

Current State of Flood Resilience in Virginia

Department of Conservation and Recreation
Division of Dam Safety and Floodplain Management
Matt Dalon – Resilience Planning Program Manager

Department of Conservation and Recreation

Per Virginia Code §10.1 – 602, 658, 659

- Coordinator of all flood protection programs and activities in the Commonwealth
- Develop, administer, implement, and integrate the “Plans” (CRMP and VFPMP)
- Flood waters disregard jurisdictional boundaries, and the public interest requires the management of flood-prone areas in a manner which prevents injuries to persons, damage to property, and pollution of state waters.

Chief Resilience Officer (CRO)

Biennial Status of Flood Resilience Report

- Established by HB517 (Bulova)
- July 1, 2023 and every two years thereafter, CRO must report to Governor and General Assembly on the status of flood resilience in the Commonwealth.
- The report shall serve as an evaluation of flood protection for critical infrastructure, including human and natural infrastructure. The report shall identify risks to critical transportation, energy, communication, water and food supply, waste management, health, and emergency services infrastructure. The report shall also include the status of flood resilience planning. In preparing the report, the Chief Resilience Officer shall also coordinate with the Director of Diversity, Equity, and Inclusion and shall be assisted by all relevant Secretariats and agencies.

Coastal Resilience Master Plan (CRMP)

- Codified by HB516 (Bulova) / SB551 (Marsden)
- Special Advisor for Coastal Adaptation and Protection, in coordination with DCR Director, shall update CRMP to incorporate all major flood hazards, including precipitation-driven flooding;
- A list of all projects considered and an update of the status of all projects previously implemented;
- A comprehensive risk assessment of critical human and natural infrastructure.
- DCR is the lead administrator and required to implement
- Due no later than December 31, 2024 and updated at least every 5 years

Virginia Coastal Resilience Technical Advisory Committee

- Established by HB516 (Bulova) / SB551 (Marsden) to assist with developing, updating, and implementing the Virginia Coastal Resilience Master Plan.
- Required to meet quarterly
- The Committee shall be comprised of
 - representatives of state agencies
 - coastal planning district commissions,
 - regional commissions,
 - academic advisors,
 - and any other representatives as needed.

Virginia Flood Protection Master Plan (VFPMP)

- Existing plan w/requirement for update every 5 years
- Must use a watershed-based approach
- Immediate challenge is availability of types of data needed - data are more available for coastal region and CRMP
- Must integrate Coastal Resilience Master Plan
- Other requirements contained in 10.1-658
- DCR is the lead administrator and required to implement
- Due no later than Dec 31, 2026

Community Outreach and Engagement Plan

- Established by HB516 (Bulova) / SB551 (Marsden)
- DCR Director, jointly with the DE&I Director, and in coordination with CRO and SACAP shall prepare a Community Outreach and Engagement Plan for updates to the Virginia Coastal Resilience Master Plan and for development and updates to the Virginia Flood Protection Master Plan (the Plans)
- Public comment period closes 1/31/23

Annual Flood Resilience and Preparedness Coordination Meetings

- Existing requirement, modified and required to meet annually by HB516 (Bulova) / SB551 (Marsden)
- The Director and either, in coordination with the Special Assistant to the Governor for Coastal Adaptation and Protection or and the Chief Resilience Officer, shall jointly hold meetings of representatives of the programs, entities, and localities described in subsection A at least annually in order to determine, coordinate, and prioritize the Commonwealth's efforts and expenditures to increase flooding resilience and flood preparedness and to implement the Virginia Coastal Resilience Master Plan and the Virginia Flood Protection Master Plan.
- The Department shall review any revisions to the Virginia Flood Protection Master Plan and provide an update on the progress of the implementation of the Virginia Coastal Resilience Master Plan at any such meetings.
- The Department shall cooperate with other public and private agencies having flood plain management programs and shall coordinate its responsibilities under this article and any other law.

Community Flood Preparedness Fund (CFPF)

§ 10.1-603.25

- Continuation of Virginia Shoreline Resiliency Fund
- Per statute, moneys in the Fund shall be used solely for the purposes of enhancing flood prevention or protection and coastal resilience as required by this article.”
- Moneys in the Fund may be used to mitigate future flood damage and to assist inland and coastal communities across the Commonwealth that are subject to recurrent or repetitive flooding.
- No less than 25 percent of the moneys disbursed from the Fund each year shall be used for projects in low-income geographic areas.
- Priority shall be given to projects that implement community-scale hazard mitigation activities that use nature-based solutions to reduce flood risk.

