



VIRGINIA COASTAL
**RESILIENCE
MASTER PLAN**

Coastal Resilience Master Plan, Phase II

Middle Peninsula Community Meeting | September 12, 2024



Photo: Virginia Department of Conservation & Recreation

Welcome!

Tonight's Objectives

- Share information about the changing picture of flood risk and identified flood resilience solutions in coastal Virginia.
- Hear about your **experiences** with flooding and its impacts.
- Connect community members to flood resilience resources and practitioners.



Our Agenda

Presentation on the Coastal Resilience Master Plan, Phase II DCR Office of Resilience Planning

Presentation on the Fight the Flood Program Middle Peninsula Planning District Commission

Learning and Sharing Stations Open Time for All Attendees to learn more about the CRMP and other flood resources



OPEN HOUSE WALKTHROUGH

Join us and your fellow community members to talk about what's happening in your area, what you can do about it, and how we can come together to encourage action.

Station One: Flood Hazard Impacts

Explore our future flood projections to learn more about changing flood risk in your community.
Q&A with DCR staff about data findings and the CRMP, Phase II updates.

Station Two: Solutions Underway

Learn more about the ongoing flood resilience-related projects and initiatives in your community.
Q&A with DCR staff to learn about the CRMP's projects and initiatives inventory.

Station Three: Flood Stories and Mapping

Map locations of where you experienced flooding and talk with a project team members about how flooding affects your life.

Station Four: Flood Risk Look-Up

Explore the Virginia Flood Risk Information System (VFRIS) with DCR to learn more about current regulatory flood maps for areas where you live, work, and recreate.

Station Five: Local/Regional Government

All tables with the number 5 are local/regional government representatives in your community.
Learn more about local flooding resources, programs, and activities.

Station Six: Partner Organizations

All tables with the number 6 represent flood resilience-related partner organizations.
Learn more resources, programs, and initiatives in your community and across the state.

Virginia DCR's Role in Flood Resilience

Virginia Department of Conservation and Recreation (DCR)

- **Who We Are:** Virginia's lead natural resource conservation agency
- **What We Do:** Enable and encourage people to enjoy and benefit from Virginia's natural and cultural resources
- **What We Value:** The diversity of nature, culture and communities to ensure a sustainable and equitable future for recreational access and a healthy environment for all Virginians to enjoy.
- **How We Do It:** DCR accomplishes its mission through funding, expertise, education, acquisition and improved access.



DCR Office of Resilience Planning

Planning for a flood resilient future.



Matt Dalon
Program Manager



Carolyn Heaps-Pecaro
Resilience Planner



Arthur Kay
Resilience Planner



Ellie Plisko
VCU Wilder Fellow

Our mission is to distribute knowledge and coordinate action to achieve a flood-resilient future for Virginia through informed planning and proactive, intergovernmental solutions.

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.

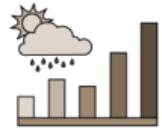
Despite being called “coastal” the plan addresses all forms of flooding in this region. Nearly six million people, or 70% of the state’s population, call coastal Virginia home.



Coastal Resilience Master Plan, Phase II

The Phase I Plan was released in December 2021.
Phase II of the plan will be released in December 2024.

WHAT'S NEW IN PHASE II?



