



Coastal Resilience Master Plan, Phase II

Richmond Community Meeting | September 18, 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*



Please enjoy **food and drinks at Station 7** at any time throughout the event.

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 conversation 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

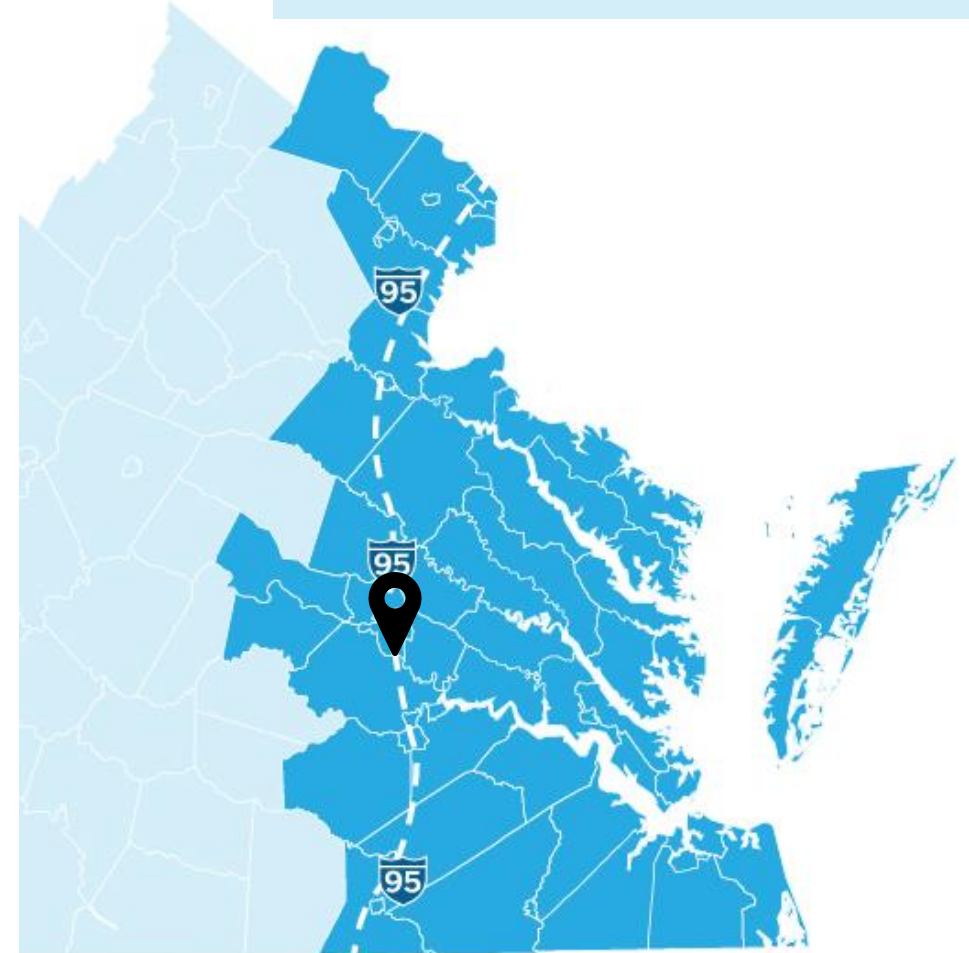
Our mission is to distribute knowledge and coordinate action to achieve a flood-resilient future for Virginia through informed planning and proactive, intergovernmental solutions.

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.

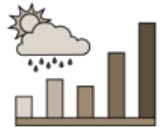
Despite being called “coastal” the plan addresses all forms of flooding in this region. Nearly six million people, or 70% of the state’s population, call coastal Virginia home.



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?



