DCR
Virginia Department of Conservation & Recreation

VIRGINIA COASTAL RESILIENCE MASTER PLAN

Draft Coastal Resilience Master Plan, Phase II

PUBLIC WEBINAR | May 14, 2026

Photo: Virginia Department of Conservation & Recreation

Our Agenda

- Flooding as a Growing Challenge in Coastal Virginia
- DCR's Role in Flood Resilience
- Coastal Resilience Planning in Virginia
- The Draft Coastal Resilience Master Plan, Phase II
  - Planning Process
  - Plan Components
  - Our Next Steps
- Q&A Feedback Session

Flooding as a Growing Challenge in Coastal Virginia

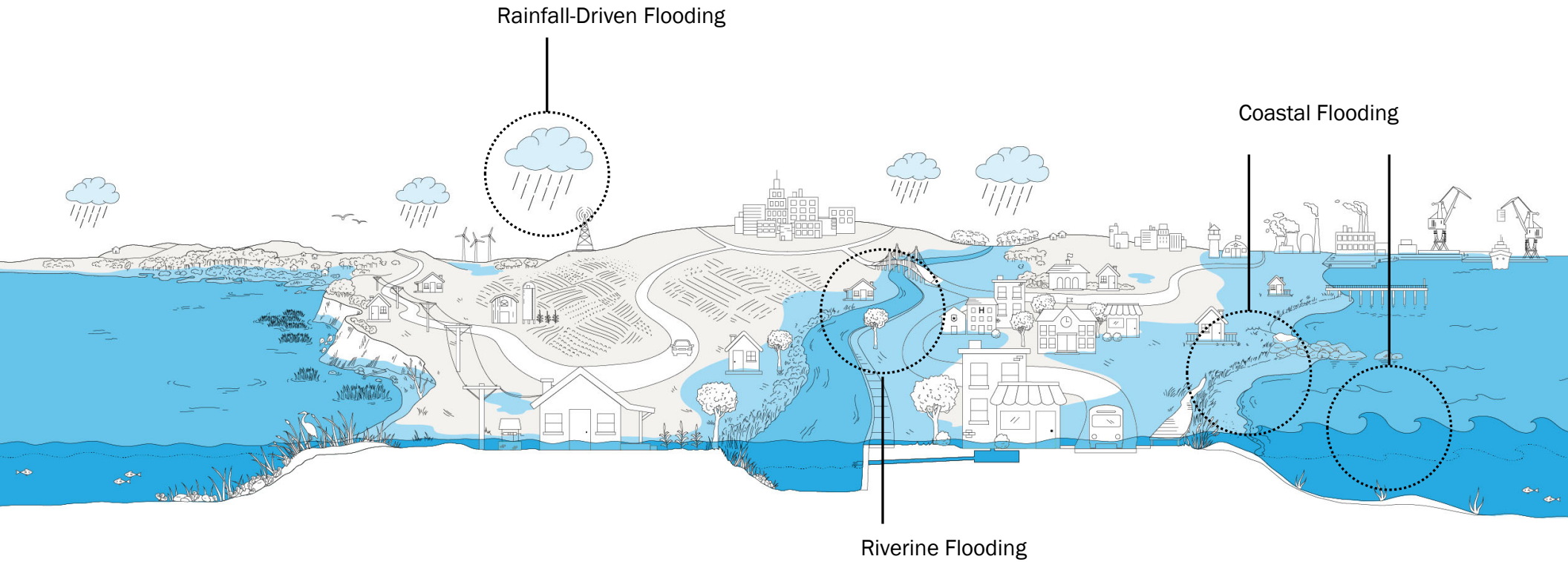


Image credit: Dewberry

Coastal Flooding

Flooding from Hurricane Isabel, September 2003, Norfolk, VA
Source: U.S. Navy, Photographer's Mate 1st Class, Michael Pendergrass

Sunny day flooding, May 2022; Hampton, VA

Rainfall-Driven Flooding and Riverine Flooding

Roadway flooding in Clifton, Virginia, May 16, 2014
Source: Fairfax County, Licensed with CC BY-NC-ND 2.0, via Flickr

Flooding from Tropical Depression Ida near Vienna, VA, September 1, 2021
Source: Fairfax County government/Twitter via Tysons Reporter

http://www.dcr.virginia.gov/floodstory

Virginia DCR's Role in Flood Resilience

Commonwealth Resilience Planning Principles

This plan is built on the five key principles for flood resilience that were established by the Coastal Resilience Master Planning Framework and codified in statute.

I. Base decision making on the best-available science;

II. Identify and address socioeconomic inequities and strive to enhance equity through the adaptation and protection measures by considering all areas of recurrent flooding;

III. Recognize the importance of protecting and enhancing natural infrastructure and nature-based approaches to flood mitigation, when possible;

IV. Utilize community and regional scale planning to the maximum extent possible, seeking region-specific approaches tailored to the needs of individual communities; and

V. Include an understanding of fiscal realities and focus on cost-effective solutions for the protection and adaptation of communities, businesses, and critical infrastructure.

DCR Office of Resilience Planning

Planning for a flood-resilient future.

What we do: Distribute knowledge and coordinate action to achieve a flood-resilient future for Virginia through informed planning and proactive intergovernmental solutions.

Why we do it: We envision a Virginia where state-led solutions effectively confront present and future flood risks. Through aligned collective action, we will increase resilience and minimize the impacts of flooding statewide.

DCR Office of Resilience Planning

Planning for a flood-resilient future.

Develop and Implement State-led Flood Resilience Plans

Coordinate Action

Supply Data, Information and Resources

Conduct Outreach and Engagement

VIRGINIA COASTAL RESILIENCE MASTER PLAN

DCR Office of Resilience Planning

Planning for a flood resilient future.

Matt Dalon
Program Manager

Emily Breen
Resilience Planner

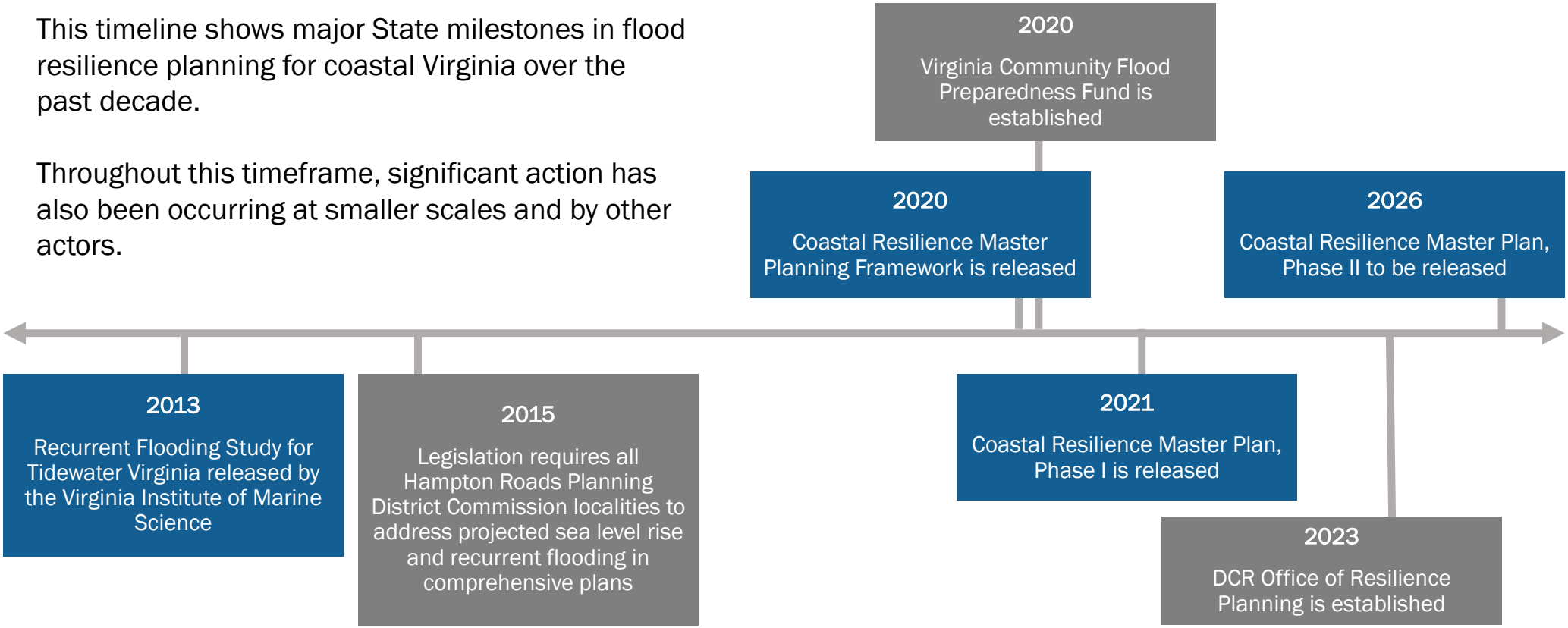
Kelsey Liske
Resilience Specialist

Ellie Plisko
Incoming Resilience Specialist

Coastal Resilience Master Planning in Virginia

This timeline shows major State milestones in flood resilience planning for coastal Virginia over the past decade.