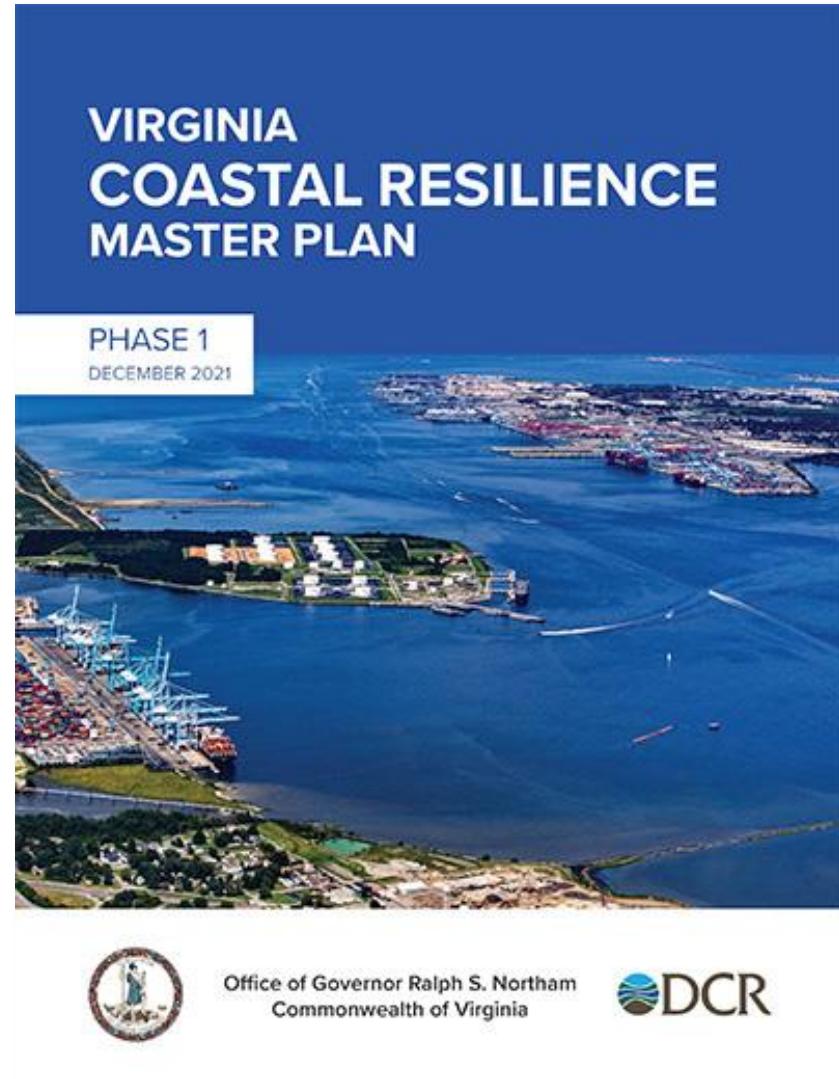
Identify flood hazard exposure and impacts based on all major sources of flooding, including coastal, rainfall-driven and riverine flooding.



Update the online inventory of projects, initiatives, and funding for flood resilience using info from active stakeholders.



Document opportunities for continued improvement in flood hazard data, technical assistance, funding, engagement, and more.



VIRGINIA
COASTAL RESILIENCE
MASTER PLAN

PHASE 1
DECEMBER 2021

Office of Governor Ralph S. Northam
Commonwealth of Virginia

DCR

Outreach and Engagement for a Better Plan

OUR GOALS FOR CONNECTING WITH STAKEHOLDERS

- Understand how our end-users would like to use our findings.
- Understand on-the-ground experiences with flooding to be able to present them alongside our modeled findings.
- Understand solutions to address flood risk and present them in the plan.
- Drive awareness of coastal flooding and encourage whole community action toward coastal flood resilience.



Coastal Resilience Master Plan, Phase II: Plan Components

FLOODING IN COASTAL VIRGINIA

FLOOD HAZARDS

Where is flooding likely to occur in the future?

FLOOD IMPACTS

What impacts is flooding likely to cause in the future?

ADVANCING FLOOD RESILIENCE

FLOOD RESILIENCE SOLUTIONS

What projects and initiatives are underway to address flooding?