Community Flood Preparedness Fund (CFPF)

§ 10.1-603.25

CFPF Round 3

- Initially advertised for \$40 million, later expanded to \$70 million; DCR received 64 applications for nearly \$93 million
- First group of awards announced end of September 2022: 27 Awards totaling \$13.6 million
- 32 proposals totaling \$68 million in requests placed into supplemental review
- DCR met with multiple applicants to refine applications and provide Department with additional information
- 24 applications resubmitted for review by November 30 deadline
- Department announced 22 additional awards for \$51.7 million on December 30, 2022
- Resubmitted applications and scoring [posted on DCR website](#)

CFPF Round 4

- Amount TBD
- Draft manual for public comment CY2023Q1
- Grant application review panel

Resilient Virginia Revolving Fund (RVRF)

- Established 2022 by HB1309 (Bulova) / SB 756 (Lewis) - § 10.1-603.28 et seq.
- Fund is capitalized with \$25 million from moneys previously allocated to the CFPF and potential additional funding pending 2023 General Assembly
- Will make loans and grants to local governments for resilience projects via Virginia Resources Authority (VRA)
- DCR will administer and will develop guidelines with VRA
- Fund manual released for public comment 2023Q1
- Anticipate accepting first round of applications in CY2023
- Grant application review panel

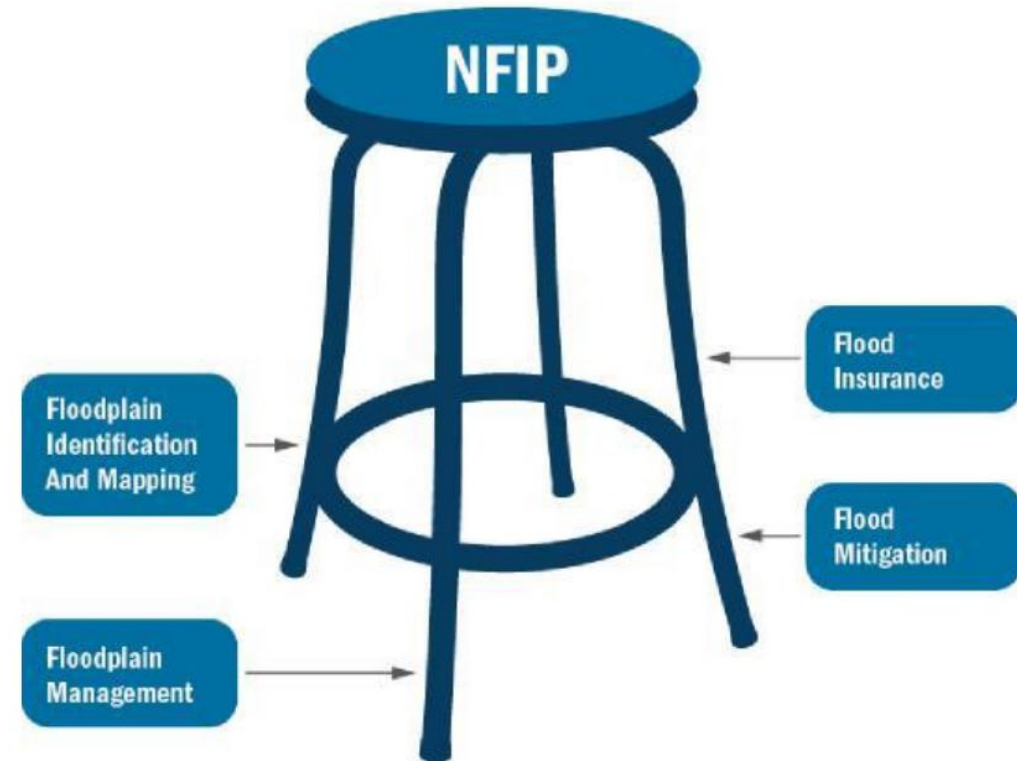
CFPF and RVRF – working together

- CFPF Round 4 and initial RVRF Grant Manual(s) drafted for public comment, joint application period to follow
- Shift to an annual cycle, combination of grants and loans
- Goal is to have programs run together and compliment each other
- Both programs have tremendous flexibility for project types; both can offer grants and loans.
- Generally, the CFPF is geared towards larger, community-scale projects, while the RVRF is more directed towards individual property and buildings.
- CFPF prefers nature based; has 25% low-income requirement
- RVRF prefers projects that will utilize private industry and/or serve 2+ local gov'ts; has building hazard mitigation carve-out