Throughout this timeframe, significant action has also been occurring at smaller scales and by other actors.



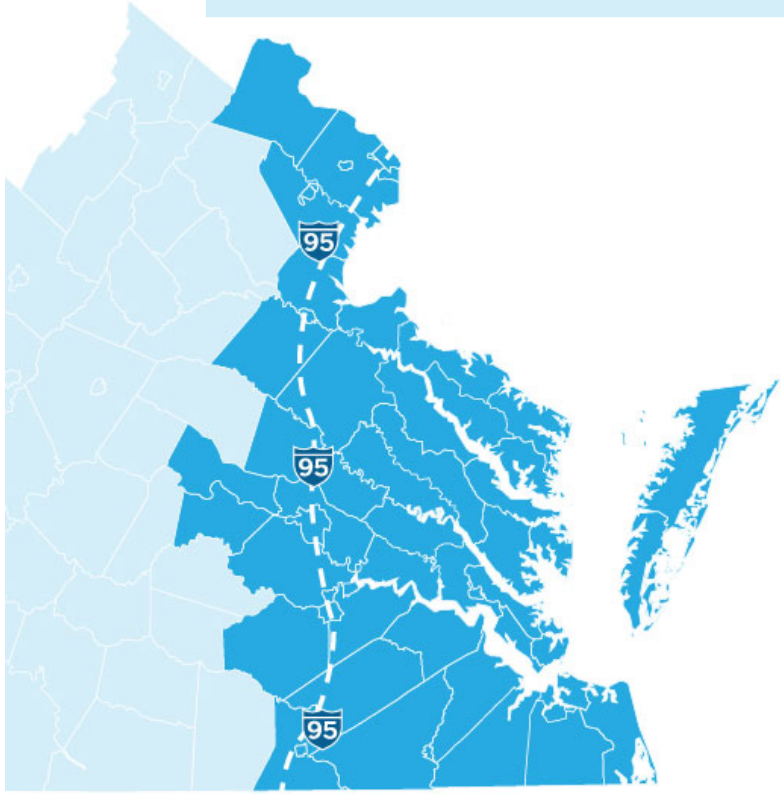
VIRGINIA COASTAL RESILIENCE MASTER PLAN

The Virginia Coastal Resilience Master Plan

A **trusted resource** to assist government entities in making evidence-based decisions to mitigate severe and repetitive flooding.

- Provides a **unified baseline analysis** of the threat of increasing flood exposure and impacts.
- **Identifies opportunities** to prioritize impactful flood resilience solutions.

Despite being called “coastal” the plan addresses all major forms of flooding in this region. More than six million people, or 73% of the state’s population, call coastal Virginia home.



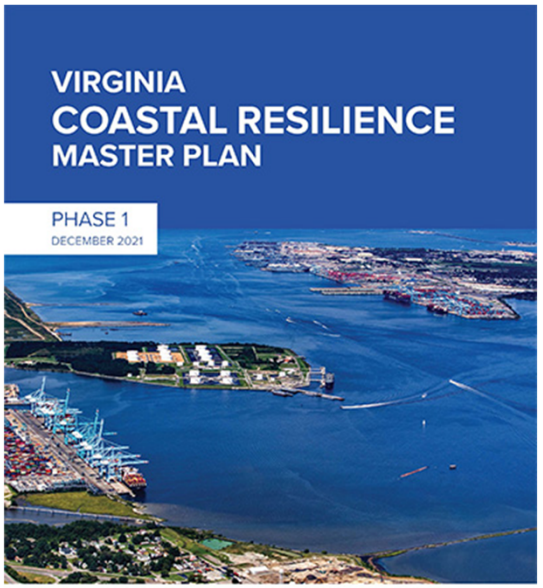
VIRGINIA COASTAL RESILIENCE MASTER PLAN

The Coastal Resilience Master Plan, Phase I

- Developed and released by the Commonwealth in 2021.
- Served as a call to action for coastal Virginia.
- Shows that, without action, rising sea levels and increasingly severe weather threaten our cherished coastal regions' economic, cultural, and environmental resources.
- Developed in a collaborative process with many organizations and stakeholders.

KEY ELEMENTS OF THE PLAN

- Current and future land exposure to coastal flooding hazards.
- Impacts of flooding on people and social, natural, and built assets.
- Inventory of locally-driven projects and initiatives that address flood resilience challenges.
- Inventory of grants and loans to assist regions and localities with securing financial resources.



Office of Governor Ralph S. Northam
Commonwealth of Virginia
DCR

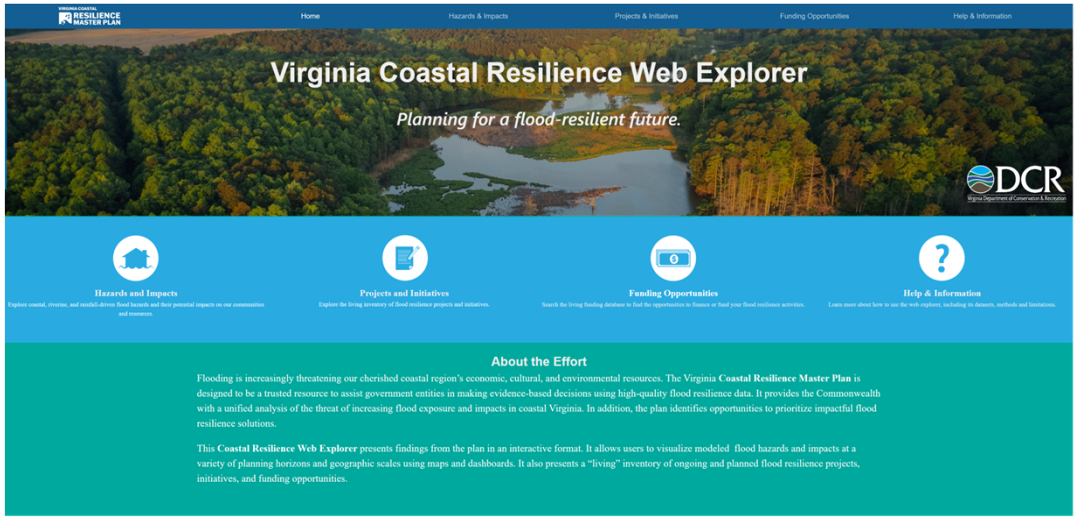
VIRGINIA COASTAL
RESILIENCE
WEB EXPLORER
Ver 1.0

VIRGINIA COASTAL RESILIENCE MASTER PLAN

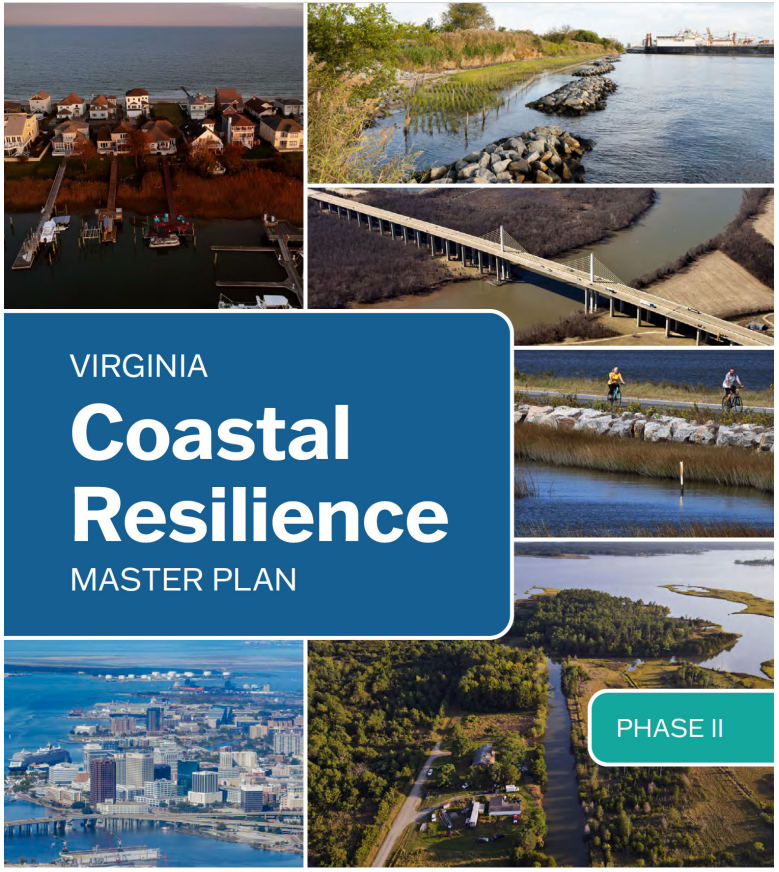
Dewberry

Virginia Coastal Resilience Master Plan
Phase II

Our Plan Products



https://floodplan.dcr.virginia.gov/crwe/



DRAFT FOR PUBLIC COMMENT
May 2026

DCR Virginia Department of Conservation & Recreation

VIRGINIA COASTAL RESILIENCE MASTER PLAN

https://www.dcr.virginia.gov/crmp/plan-phase2

Coastal Resilience Master Plan, Phase II

OUR CONSULTANT TEAMS

Dewberry

Stantec

AECOM

STAKEHOLDER ENGAGEMENT

- 200+ people participated in webinars, meetings, and workshops on resilience and flooding in coastal Virginia.
- 50+ primary stakeholders provided direct input to inform the plan through a survey designed to collect feedback from the plan's intended end users.
- The Coastal Resilience Technical Advisory Committee ("TAC") was a public body established by Code to advise and support the plan's development and implementation.