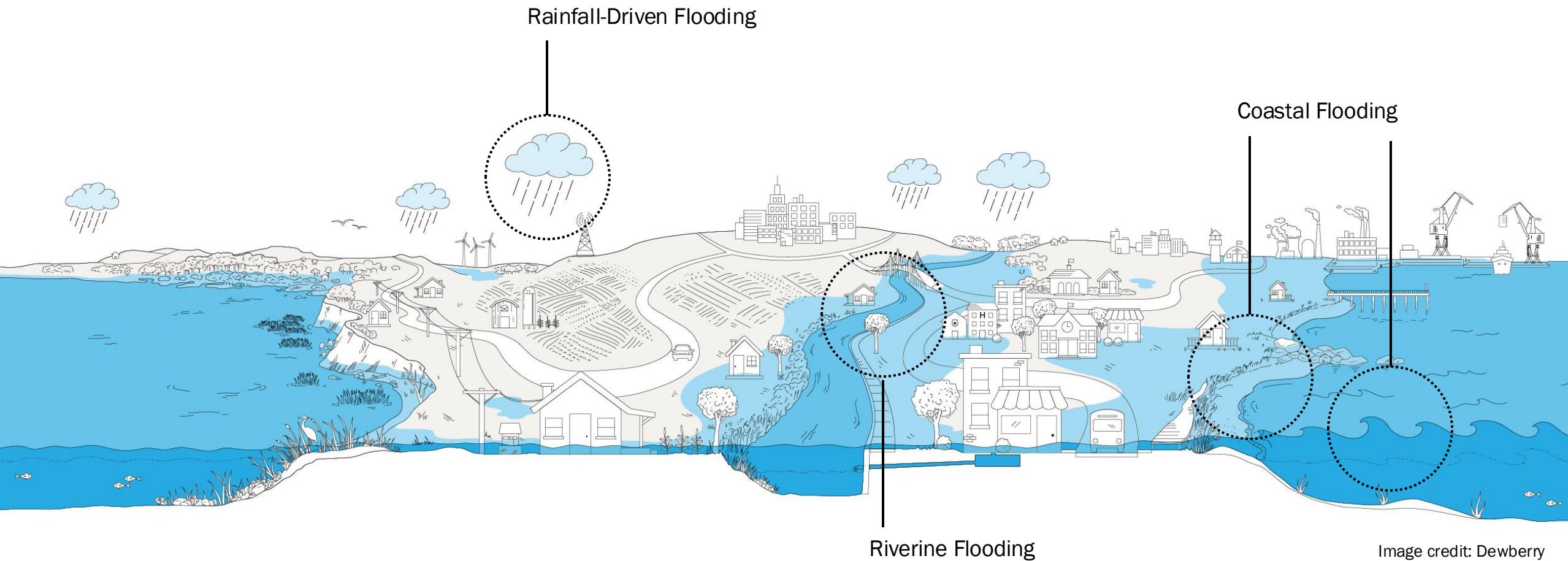
FINANCING FLOOD RESILIENCE

How much money is needed for flood resilience? What funding resources exist?

RECOMMENDATIONS

What actions should the state and other actors take to continue addressing flooding in coastal Virginia over the next four years?

