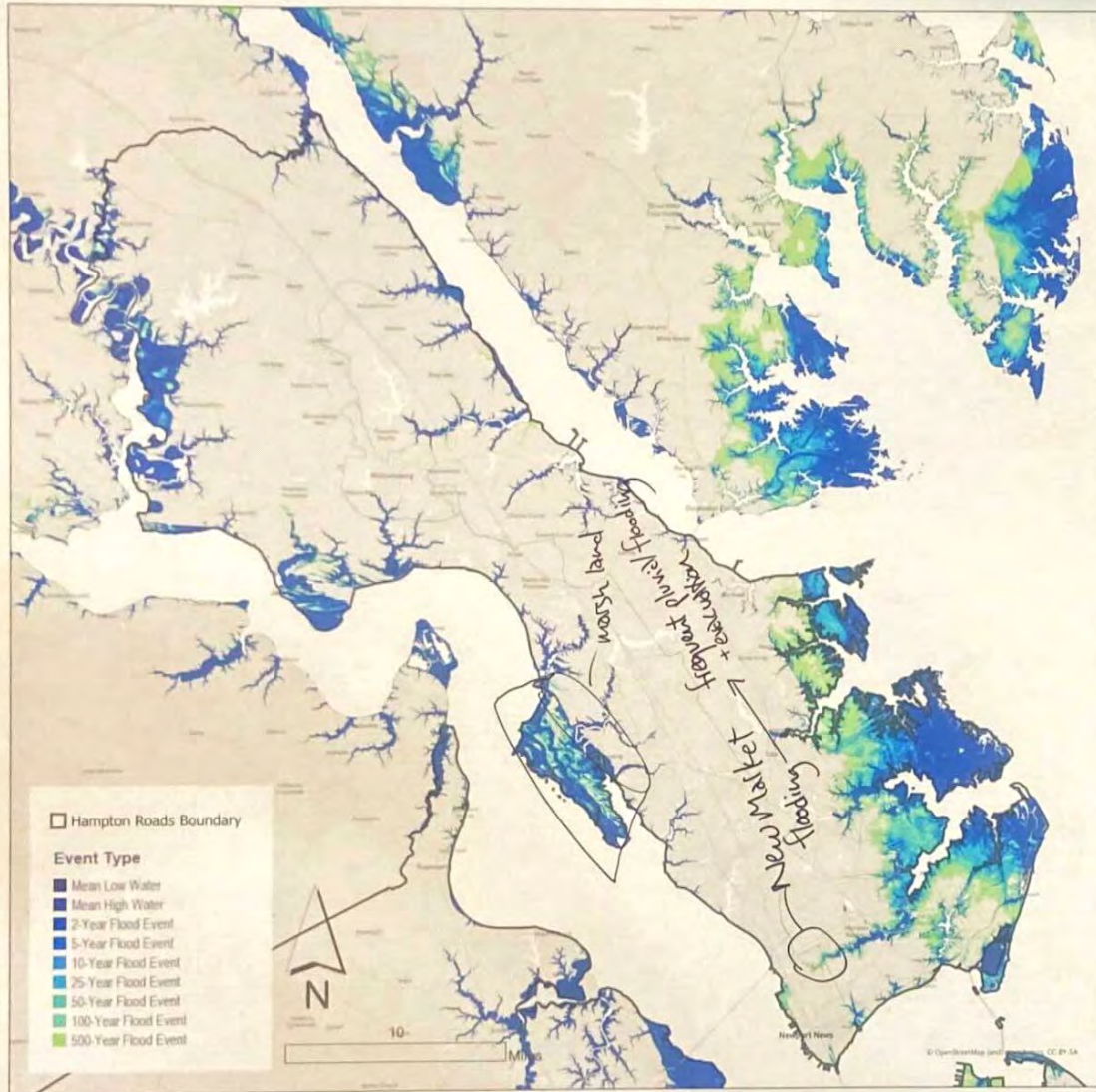
But flooding impacts will be minimal relative to the total number of assets exposed to coastal flooding. It's a very small number of assets exposed to coastal flooding.