Coastal Resilience Master Plan, Phase II

OBJECTIVES OF THE PLAN

- Provide a unified baseline analysis of the threat of increasing flood exposure and impacts in coastal Virginia.
- Identify opportunities to create impactful flood resilience solutions.

INNOVATIONS OF THE PLAN

- Enhancing Flood Exposure Modeling
- Adopting Planning Scenarios
- Updating the Projects, Initiatives and Funding Inventory
- Recommending Actions for Flood Resilience
- Strengthening Stakeholder Engagement

The Coastal Resilience Master Plan at a Glance

Chapter 1: INTRODUCTION

- Purpose of the Coastal Resilience Master Plan
- History of the Plan
- Our Approach

Chapter 2: FLOODING IN COASTAL VIRGINIA

- Modeling Changing Flood Conditions
- Flooding in Coastal Virginia
- Flood Impacts

Chapter 3: ADVANCING FLOOD RESILIENCE

- Projects and Initiatives Inventory
- Financing Flood Resilience
- Recommendations

Chapter 4: LOOKING AHEAD

- The Commonwealth's Role in Flood Resilience
- How to Use the Plan and Its Products
- Next Steps for the Office of Resilience Planning

VIRGINIA COASTAL RESILIENCE MASTER PLAN

How to Use this Plan


Understanding the Challenges of Increased Flooding


Developing Locally Specific or Sector-Specific Plans


Identifying Opportunities to Coordinate With Others


Filling Flood Resilience Gaps


Using Data Information In Operational Decisions


Seeking Funding and Policymaker Support


Educating Public Audiences

CHAPTER 2

FLOODING IN COASTAL VIRGINIA

Major Sources of Flooding

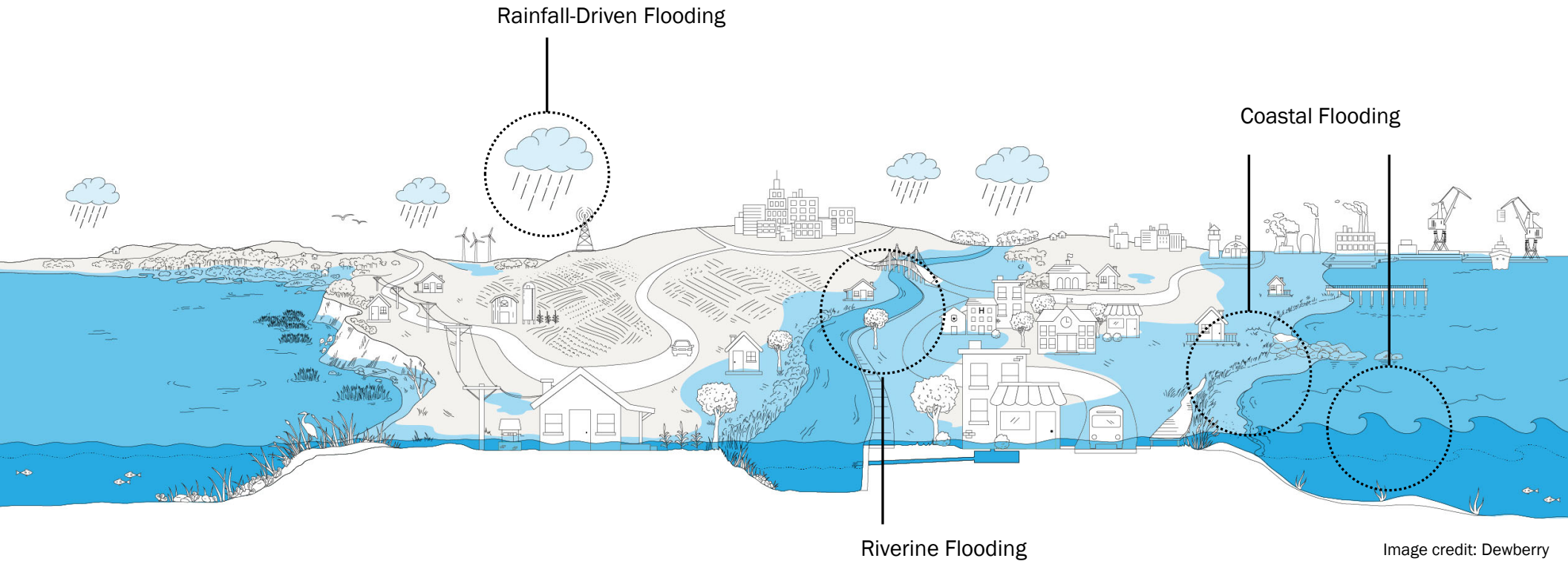
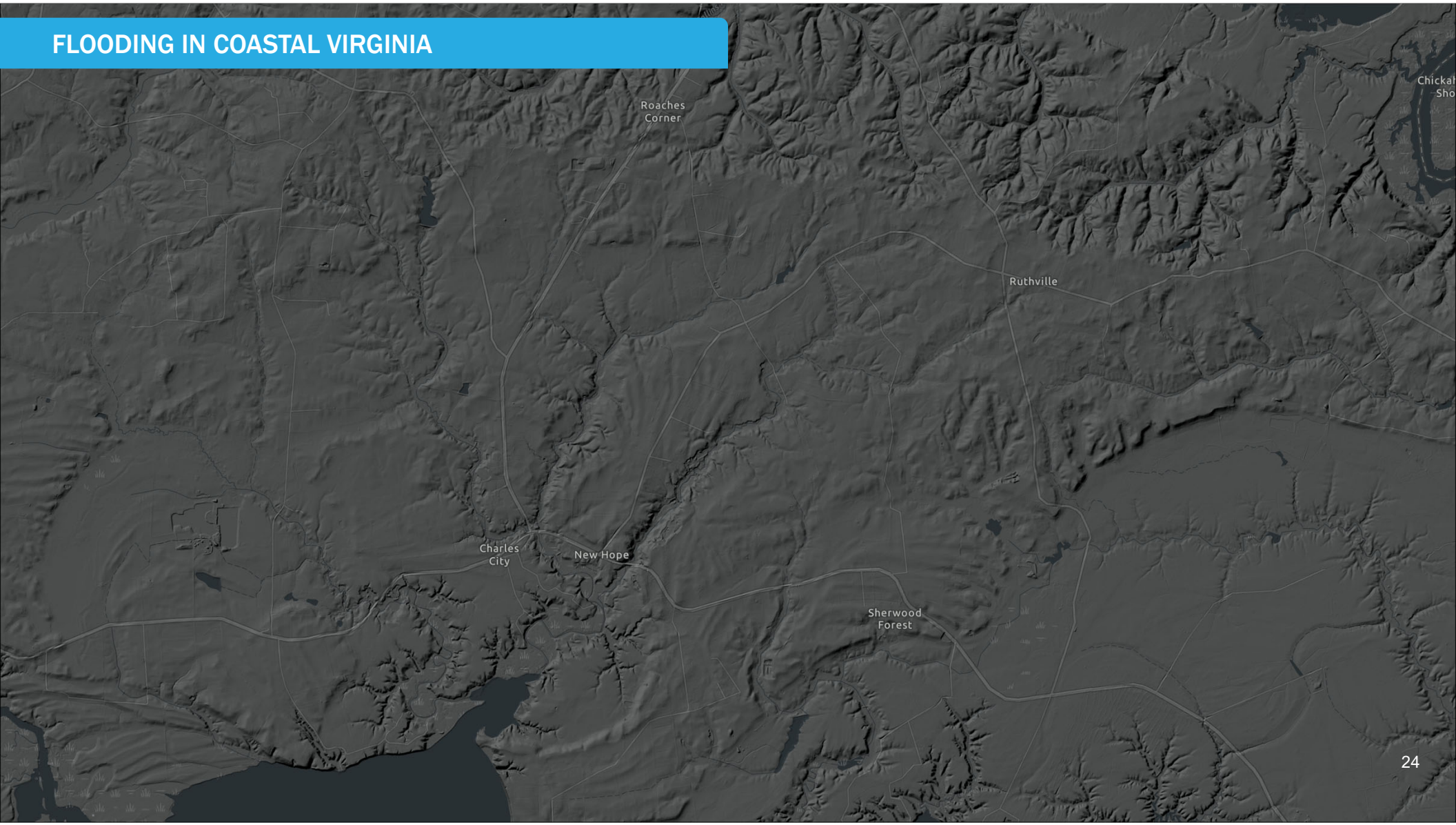