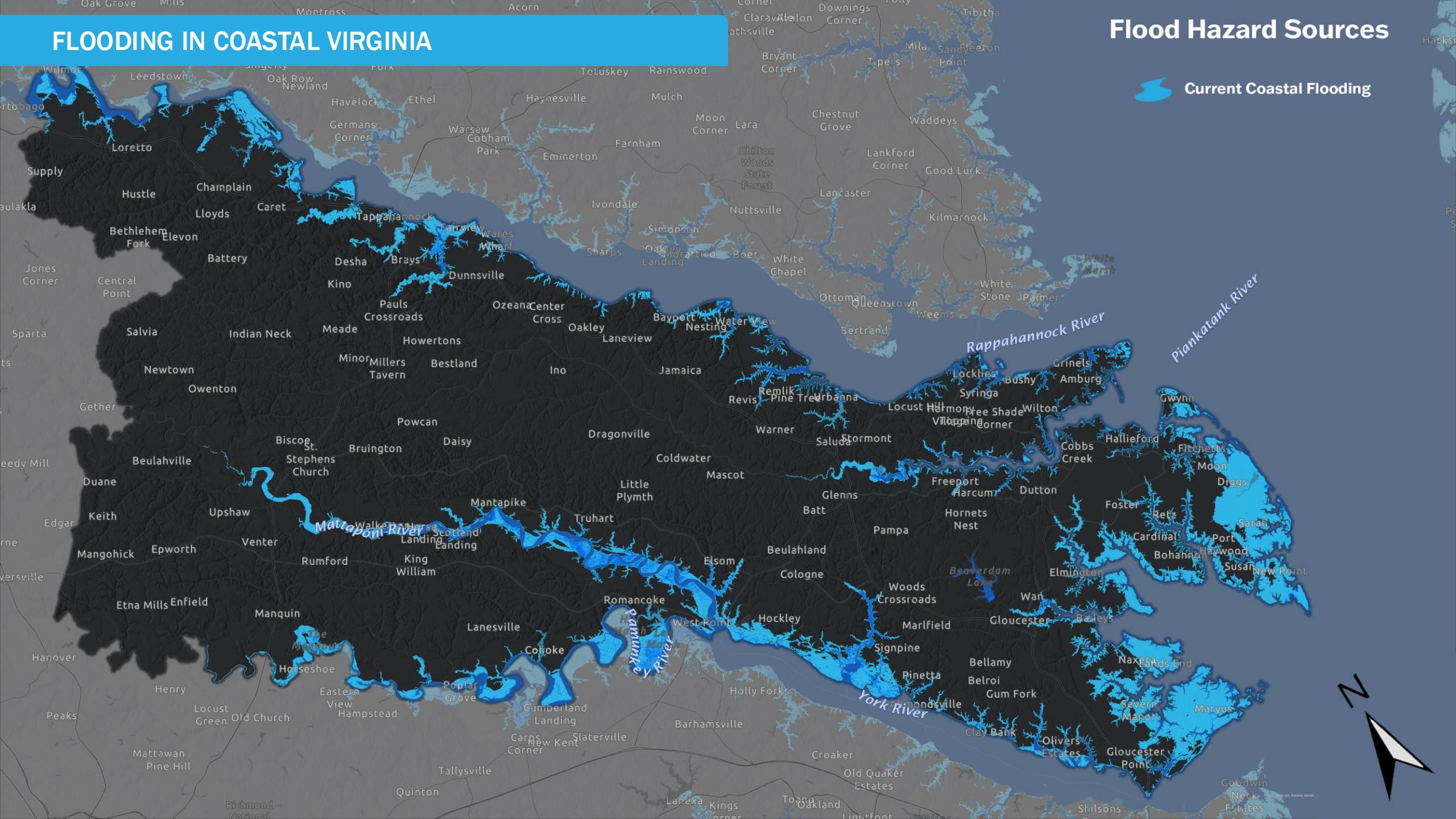
Sources of Flooding



FLOODING IN COASTAL VIRGINIA

Flood Hazard Sources

Current Coastal Flooding

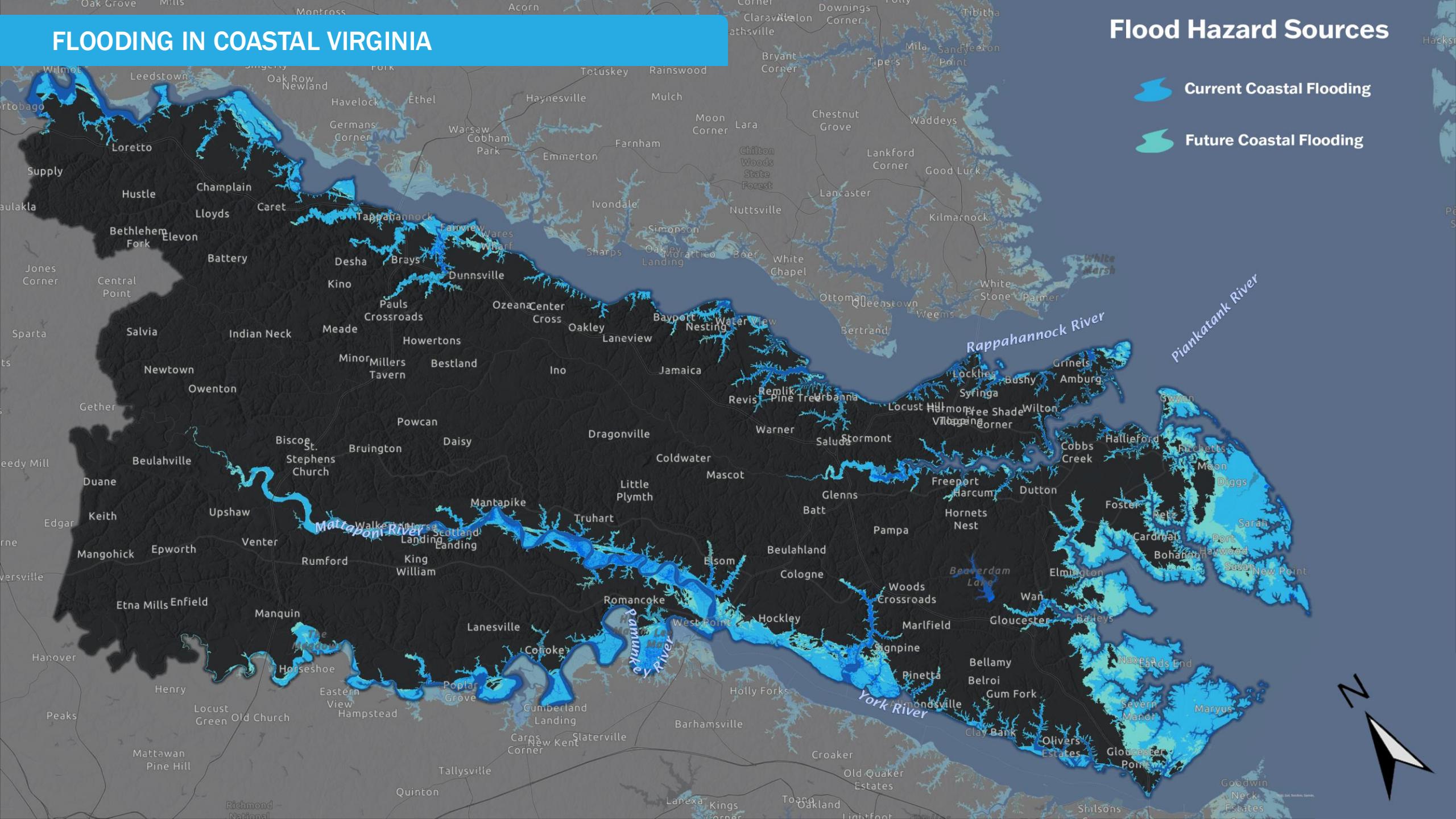


FLOODING IN COASTAL VIRGINIA

Flood Hazard Sources

Current Coastal Flooding

Future Coastal Flooding



FLOODING IN COASTAL VIRGINIA

Flood Hazard Sources

-  Current Coastal Flooding
 -  Future Coastal Flooding
 -  Current Riverine Flooding

A map showing the Rappahannock River and Piankatank River watersheds. The Rappahannock River flows from west to east, with its major tributaries, the Mattaponi, North Anna, and South Anna rivers, shown branching off. The Piankatank River flows generally northward. The map also includes the James River, which joins the Rappahannock at Richmond. The Atlantic Ocean is to the east. Various locations are labeled, including White Stone, Palmer, and Marsh.