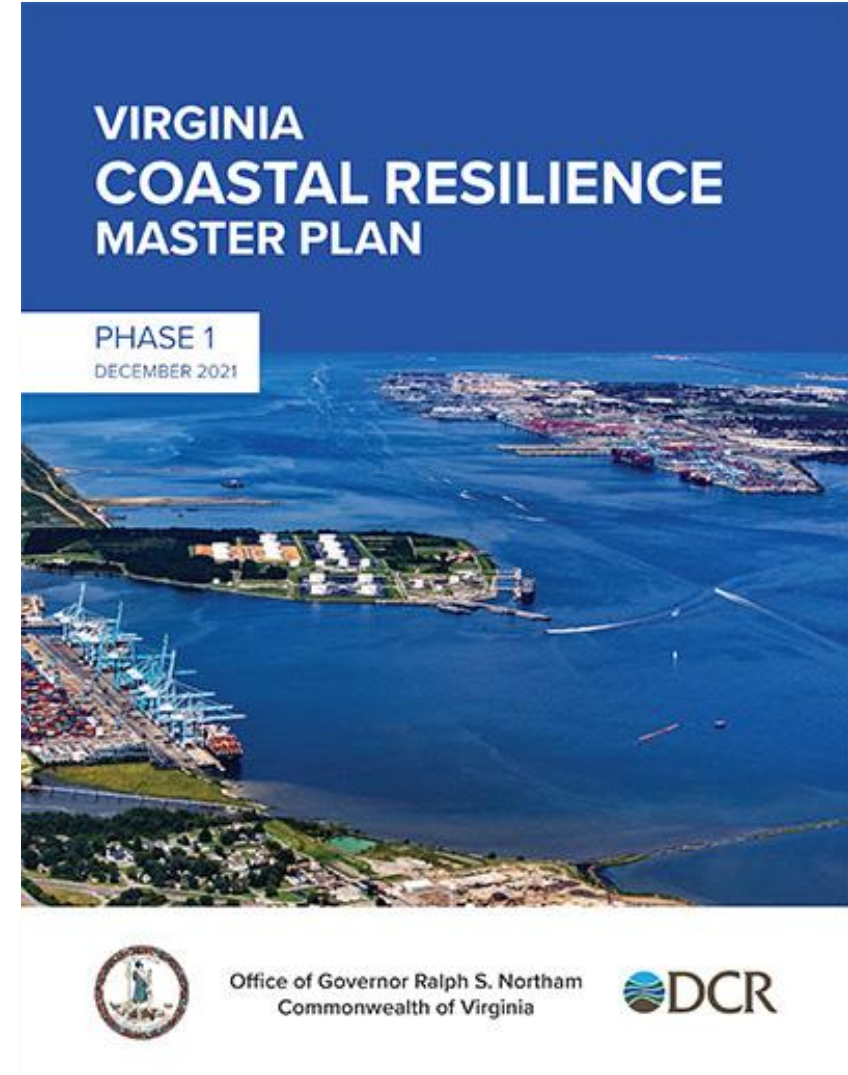
Identify flood hazard exposure and impacts based on **all major sources of flooding**, including coastal, rainfall-driven and riverine flooding.



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.