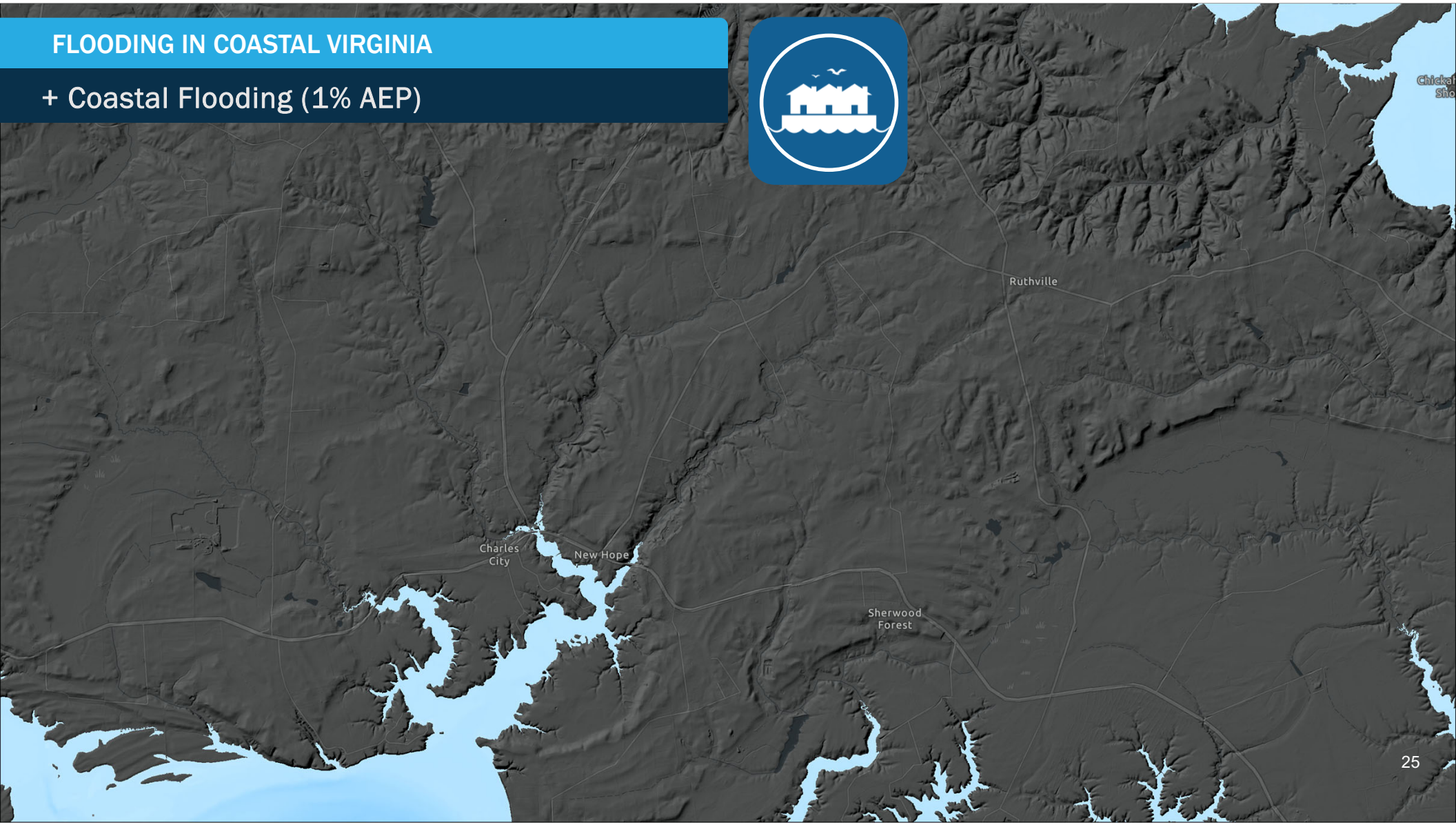
Image credit: Dewberry

FLOODING IN COASTAL VIRGINIA



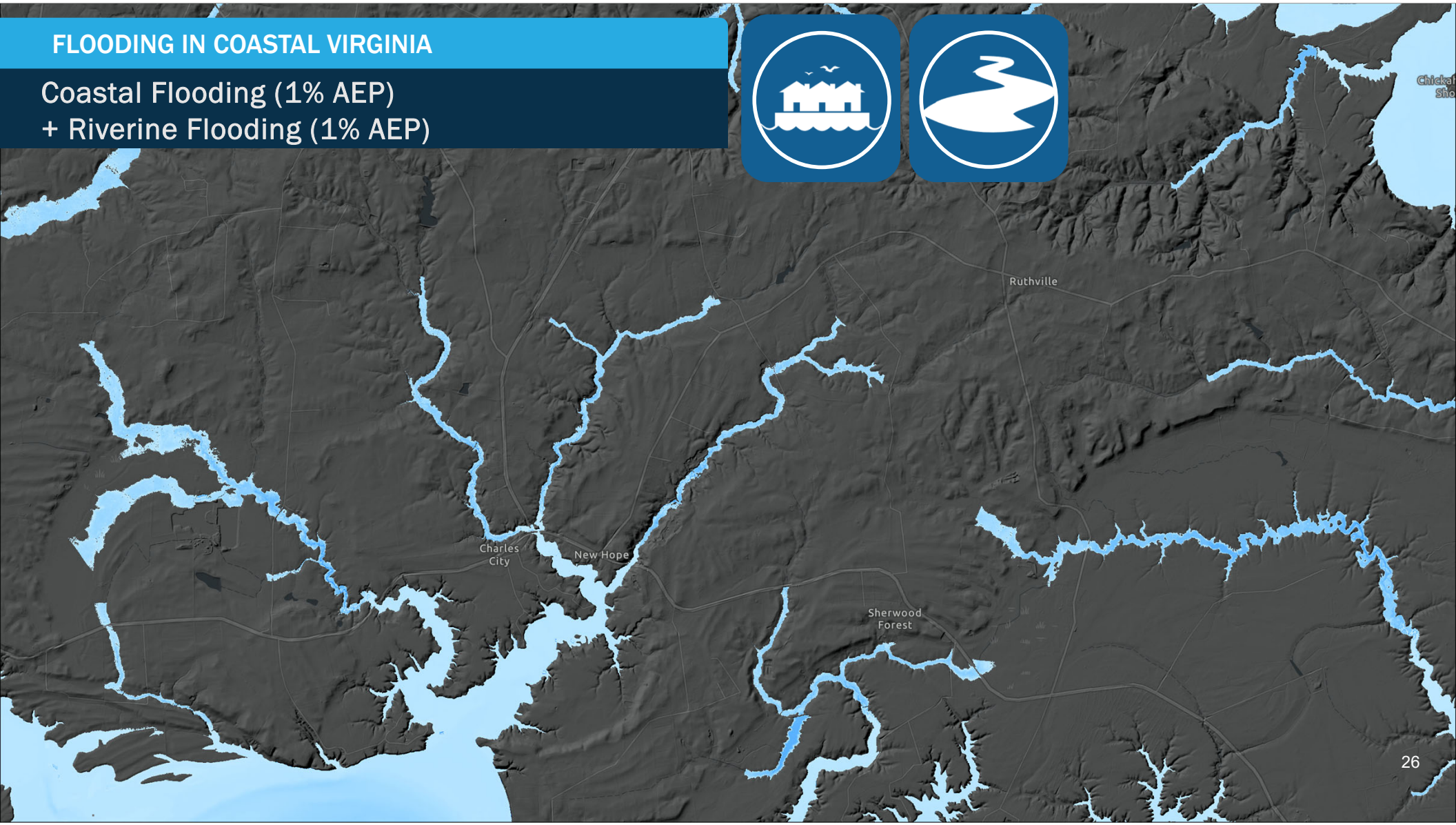
FLOODING IN COASTAL VIRGINIA

+ Coastal Flooding (1% AEP)