Hampton Roads Planning District Commission Expected Coastal Flood Exposure

2020

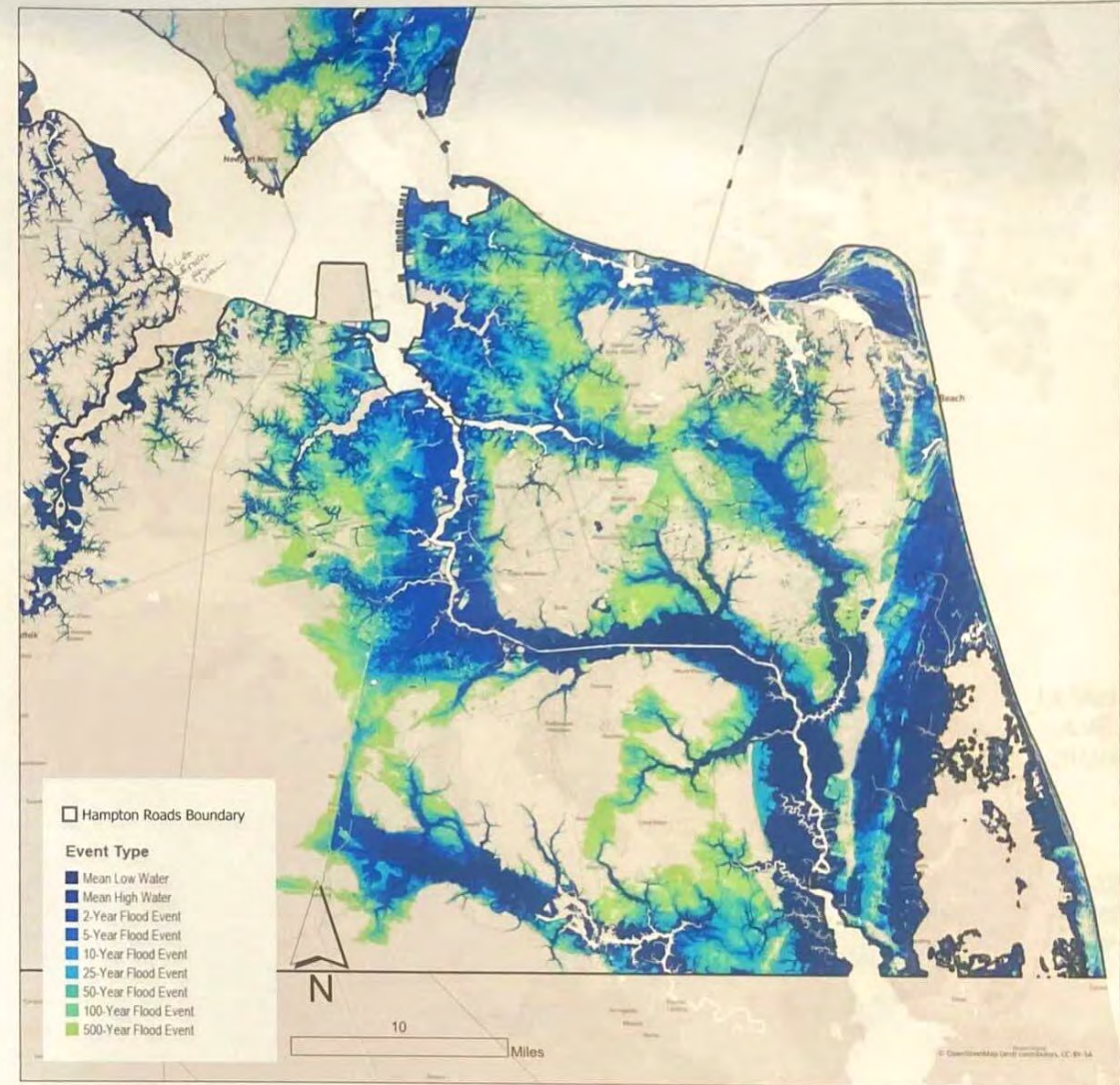
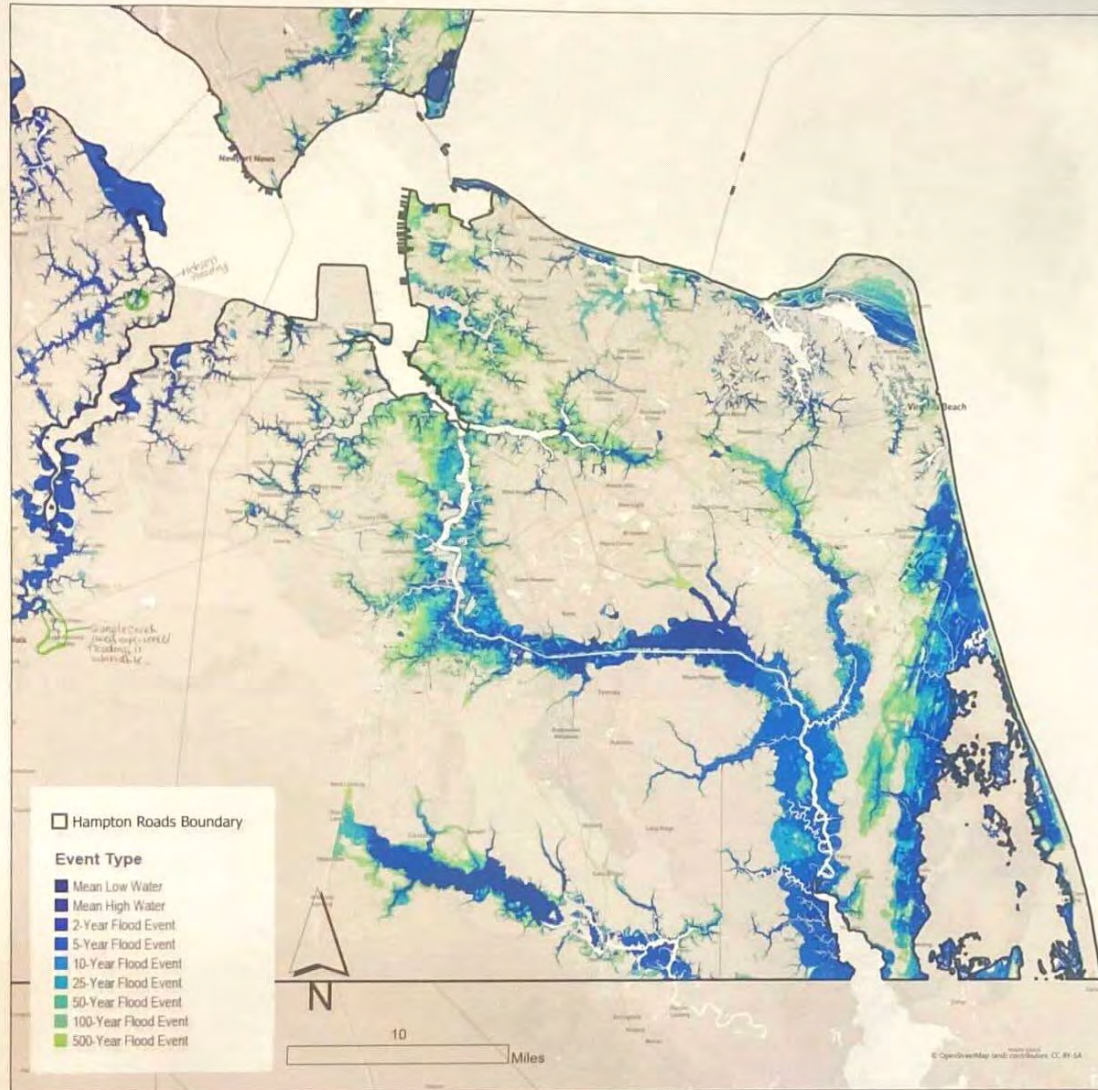
2080