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

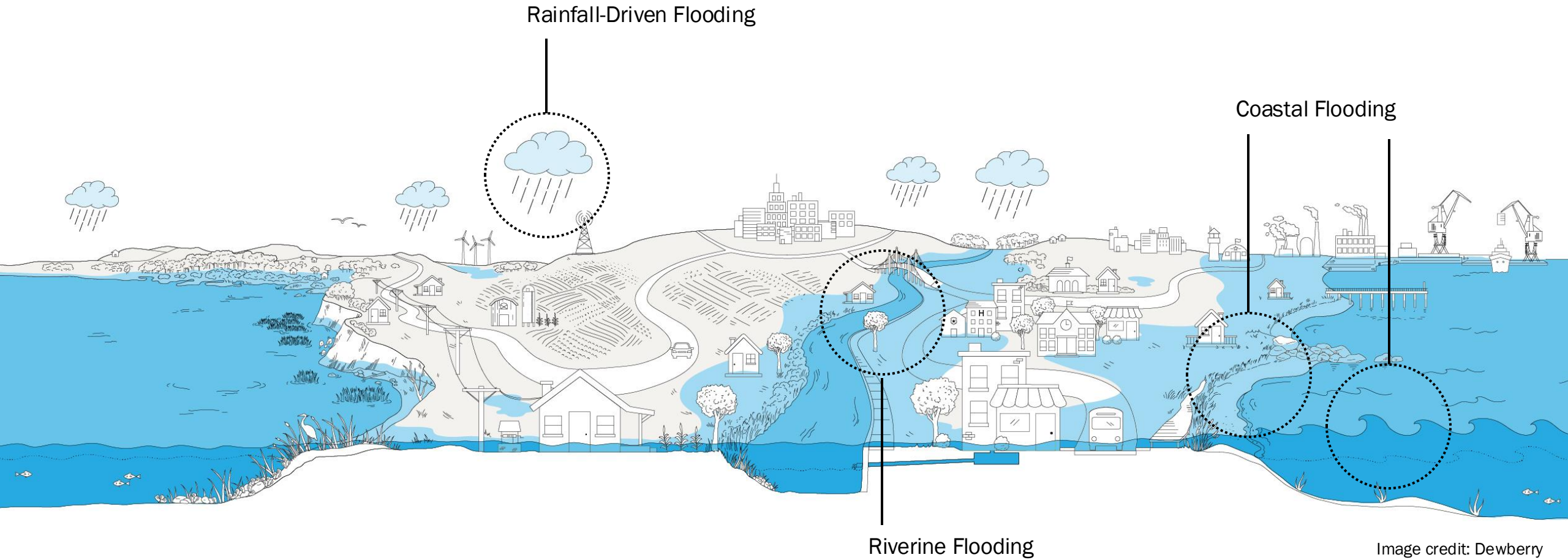
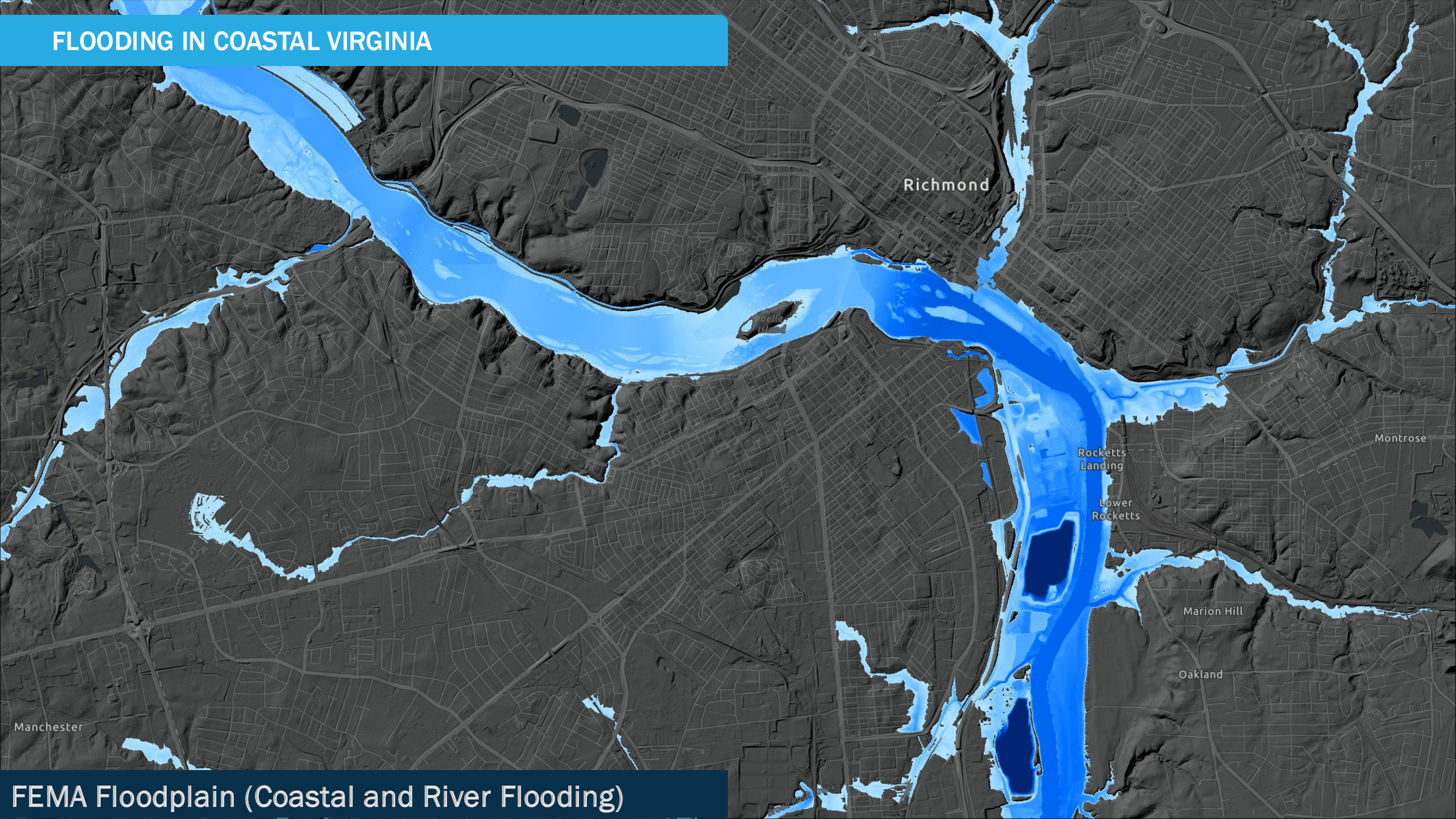