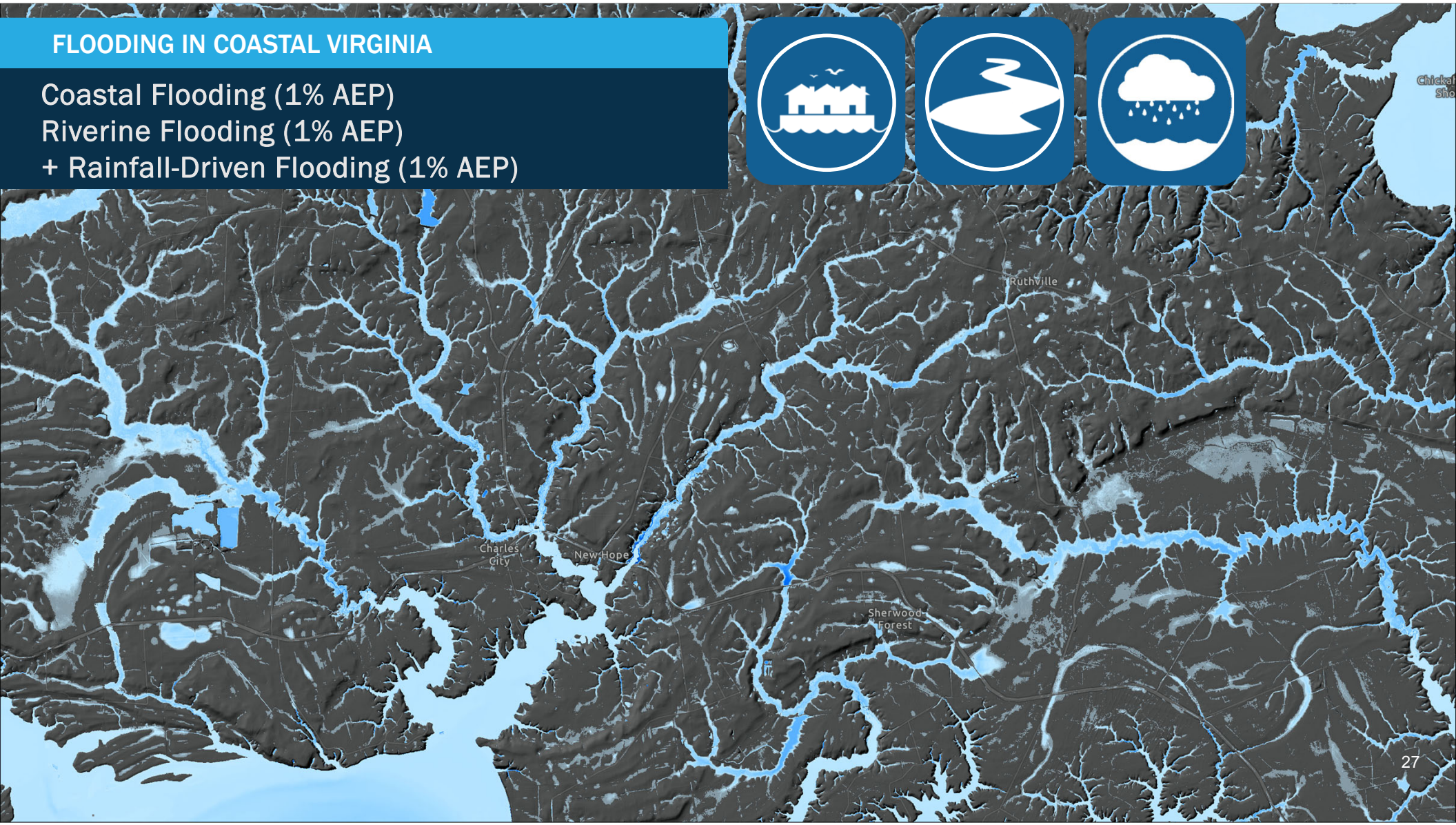
FLOODING IN COASTAL VIRGINIA

Coastal Flooding (1% AEP)
+ Riverine Flooding (1% AEP)

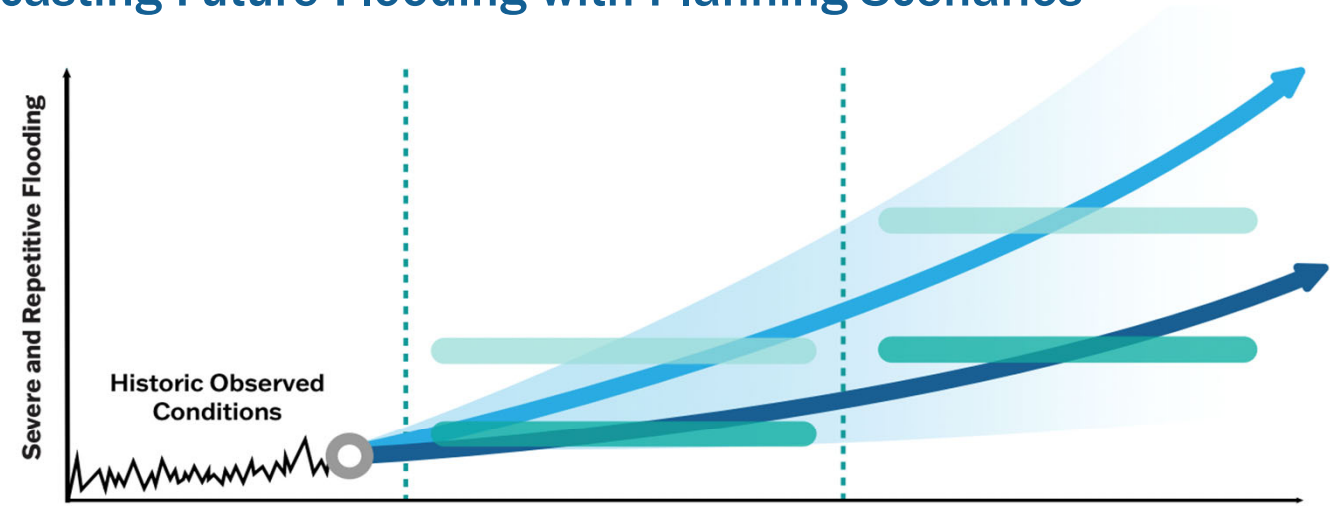


FLOODING IN COASTAL VIRGINIA

Coastal Flooding (1% AEP)
Riverine Flooding (1% AEP)
+ Rainfall-Driven Flooding (1% AEP)



Forecasting Future Flooding with Planning Scenarios



	Near Future (2030-2060)	Far Future (2060-2100)
Coastal Flooding	↑ +3 ft Sea Level Rise ↑ +1.7 ft Sea Level Rise	↑ +4.6 ft Sea Level Rise ↑ +3 ft Sea Level Rise
Rainfall-Driven Flooding	↑ +25% Precipitation ↑ +6% Precipitation	↑ +30% Precipitation ↑ +11% Precipitation
Riverine Flooding	Baseline only. Change not modeled.	Baseline only. Change not modeled.

High Scenario
Possible Future

Moderate Scenario
Likely Future

Baseline

Less Tolerance for Flood Risk

More Tolerance for Flood Risk

VIRGINIA COASTAL RESILIENCE MASTER PLAN

Understanding Flood Impacts

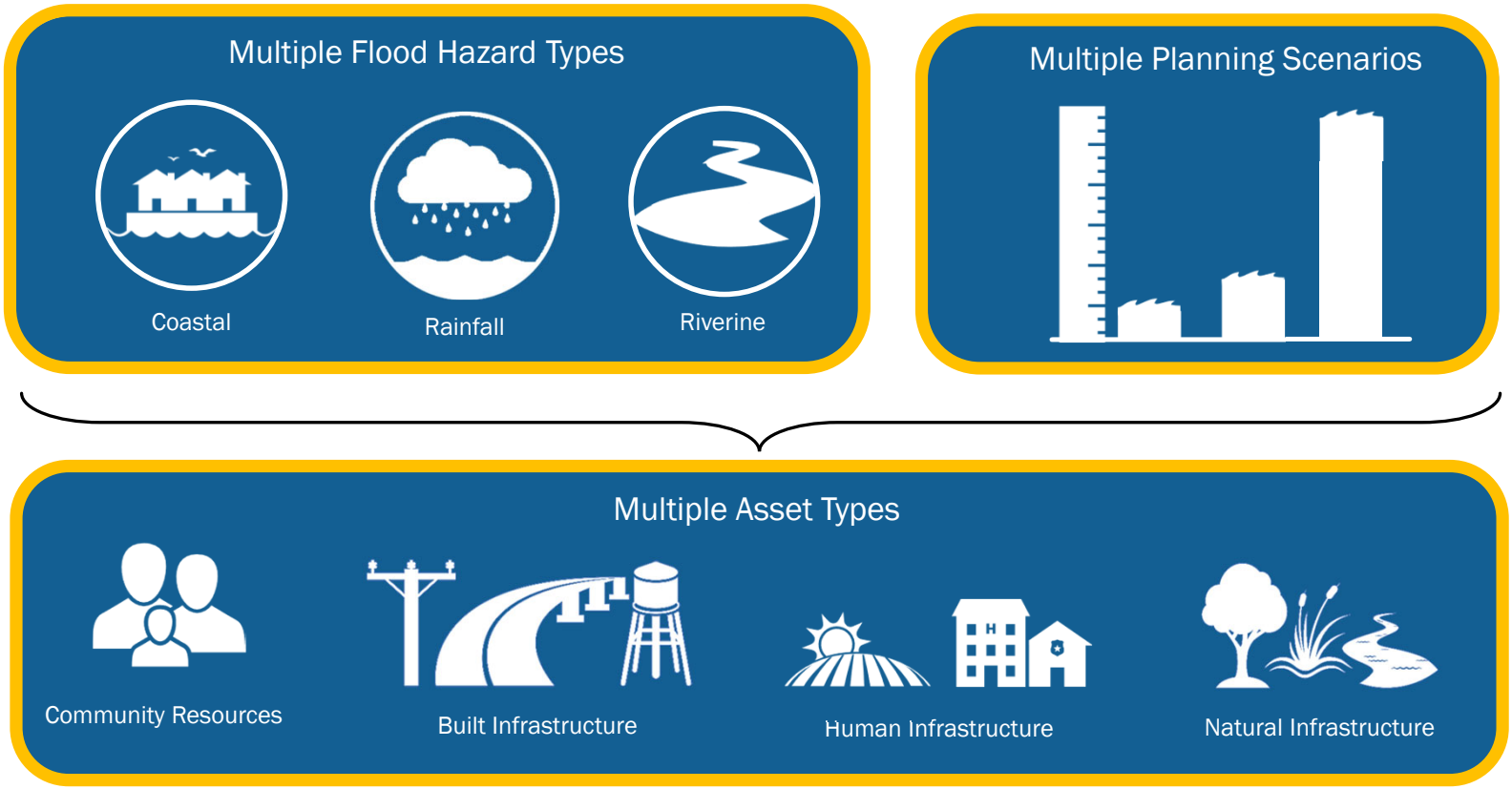


Image credit: Dewberry

Impact Highlights

In the near future moderate scenario, Coastal Virginia is likely to see...