Hampton Roads Planning District Commission Expected Coastal Flood Exposure

2020

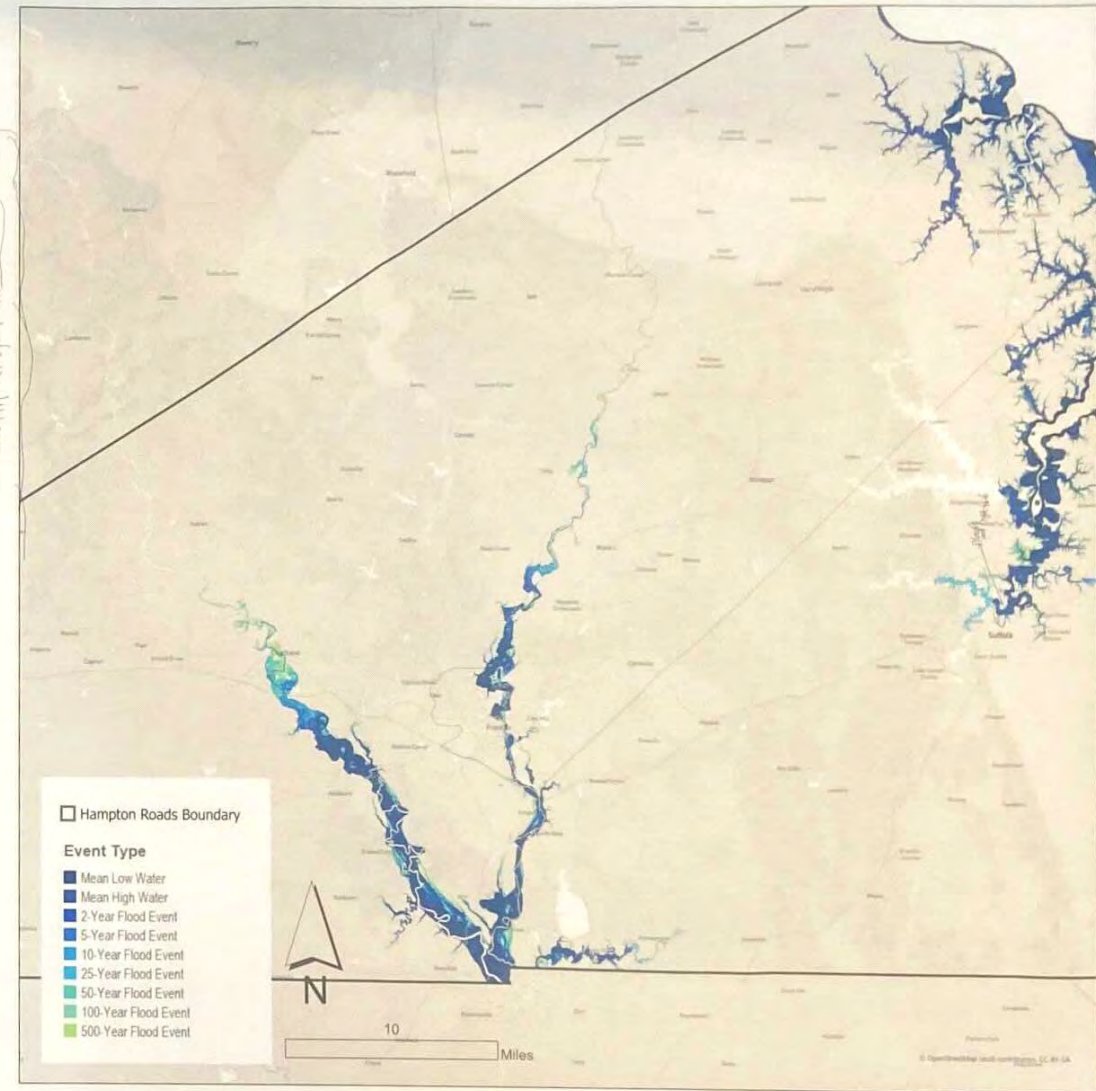
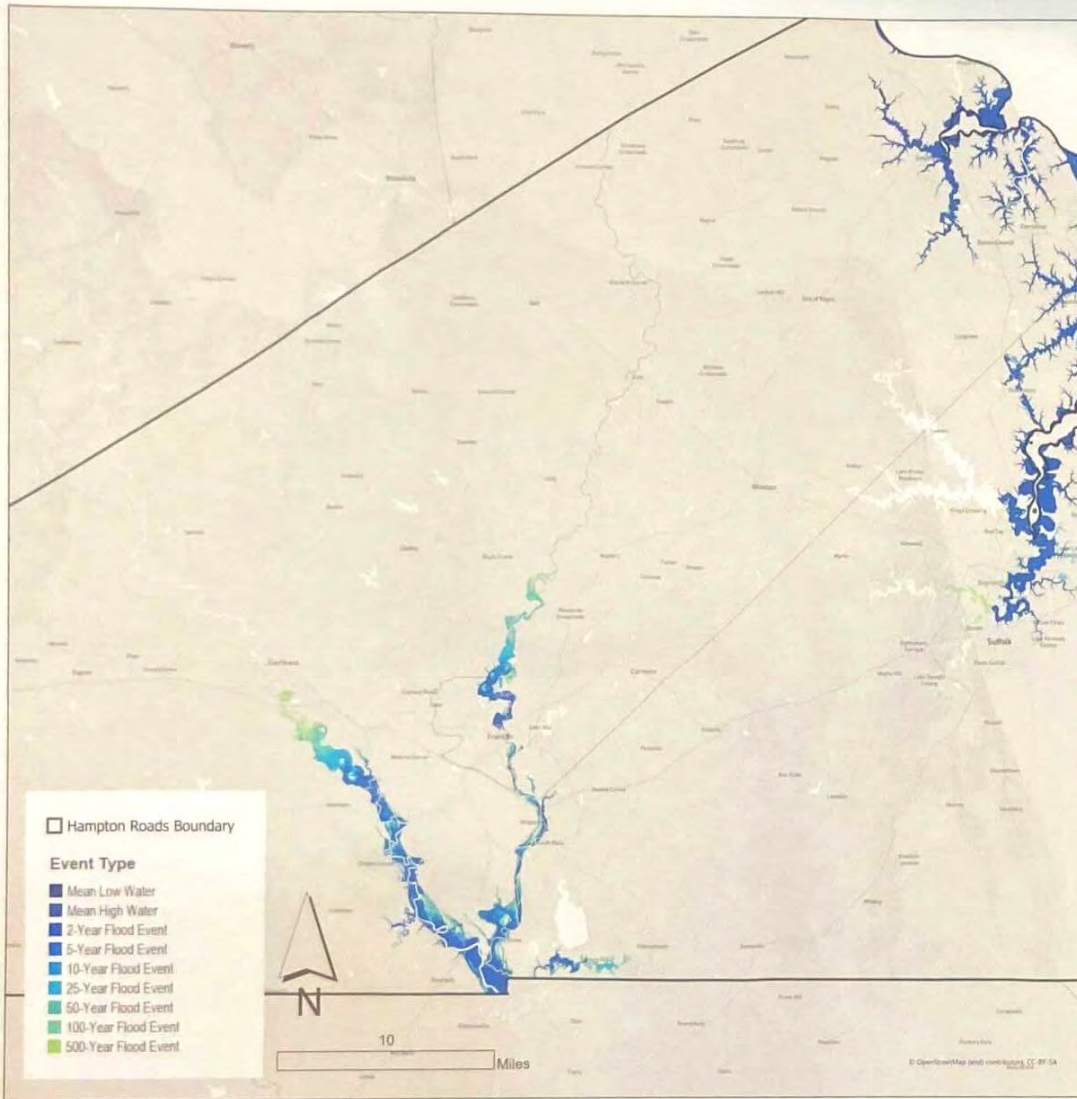
2080