Image credit: Dewberry

FLOODING IN COASTAL VIRGINIA



Richmond

Belle Island

Rocketts Landing

Lower Rocketts

Marion Hill

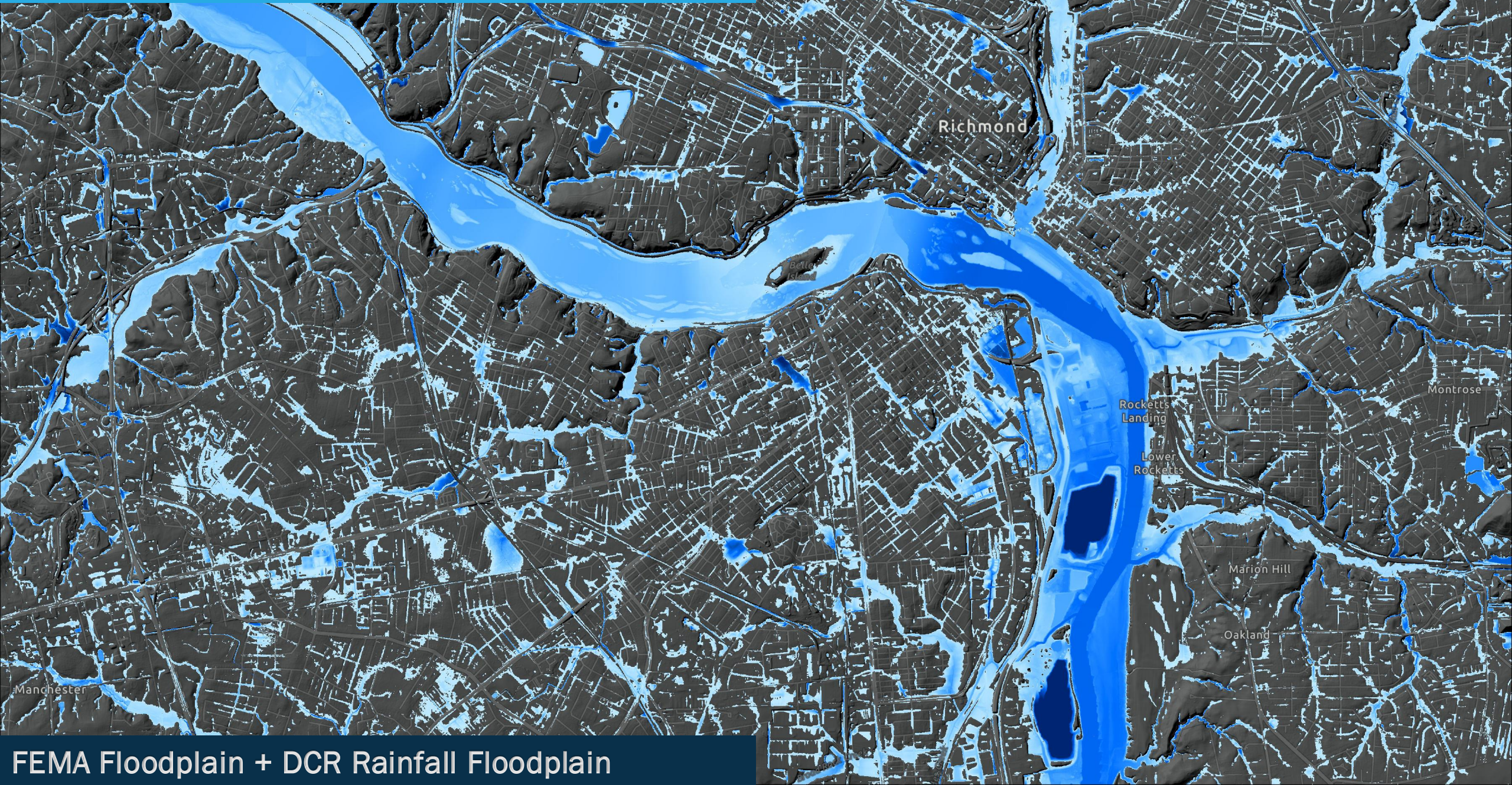
Oakland

Montrose

Manchester

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