Piankatank River

12
Fitchetts

Moon
Diggs
H.
Sa
Port
Haywood

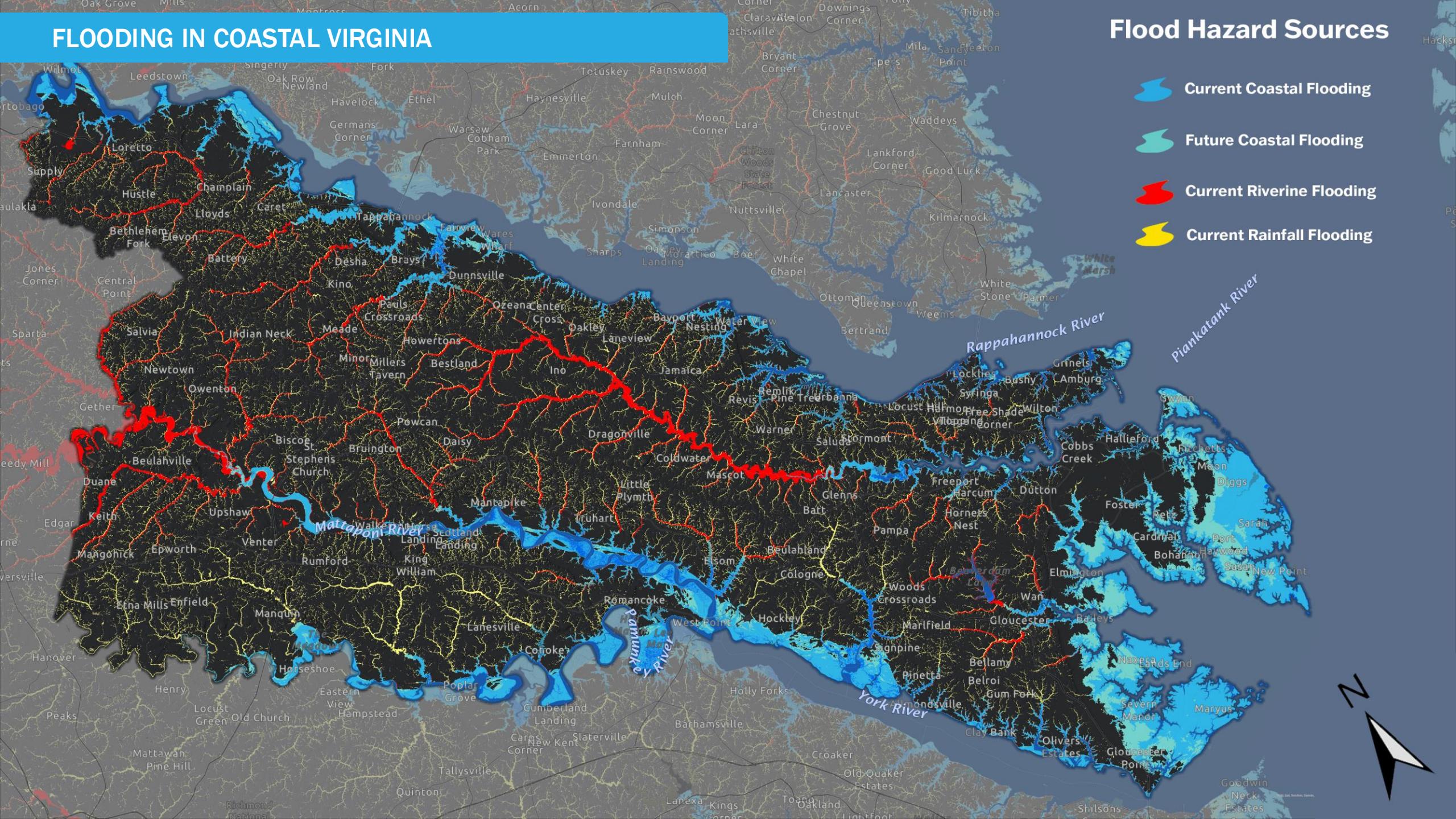
Susan

Maryus

Good
Nec
Estat

FLOODING IN COASTAL VIRGINIA

Flood Hazard Sources



Understanding Flood Impacts

Multiple Flood Hazard Types



Coastal

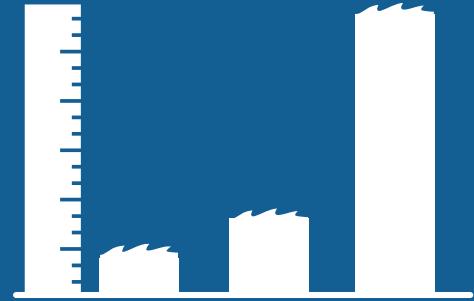


Rainfall



Riverine

Multiple Planning Scenarios



Multiple Asset Types



