



VIRGINIA COASTAL  
**RESILIENCE**  
**MASTER PLAN**

# Coastal Resilience Master Plan, Phase II

Chesapeake Community Meeting | September 25, 2024



# 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*

**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.

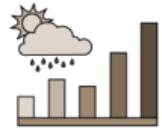
Despite being called “coastal” the plan addresses all forms of flooding in this region. Nearly six million people, or 70% of the state’s population, call coastal Virginia home.



# 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?



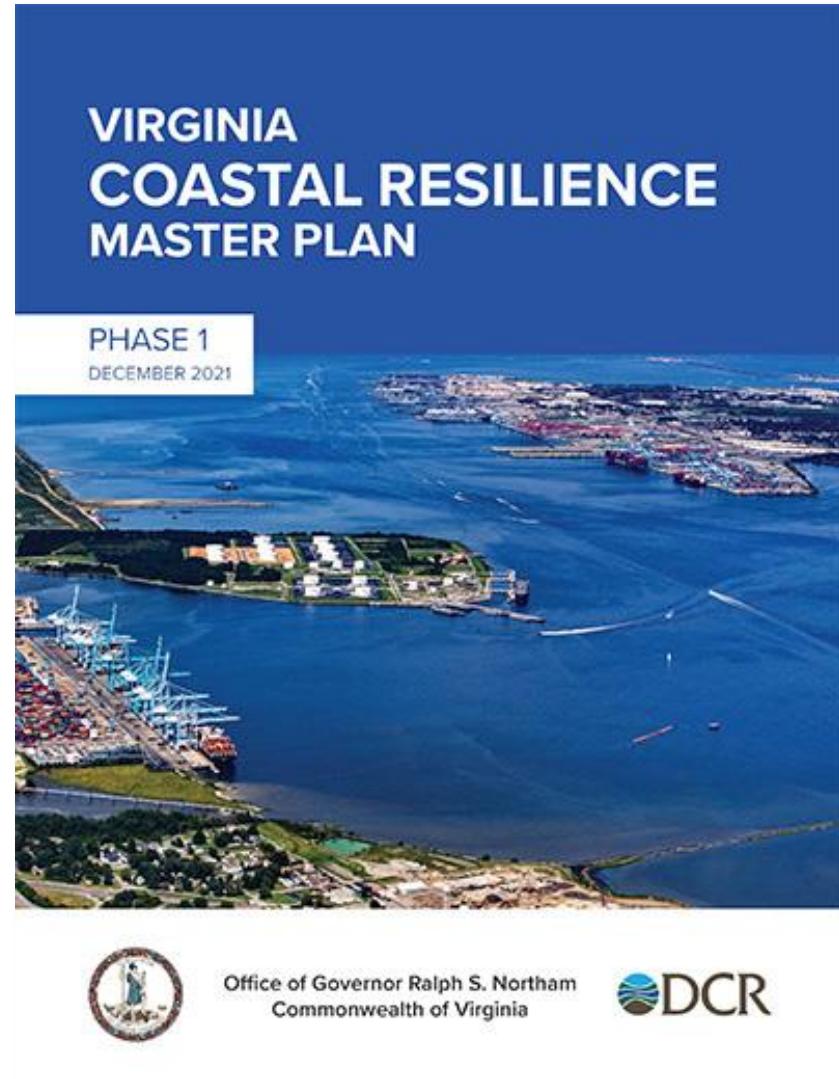
Identify flood hazard exposure and impacts based on all major sources of flooding, including coastal, rainfall-driven and riverine flooding.



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?