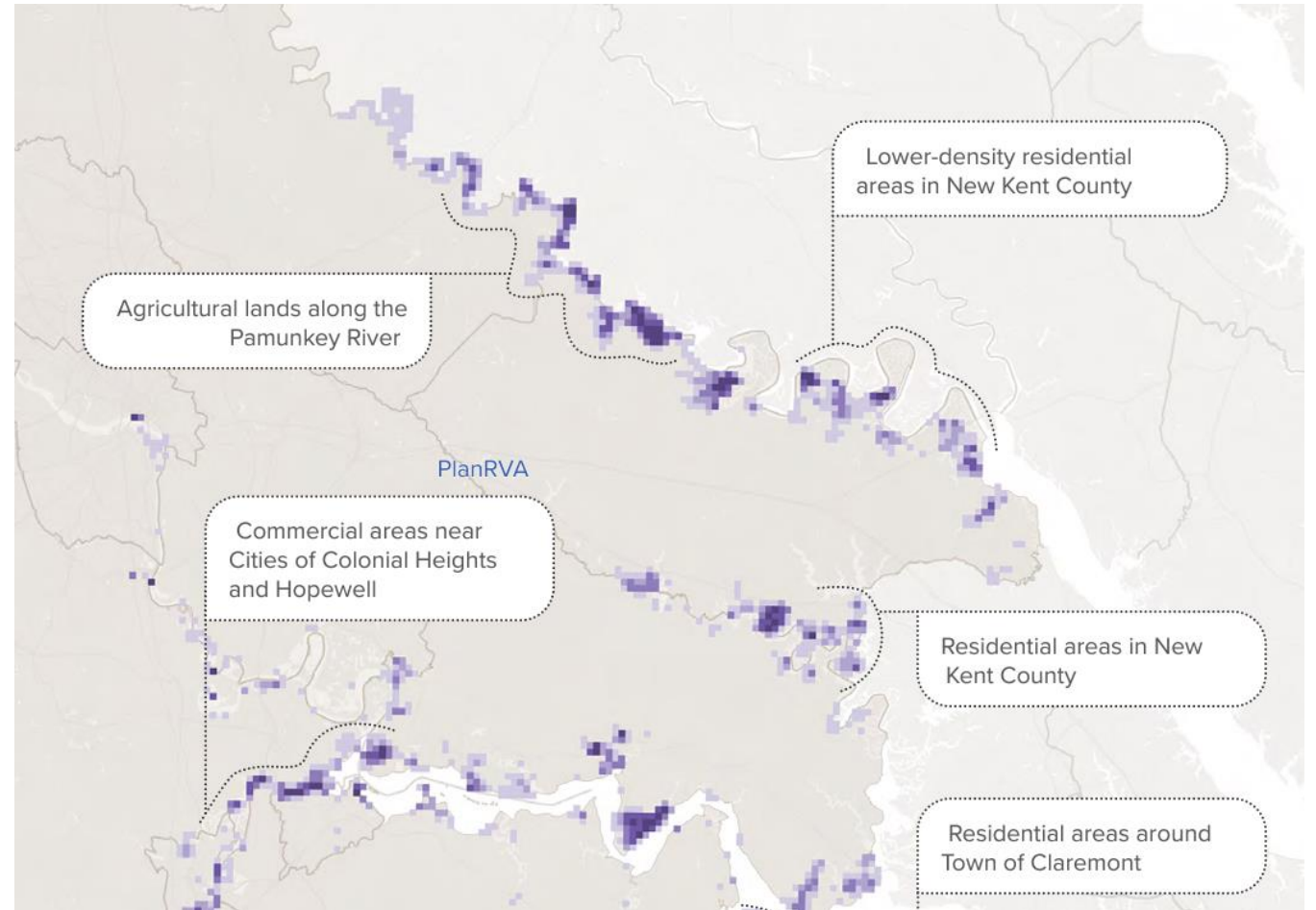
Residential Population Exposed		2020	2080	Change
Crater PDC	High tide	< 5	80	+ 2700%
	Extreme flood	130	530	+ 302%
PlanRVA	High tide	20	500	+ 2495%
	Extreme flood	1,100	2,200	+ 105%