Community Resources



Built Infrastructure



Human Infrastructure



Natural Infrastructure

Example of Flood Impact Information from Phase I

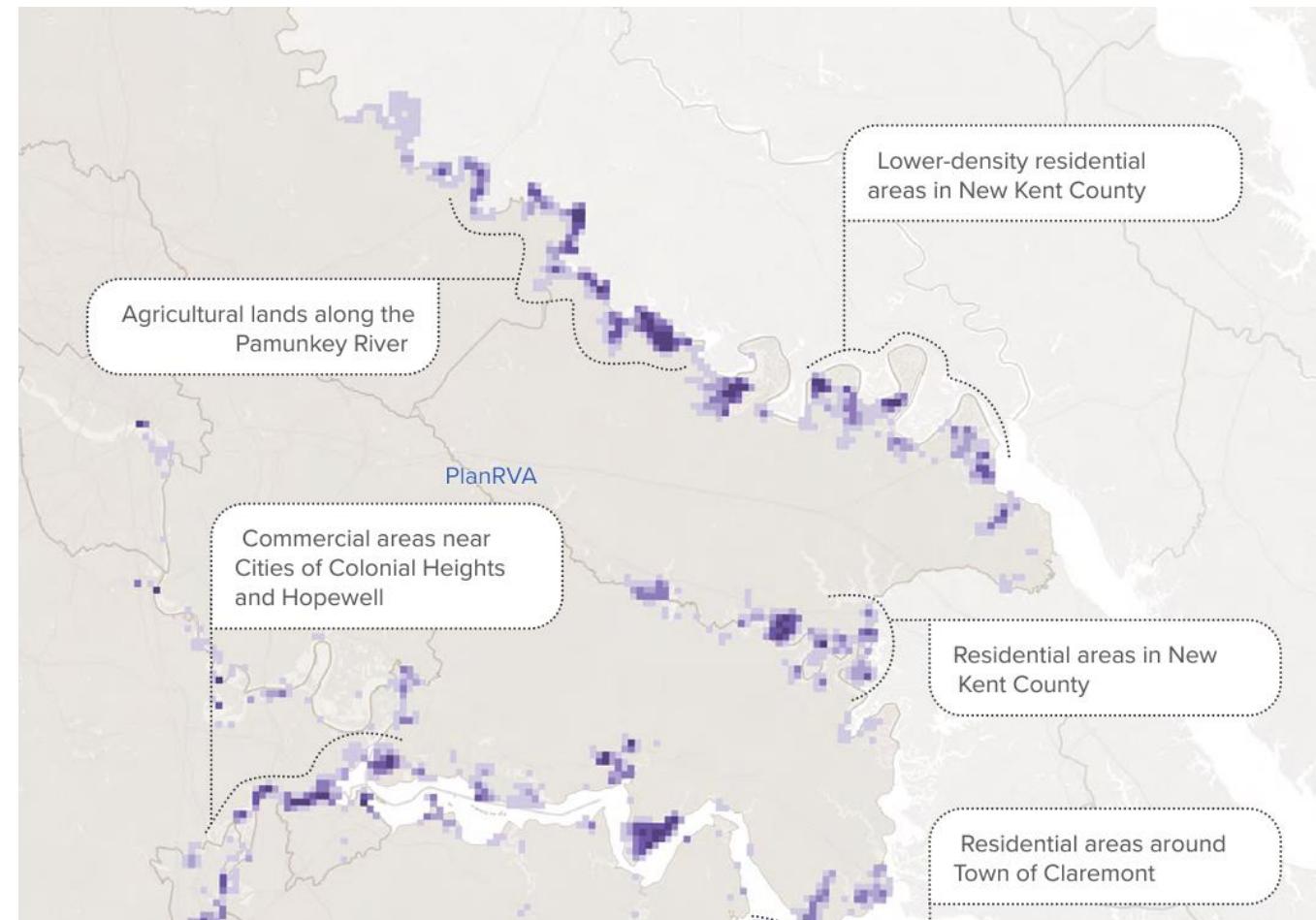
Residential Population Exposed		2020	2080	Change
Crater PDC	High tide	< 5	80	+ 2700%
	Extreme flood	130	530	+ 302%
PlanRVA	High tide	20	500	+ 2495%
	Extreme flood	1,100	2,200	+ 105%