About
+13%

Increase in the **acres of land** that could be exposed to major* **rainfall-driven** flooding.

About
+53%

Increase in the **number of buildings** that could be exposed to major* **coastal** flooding.

About
9%

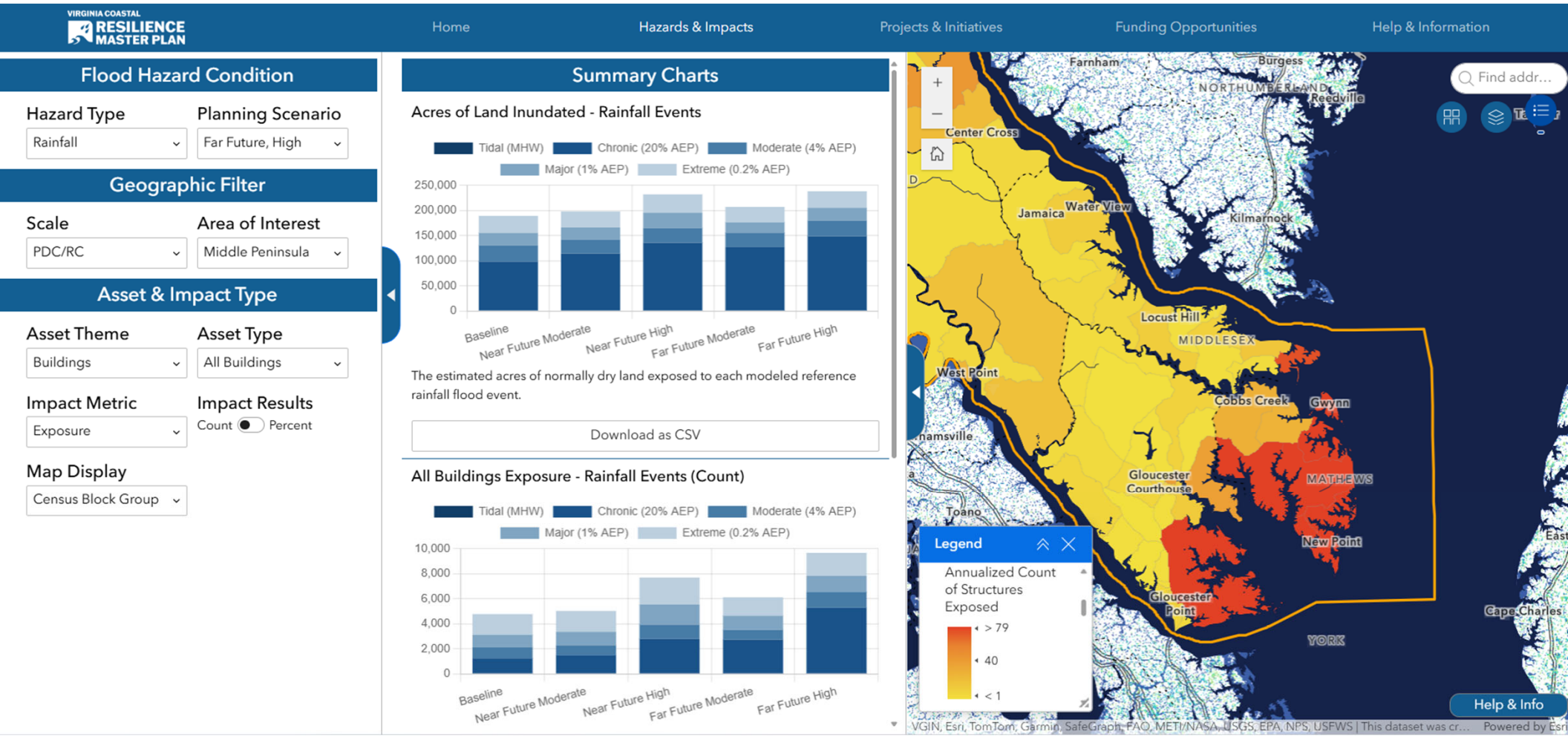
Of **lands managed for permanent natural resource conservation** inundated by **tidal** flooding.

About
15%

Of the **regional population** (1.5 million people) living in areas that could be exposed to major* flooding.

**Major flooding refers to the flood condition with a 1% annual exceedance probability (AEP).*

FLOODING IN COASTAL VIRGINIA



CHAPTER 3

ADVANCING FLOOD RESILIENCE

Projects and Initiatives Inventory

What is the state of the data?

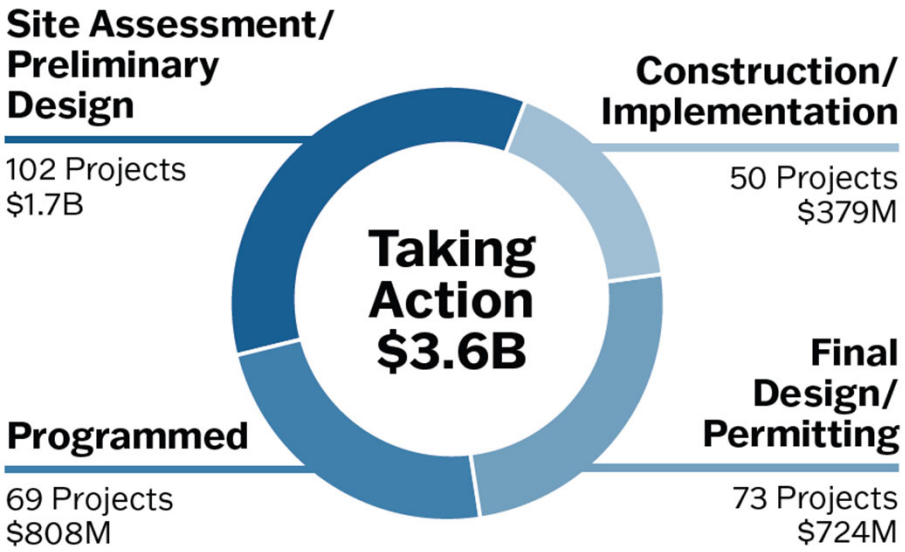
- Initial data call occurred 2021
- Last data call and update occurred 2024

What does the data look like?

- Nearly **950 projects and initiatives** submitted
- 74% are projects; 26% initiatives
- Of the projects: 46% proposed; 42% taking action; 12% complete
- Over 80% are owned by **local governments.**