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%

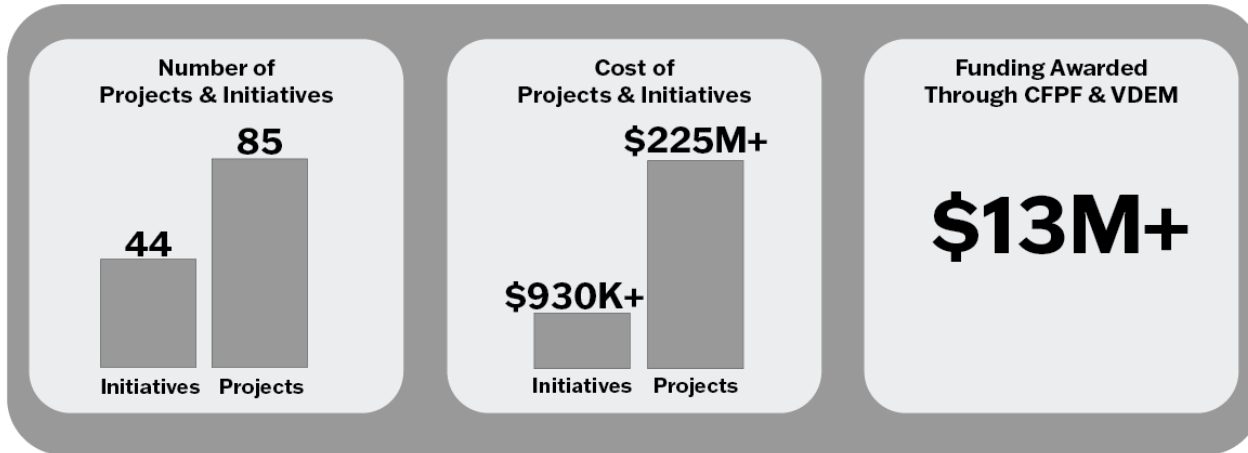
* Projected average annualized losses due to damages to structures and contents.

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 RVA Region



- More than 40% of the records for the region are located in the City of Richmond.
- Stormwater flooding is the most common challenge addressed, comprising 82% of all projects.
- More than three-quarters of the projects in the region use traditional “gray infrastructure” approaches, as opposed to “green infrastructure.”

PROJECT EXAMPLE

Bellemeade Green Street Project

Project Owner: City of Richmond & James River Association

Project Type: Green Infrastructure

Project Cost: \$50,000

Status: Complete



Source: Google Street View, July 2023

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!