Hampton Roads Planning District Commission Expected Coastal Flood Exposure

2020

2080



Natural Infrastructure Types

Projected Habitat Loss

■ 2040
■ 2060
■ 2080

⊖ Lower Habitat Loss
⊕ Higher Habitat Loss

Change in Salinity (High to Low)
Change in Salinity (Low to High)
Change in Salinity (High to Low)
Change in Salinity (Low to High)

Tidal Marsh



Non-Tidal Marsh



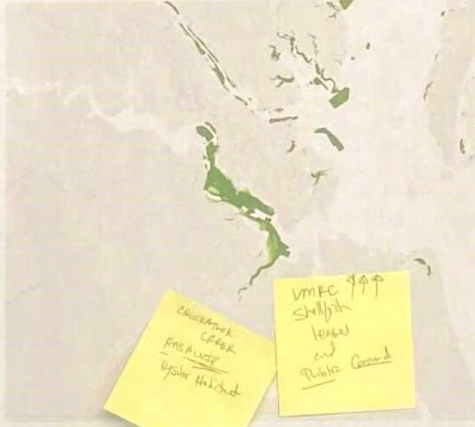
Woodlands and Shrub-Scrub



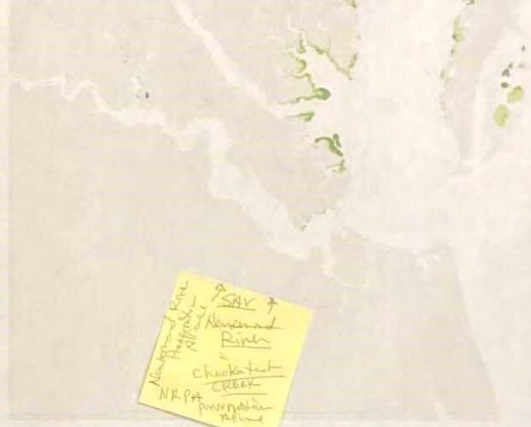
Beaches & Dunes



Oyster Habitat



Submerged Aquatic Vegetation (SAV) Habitat



Public Parks & Wildlife Areas



Chocoma
 Creek
 Preserve
 State Wildlife

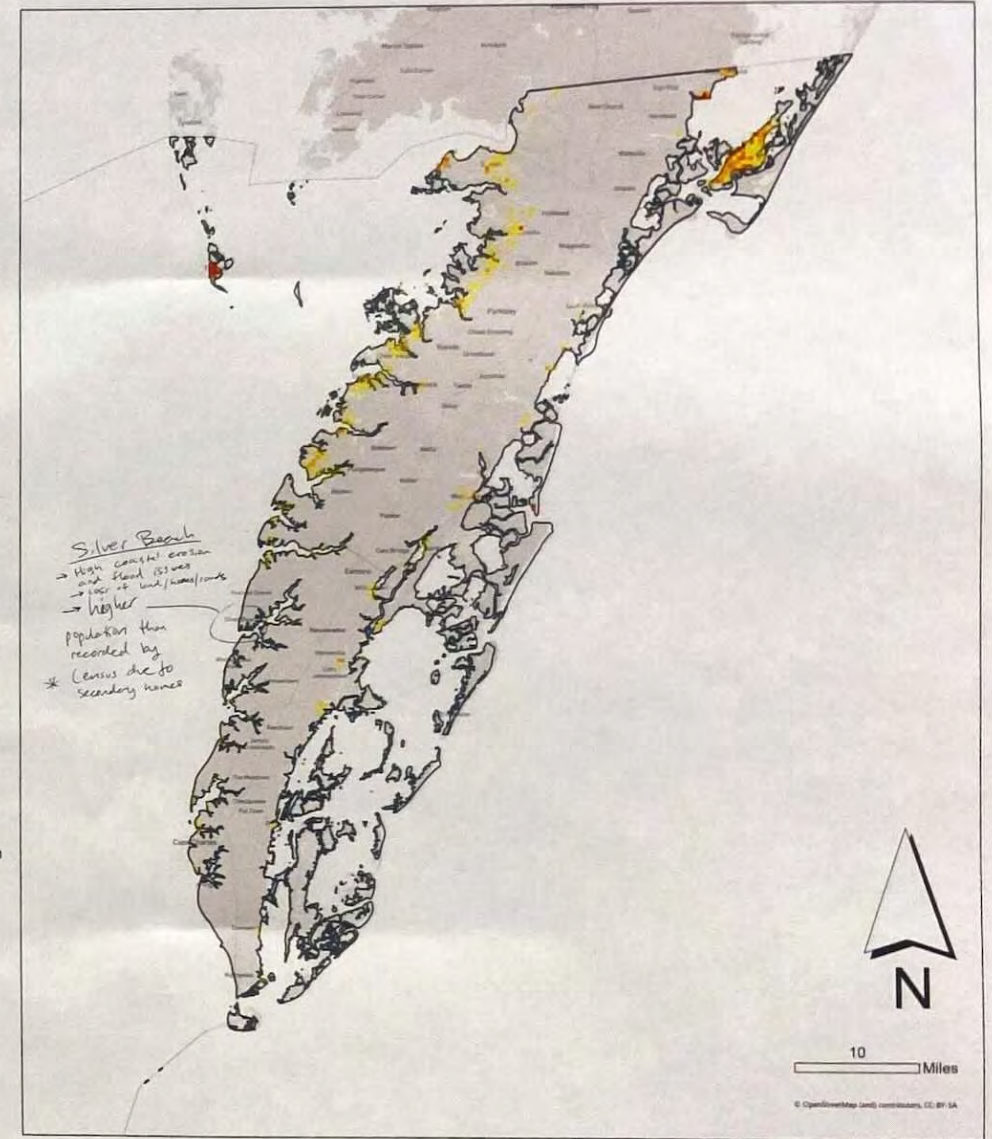
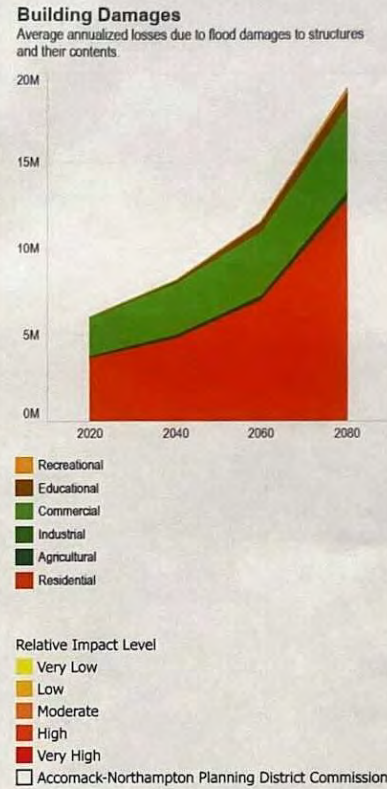
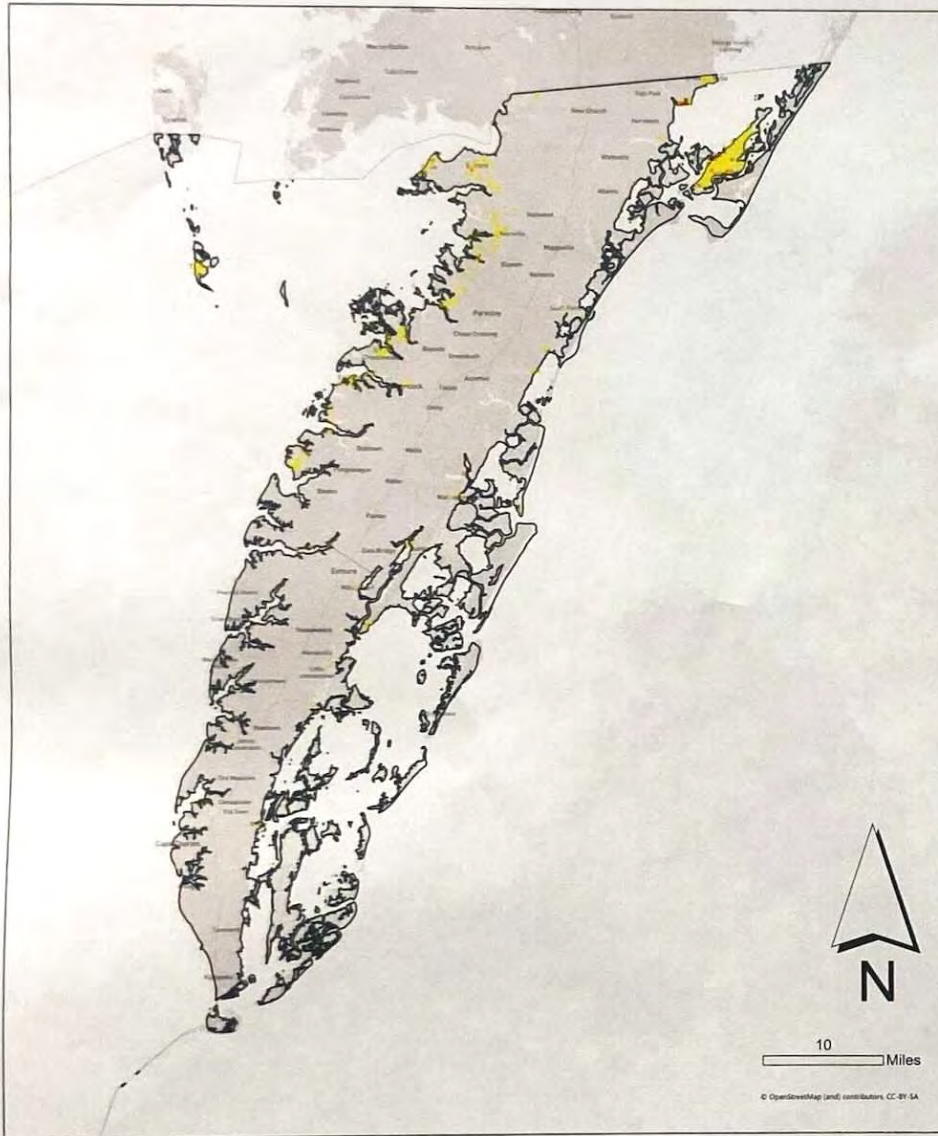
VMEC 999
 Shellfish
 Leases
 Public Ground