Implementation Costs of Projects

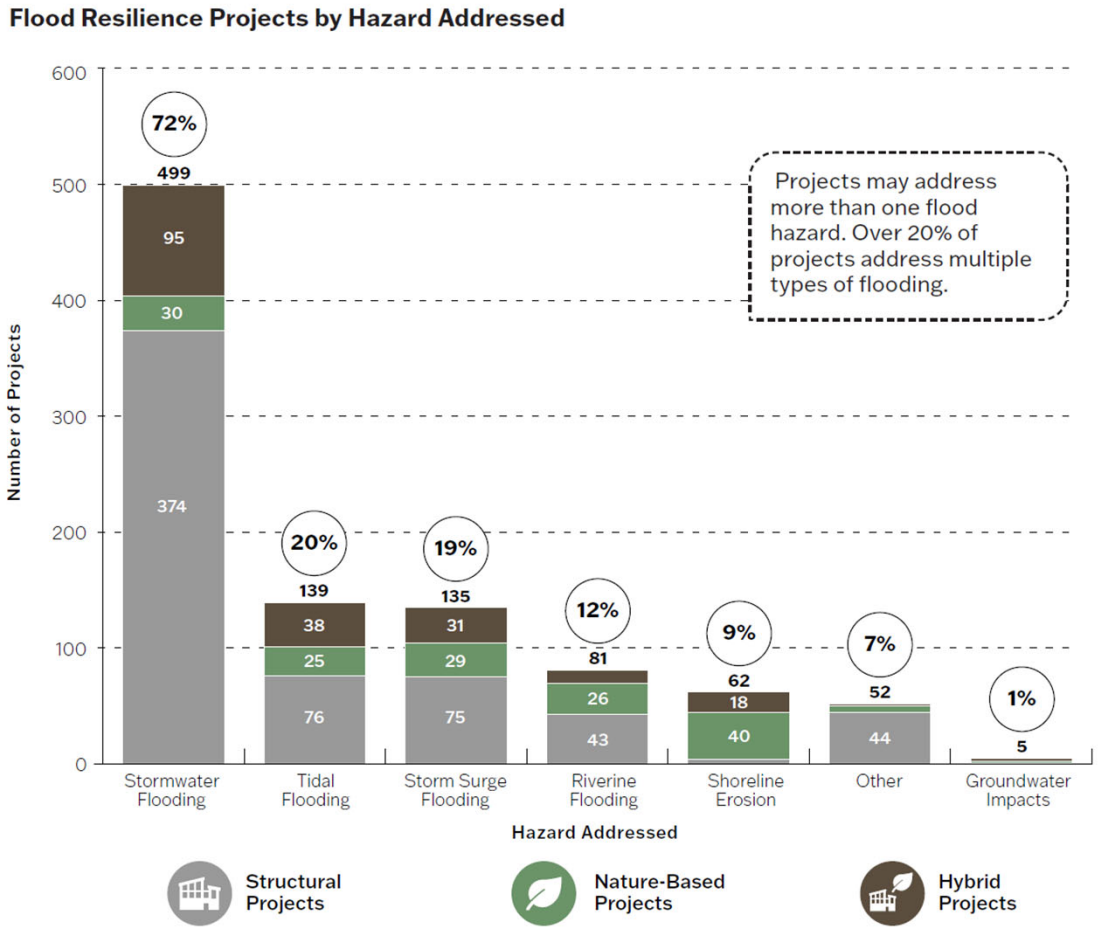
Proposed $5.1 B | **Complete $241 M**

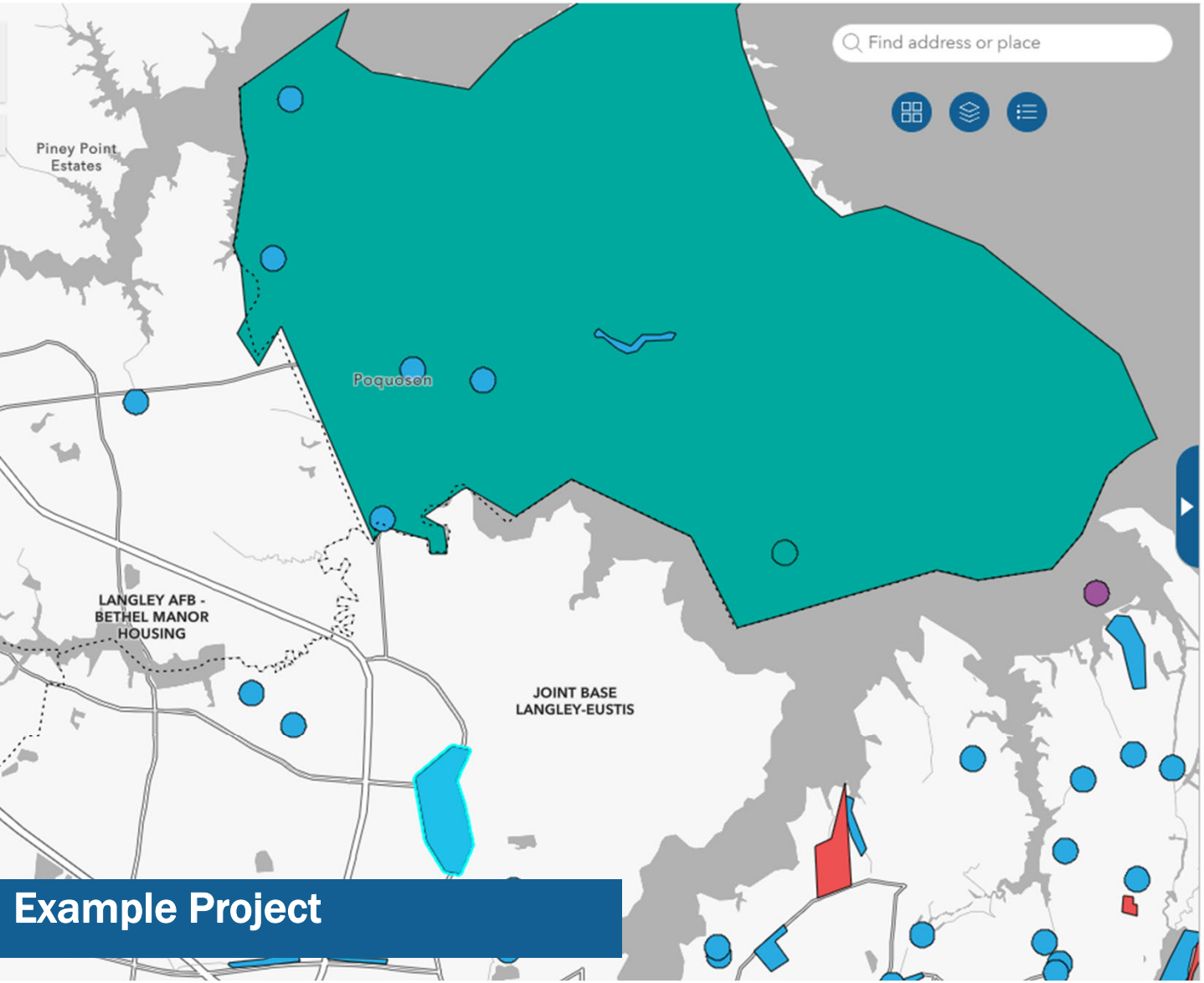


The data shown reflect inventory status as of July 2024. DCR did not review submissions to the Inventory for accuracy or efficacy.

Project-Specific Analysis

- Over 65% of projects address **stormwater flooding**. 75% of these are structural improvements to **drainage infrastructure.**
- About 40% of projects address coastal flooding, most are designed to address both tidal and storm surge flooding.
- Less than 10% of projects address shoreline erosion, most use nature-based or hybrid solutions.





Example Project

Summary: JBLE Gate Relocation (N. Armistead) Watershed Study

The purpose of the Joint Base Langley-Eustis (JBLE-Langley) Entry Control Facility is to develop a new route that is not only intended to provide a new means of access to/from the installation but also designed to be flood-secure, and thus enhancing the installation's resiliency to the potential impact of significant rainfall and/or flooding events.