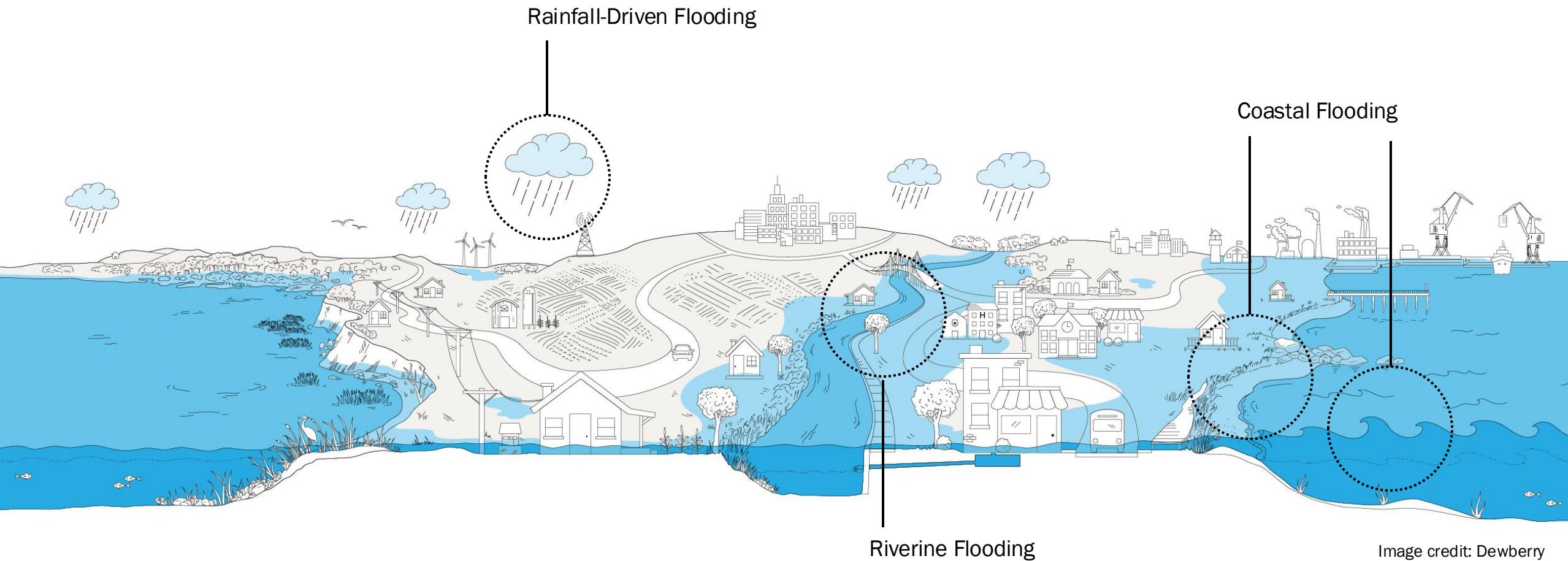
### FINANCING FLOOD RESILIENCE

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