SAV +
 Non-Tidal
 Marsh
 River
 Chocoma
 Creek
 NAPA
 Preserve

Accomack-Northampton Planning District Commission Community Resource Impacts

2020

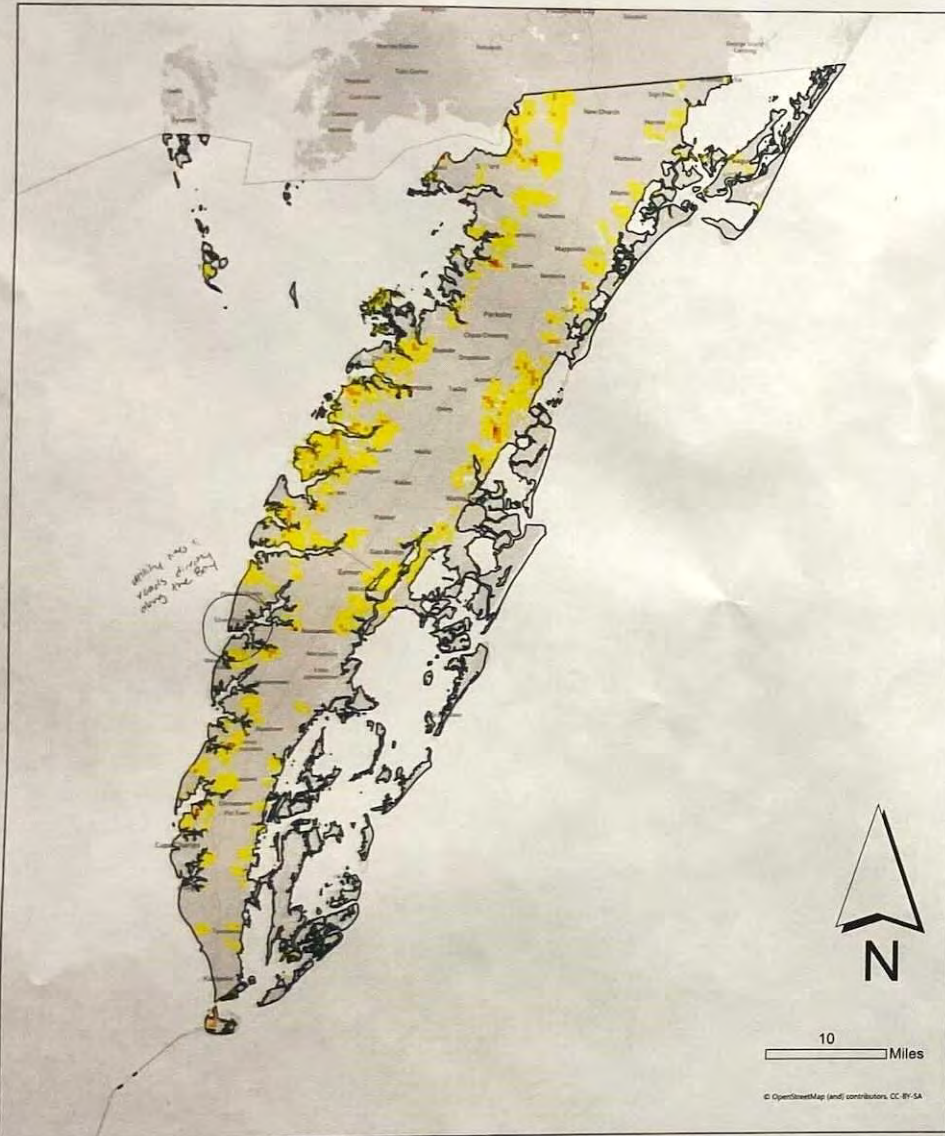
2080



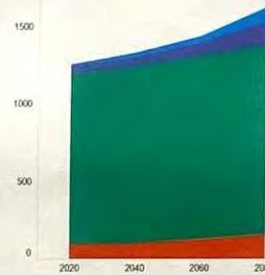
Accomack-Northampton Planning District Commission Critical Sector Impacts

2020

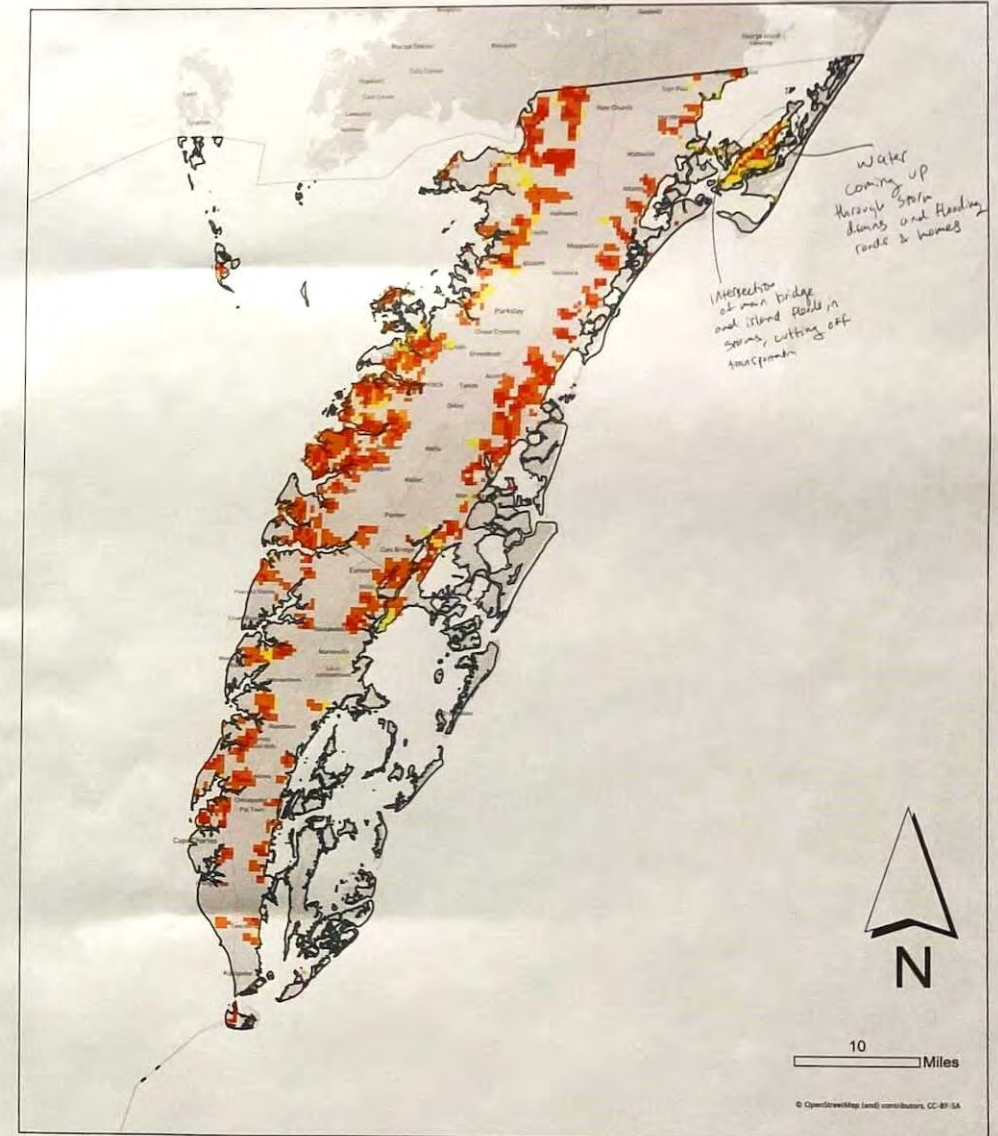
2080



Critical Assets Impacted
Average annualized number of critical assets exposed to coastal flooding, by infrastructure sector