Location
Hampton

Hazard Addressed
Stormwater Flooding

Owner
Hampton

Implementation Cost
$250,000

Type
Structural Project

Phase
Site Assessment/Prelim Design

Climate Standards
CRMP Scenarios,Rainfall Scenarios

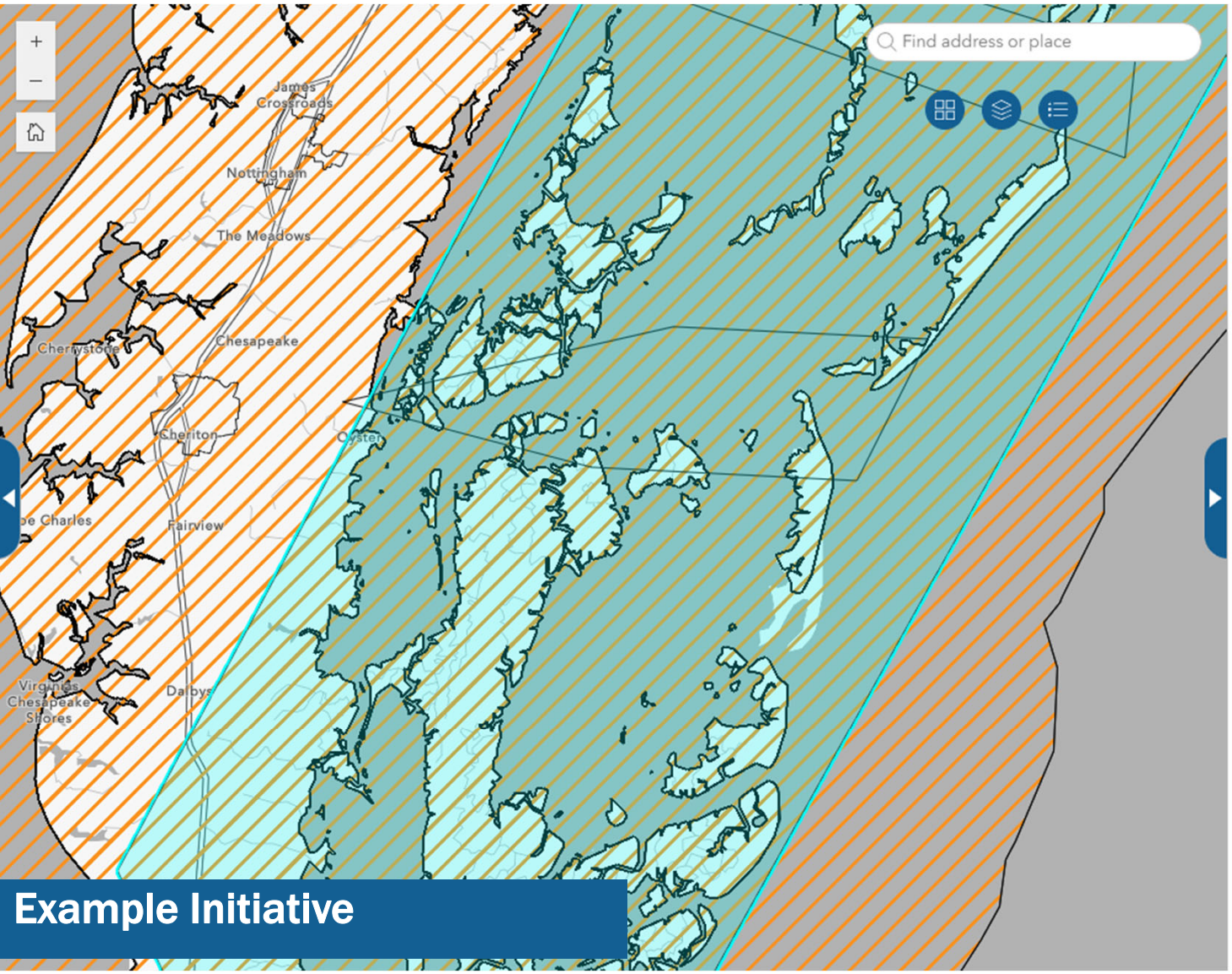
Funding Opportunities

- 2026 National Coastal Resilience Fund (NCRF) - Coastal

Help & Info

Submit a Project

Submit an Initiative



Example Initiative

Summary: WCV Connecting Waters ESVA Seaside Bays

Analysis of the needs of the connecting waters of the WCV on the ESVA Seaside needed for 12 waterway segments totaling approximately 13 miles. An assessment will be conducted, including a beneficial use of dredged material.

Location
Accomack-Northampton PDC

Hazard Addressed
Adaptation Options,Community Resilience,Ecosystem Resilience,Planning Capacity

Owner
Accomack-Northampton PDC

Implementation Cost
$500,000

Type
Capacity Initiative

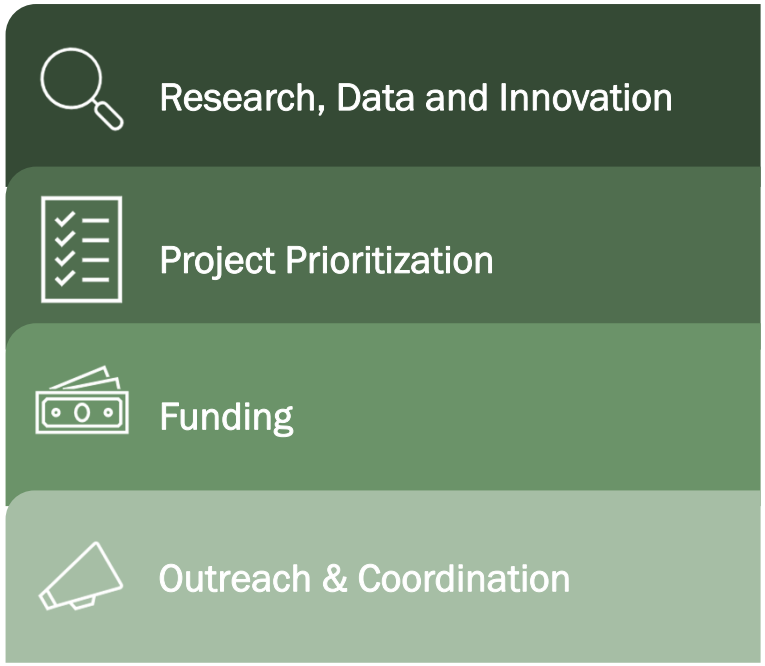
Help & Info

Submit a Project

Submit an Initiative

Recommendations of the Coastal Resilience Technical Advisory Committee

The plan includes **20 recommendations** for state action, grouped into four categories.



Recommendations of the Coastal Resilience Technical Advisory Committee

Research, Data and Innovation

	Subcommittee Recommendation	Lead
R.a	Regularly inventory existing data and to collect and share quantitative and qualitative flood resilience data, data production efforts, and assessments of data usage in decision-making applications across the Commonwealth.	Chief Resilience Officer (CRO)
R.b	Identify priority data needs to support ongoing planning and recommend implementation strategies for fulfilling those needs.	DCR ORP
R.c	Support DCR in establishing clear and measurable resilience goals aimed at enhancing the Commonwealth's capacity to withstand and recover from flood events.	Flood Committee
R.d	Engage with key stakeholders to understand local obstacles and gaps in state-level programs and develop a statewide strategy that leverages co-production of innovative state-level solutions to meet local needs.	DCR ORP
R.e	Evaluate the performance and co-benefits of existing and emerging nature-based and hybrid solutions for water quantity and water quality protections through collaborations with public and private stakeholders.	Research Universities

Recommendations of the Coastal Resilience Technical Advisory Committee

Project Prioritization

	Subcommittee Recommendation	Lead
P-a	Incorporate best available science into future iterations of the Coastal Resilience Master Plan for all components of flood risk to support appropriate project prioritization.	DCR ORP
P-b	Establish sufficient implementation funding for the Coastal Resilience Master Plan and a dedicated, sustainable source for this funding.	Commonwealth
P-c	Develop, maintain, and enhance appropriate datasets needed to assess flood impacts. The Chief Resilience Officer should invite broad participation from key stakeholders in coordination efforts.	CRO
P-d	Establish programs to engage with and support local governments and planning district commissions, with an emphasis on communities with high flood risk and without flood resilience projects or initiatives.	State Agencies
P-e	Establish a coordinated framework to operationalize the Coastal Resilience Master Plan at local, regional, and state scales.	DCR ORP

Recommendations of the Coastal Resilience Technical Advisory Committee

Funding

	Subcommittee Recommendation	Lead
F.a	Provide timely financial tools and reports to local governments, planning district commissions, state legislators, and other official entities.	Chief Resilience Officer (CRO)
F.b	Ensure that businesses, government officials, citizens, and other key stakeholders are aware of the economic benefits of developing and implementing Virginia-based flood resilience products and services and exporting them to an emerging global market.	Commonwealth Economic Development Enterprise
F.c	Provide information to local governments, planning district commissions, state legislators, and other official entities about existing, available, and emerging sources of funding and financial strategies that can support local, regional, and state-wide flood resilience initiatives.	CRO
F.d	Identify the challenges in the flood-related grant and loan processes specific to private projects and public projects, then recommend opportunities to improve implementation.	CRO
F.e	Report on the effectiveness of state funding and financing programs to address short-term and long-term flood-related challenges for local governments, planning district commissions, and the Commonwealth and consider additional financial mechanisms as appropriate.	CRO

Recommendations of the Coastal Resilience Technical Advisory Committee

Outreach & Coordination

	Subcommittee Recommendation	Lead
O-a	**Develop and maintain a comprehensive list of available funding resources which can be leveraged to sustainably support uptake and implementation of the Coastal Resilience Master Plan.**	DCR ORP
O-b	Provide resources and supporting information on the necessity of increased flood resilience funding utilizing project prioritization and evidence of project readiness.	DCR ORP
O-c	**Collaborate with potential end-users of the Coastal Resilience Master Plan, such as local governments and planning district commissions, to improve usability of the Coastal Resilience Master Plan.**	DCR ORP
O-d	**Develop a strategy to increase use of the Coastal Resilience Master Plan by its end-users, including local governments and planning district commissions.**	DCR ORP
O-e	Collaborate with key stakeholders, including local governments and planning district commissions, to identify the populations and communities at greatest flood risk and offer clear, consistent messaging that can be tailored to a community.	DCR ORP

CHAPTER 4

LOOKING AHEAD

Implementing the Plan

DCR is responsible for administering and implementing the plan. We are currently implementing these next steps:

Sharing regional findings

Encourage and support the use of flood resilience data

Develop and implement an adaptive management plan

Collect and monitor feedback on the plan

We Want to Hear From You!

Planning for a flood-resilient future.

Provide your organizations' thoughts on the plan and ideas for implementation.

The Draft Coastal Resilience Master Plan is posted to Virginia Town Hall for a 30-day public comment period (May 4 – June 3, 2026).

https://townhall.virginia.gov/L/ViewNotice.cfm?GNid=3362

Questions

Feedback Survey

Thank you!

DCR
Virginia Department of Conservation & Recreation

VIRGINIA COASTAL
RESILIENCE
MASTER PLAN

Sign up for our Newsletter

dcr.virginia.gov/signup

Visit us Online

dcr.virginia.gov/resilience-planning

Send us an Email

flood.resilience@dcr.virginia.gov