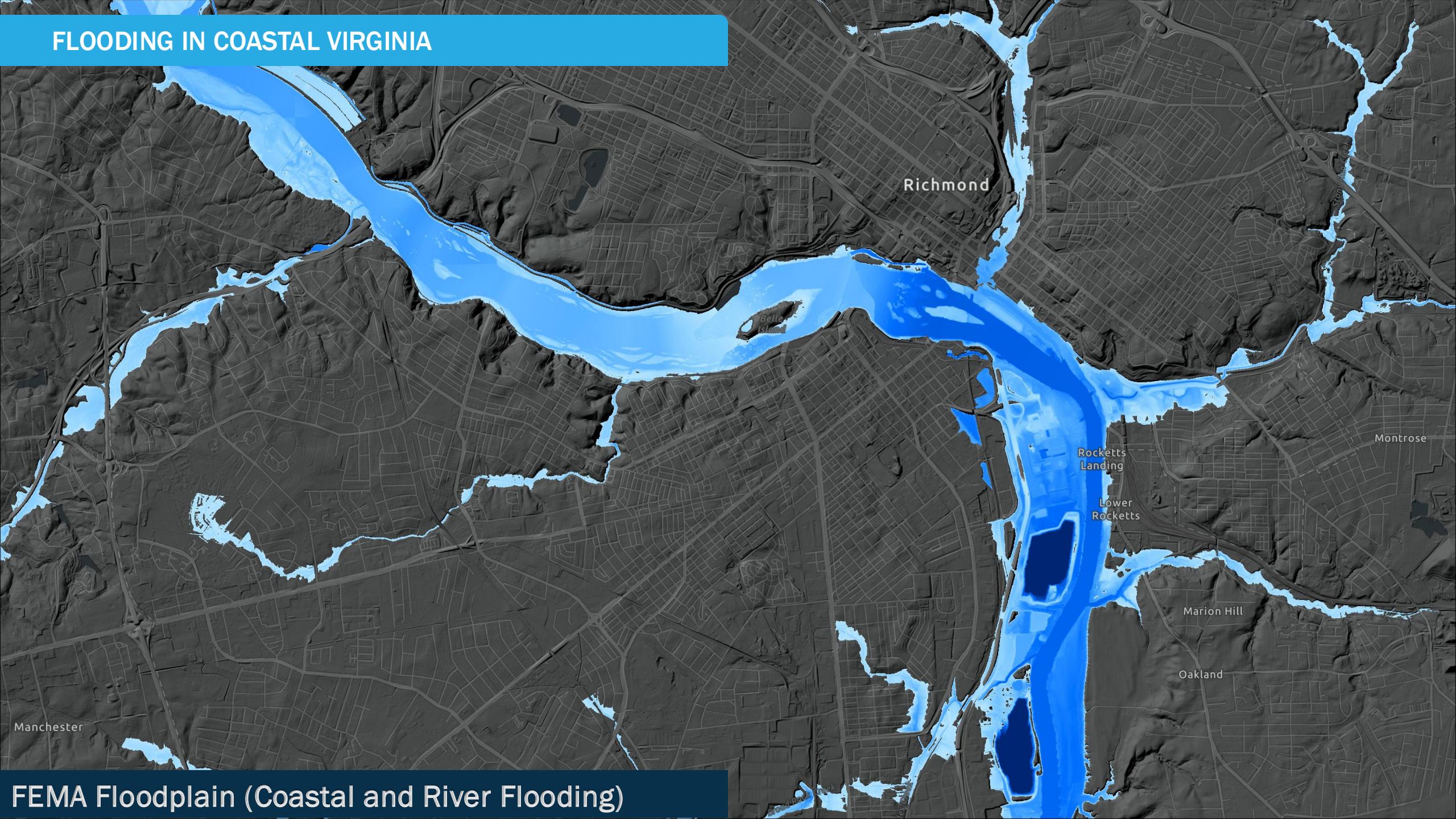
### RECOMMENDATIONS

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