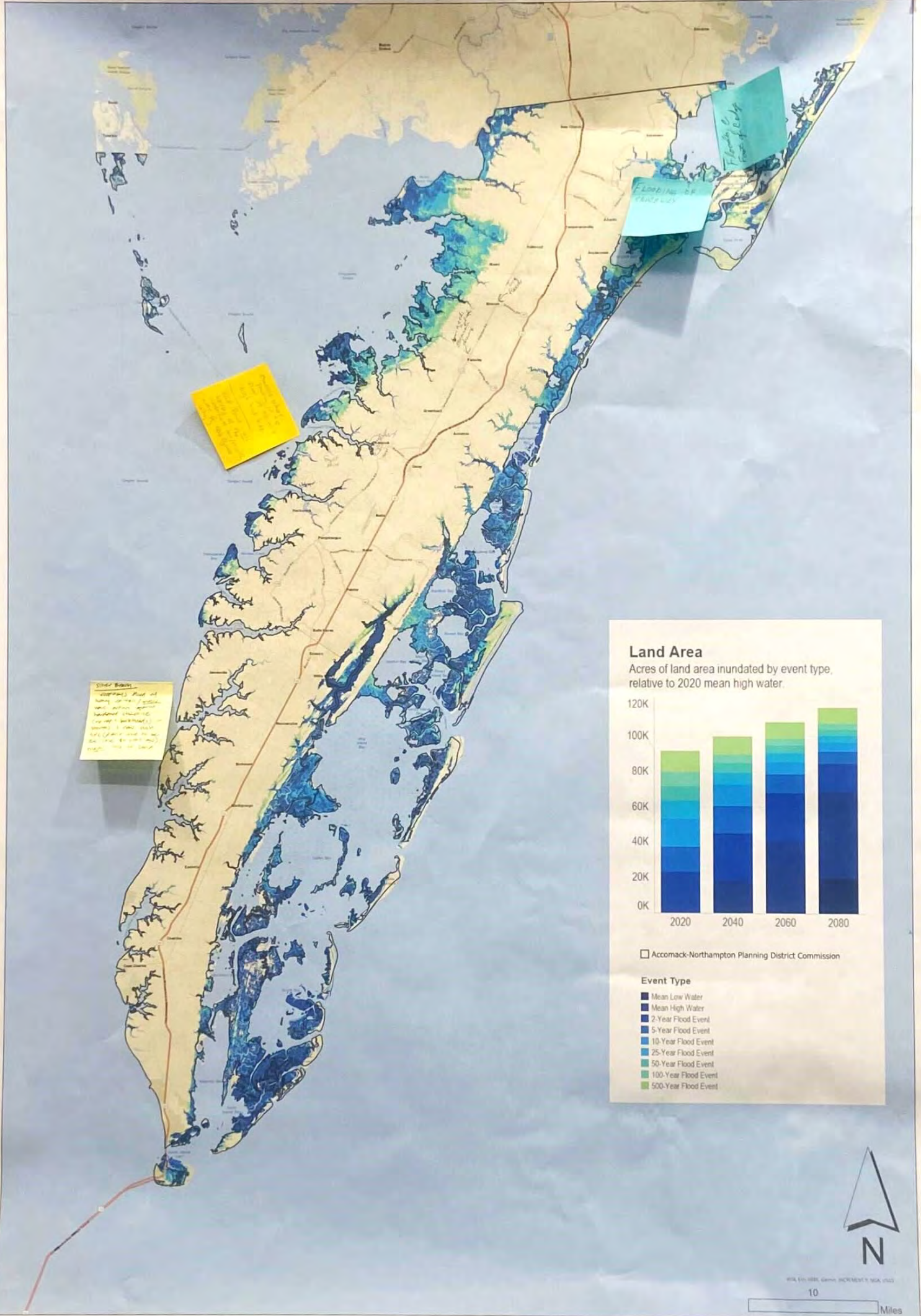


- Waste & Water
 - Transportation
 - Food & Agriculture
 - Energy
 - Communications
 - Commercial & Manufacturing
 - Defense Industry
 - Health & EMS
- Accomack-Northampton Planning District Commission
- Relative Impact Level
- Very Low
 - Low
 - Moderate
 - High
 - Very High



Accomack-Northampton Planning District Commission

Expected Coastal Flood Exposure - 2020



Sliver Beach
 Sliver Beach is a narrow strip of land that is highly vulnerable to flooding. It is located in the northern part of the county and is home to several homes and businesses. The beach is only a few feet wide and is surrounded by water on three sides. It is expected to be completely inundated by a 100-year flood event.

Sliver Beach
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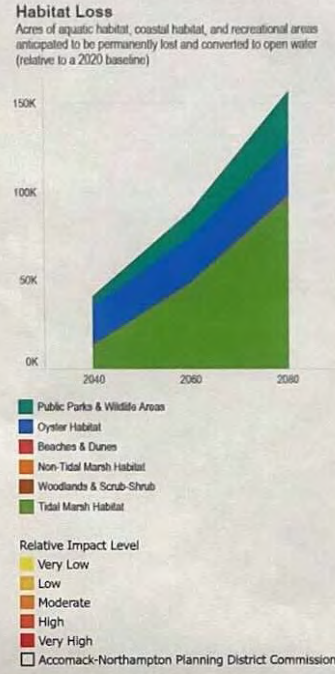
Flooding of City
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Flooding of City
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Accomack-Northampton Planning District Commission Natural Infrastructure Impacts

2040

2080



Accomack-Northampton Planning District Commission

Community Hazard Exposure and Social Vulnerability - 2020