Annualized Structure Losses*		2020	2080	Change
Crater PDC	Residential	\$1.62M	\$7.46M	+ 360%
	Non-Residential	\$0.69M	\$6.00M	+ 765%
PlanRVA	Residential	\$3.30M	\$14.2M	+ 331%
	Non-Residential	\$13.0M	\$27.40M	+ 111%

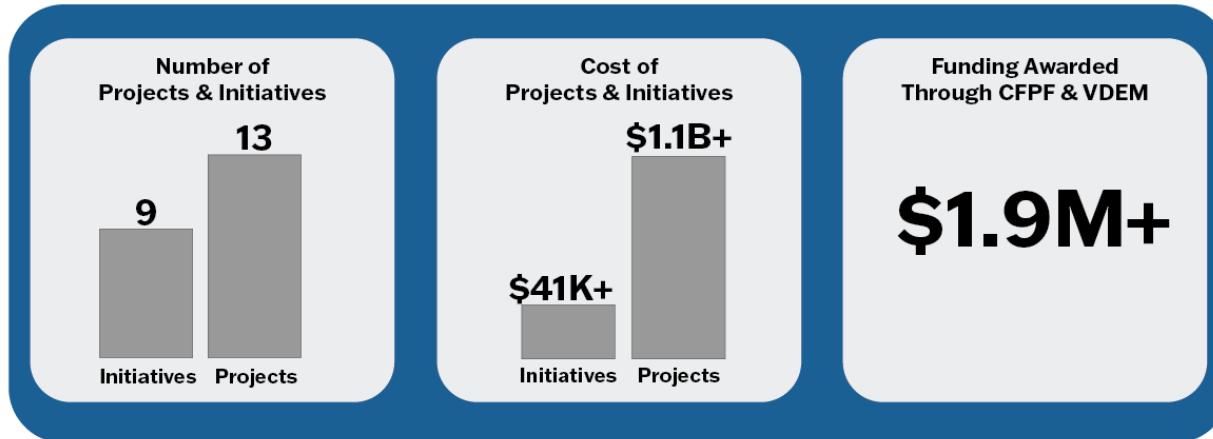
* Projected average annualized losses due to damages to structures and contents.

Agricultural Land Acres Exposed		2020	2080	Change
Crater PDC	High tide	480	1,300	+ 176%
	Extreme flood	1,500	1,900	+ 23%
PlanRVA	High tide	2,400	4,500	+ 86%
	Extreme flood	5,300	7,500	+ 41%

Differences in asset exposure numbers and percentage changes can be attributed to rounding for presentation. Percentage changes reflect exact exposure numbers.



Projects & Initiatives in the Middle Peninsula



- About half of initiatives address flood resilience planning and strategy development
- The Planning District Commission, state agencies, and academic/research institutions are undertaking a significant portion of the region's identified efforts.

PROJECT EXAMPLE

Elevating seven residential structures at flood risk.

Project Owner: Gloucester County

Project Type: Parcel-Level Adaptation Program

Project Cost: \$2+ million

Status: Programmed



Source: NOAA Climate Program Office

Other Opportunities to Be Involved

- The Phase II Plan will be released in December 2024
- Public Webinars:
 - September 2024: updates on the planning process and draft plan
 - December 2024: updates on the final plan
- Public Comment:
 - January 2025
- Sign up for our email list to get updates on these opportunities.



www.dcr.virginia.gov/floodstory

Thank you!



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



Visit the Learning and Sharing Stations

Learning and Sharing Stations

Stations

Station 1: Flooding Impacts

Station 2: Solutions Underway

Station 3: Flood Stories and Mapping

Station 4: Flood Risk Lookup

Station 5: Local/Regional Government

Station 6: Partner Organizations

Station 7: Refreshments

We'll be here until 8pm.

Stick around to:

- Learn more about flood risk and resilience efforts.
- Engage in Q&A with DCR and partners.
- Share your flood stories.
- Enjoy refreshments!