## Sources of Flooding

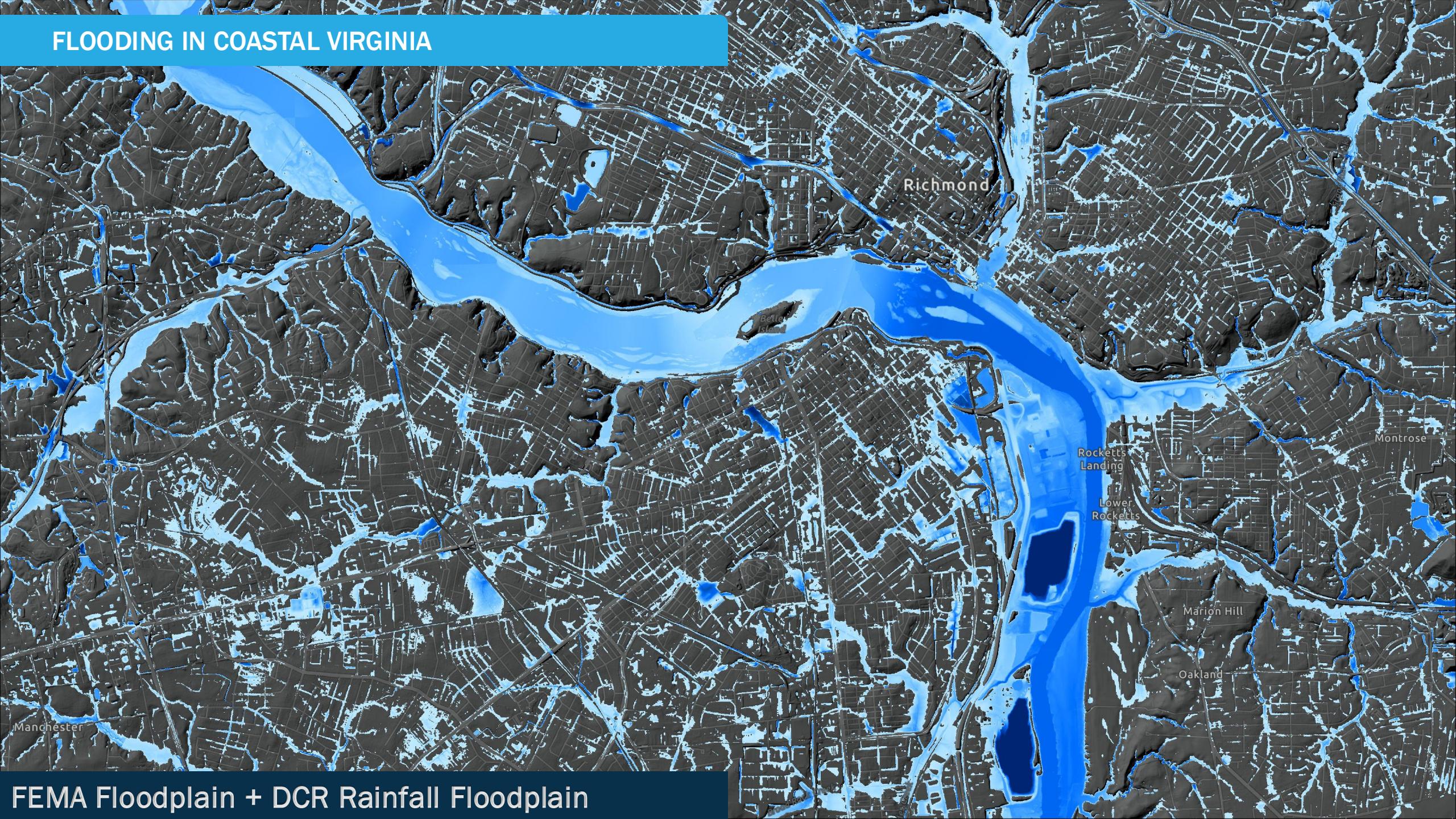


## FLOODING IN COASTAL VIRGINIA



FEMA Floodplain (Coastal and River Flooding)

## FLOODING IN COASTAL VIRGINIA



FEMA Floodplain + DCR Rainfall Floodplain

### 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

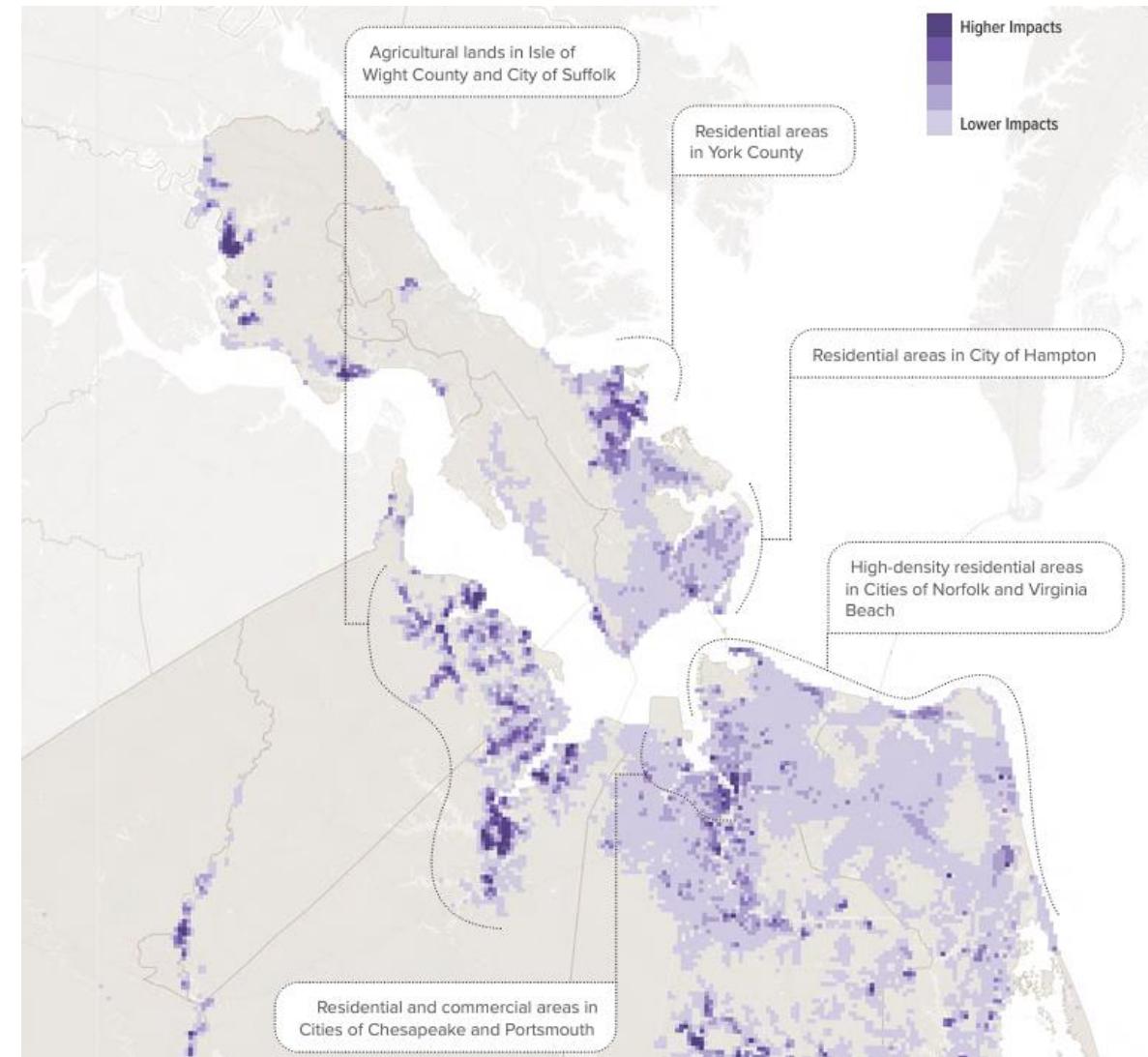
Residential Population Exposed		2020	2080	Change
Hampton Roads	High tide	980	64,700	+ 6485%
PDC	Extreme flood	319,500	869,700	+ 172%

Annualized Structure Losses*		2020	2080	Change
Hampton Roads	Residential	\$231M	\$3,110M	+ 1245%
PDC	Non-Residential	\$205M	\$1,510M	+ 639%

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

Agricultural Land Acres Exposed		2020	2080	Change
Hampton Roads	High tide	3,100	10,700	+ 250%
PDC	Extreme flood	13,600	21,200	+ 56%

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



# Projects & Initiatives in Hampton Roads



- Stormwater flooding is the most common challenge addressed across the region.
- The inventory contains 32 projects owned by the City of Chesapeake, totaling \$42.6 million.
- All projects submitted by the City of Chesapeake are drainage improvement projects to address stormwater flooding.

## PROJECT EXAMPLE

Loxley Garden Drainage Improvements, Phase II

Project Owner: City of Chesapeake

Project Type: Gray Infrastructure / Drainage Improvement

Project Cost: \$1,100,000

Status: Site Assessment and Preliminary Design



## 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
  - January 2025: 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](http://www.dcr.virginia.gov/floodstory)

## Thank You to Our Flood Resilience Partner Organizations

- Department of Conservation and Recreation: Floodplain Management Program
- City of Chesapeake
- Virginia Dare Soil and Water Conservation District
- Virginia Department of Environmental Quality: Coastal Zone Management and Environmental Justice Programs
- Virginia Institute of Marine Science
- Old Dominion University's Institute of Coastal Adaptation & Resilience
- Wetlands Watch

# Thank you!



**Sign up for our Newsletter**

[dcr.virginia.gov/signup](https://dcr.virginia.gov/signup)

**Visit us Online**

[dcr.virginia.gov/resilience-planning](https://dcr.virginia.gov/resilience-planning)

**Send us an Email**

[flood.resilience@dcr.virginia.gov](mailto:flood.resilience@dcr.virginia.gov)



# Visit the Learning and Sharing Stations

## Learning and Sharing Stations

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!

### DCR Stations

Station 1: Flooding Impacts

Station 2: Solutions Underway

Station 3: Flood Stories and Mapping

Station 4: Flood Risk Lookup