CFPF	RVRF
<p><u>Community Scale</u></p> <ul style="list-style-type: none"> • Flood protection studies • Capacity Building • Flood Planning Activities • Hazard mitigation projects • Land acquisition • Implementation of land use controls 	<p><u>Property Scale</u></p> <ul style="list-style-type: none"> • Hazard mitigation of buildings • Hazard mitigation of real property • Home buyouts and relocation • Loans and grants to persons for hazard mitigation and infrastructure improvement projects for resilience purposes • Projects identified in the Virginia Flood Protection Master Plan or the Virginia Coastal Resilience Master Plan.

National Flood Insurance Program

- Federal/State/Local
- Flood Risk Identification
- Floodplain Management
- Flood Mitigation
- Flood Insurance
- CAP-SSSE & CTP



National Flood Insurance Program

Community Assistance Program – State Supportive Services Element (CAP-SSSE)

Goal 1: Grow local capacity and capability to improve resiliency through floodplain management

Goal 2: Build state floodplain management capability and promote strong state inter-agency coordination and collaboration

Goal 3: Promote the benefits and drive demand for strong floodplain management development standards and insurance

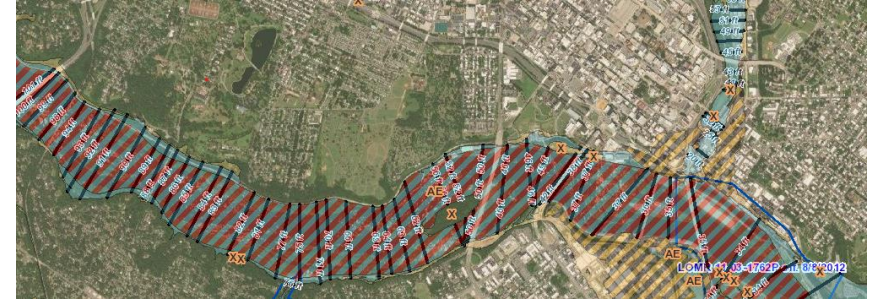
National Flood Insurance Program

Cooperating Technical Partners

CTP Program Mission	Risk MAP Mission
Strengthening the effectiveness of the National Flood Insurance Program (NFIP) and supporting FEMA's mitigation objectives by leveraging partnerships.	Leveraging partnerships, Risk MAP focuses on collaboration with state, tribal and local entities.
Delivering high-quality hazard identification and risk assessment products (and data).	Delivering quality data.
Providing outreach support and empowering communities to take action to reduce risk based on informed multi-hazard based data and resources.	Increasing public awareness, which leads to action that reduces risk to life and property.

National Flood Insurance Program

- VFRIS
- RiskMAP Meetings
- Post-Disaster Assistance
- Annual Risk Reduction Consultation Workshop
- Hazard Mitigation Planning (Floods)
- Equitable Floodplain Management
- Substantial Damage Training & Administrative Procedures



National Flood Insurance Program

- General Technical Assistance
 - Oversight/Compliance with NFIP, Interagency coordination & collaboration, VA Flood Risk Management Standards, Policy development.
- Local Program Audits (Community Assistance Visit)
- Floodplain Ordinance Adoption/Higher Standards
- Training
 - Intro to Floodplain Management, Ordinances, Elevation Certificates, and Plan Integration.
- CRS – 27 participating localities and growing
- Outreach & Engagement
- Building Codes
- ESA Compliance
- Flood Insurance Roundtable



State Floodplain Standards

- Implementation of flood protections for state-owned property per EO45
- Designed to ensure National Flood Insurance Program compliance
- Requires adoption of floodplain standards for state projects
- Would apply to all state construction projects in floodplains
- Currently in draft form - working with impacted agencies to finalize before review by FEMA
- Continued option to comply with local floodplain ordinances



Virginia Department of
Emergency Management

Resilience Coordination Working Group

Date: January 31, 2023

Hazard Mitigation Principles

- To break the cycle of disaster damage, reconstruction, and recurring damage
- Residential, commercial, private/public infrastructure
- Applicable to all hazards, majority of VDEM grants address flooding



Resilience Funding Opportunities through VDEM

Annual Competitive Programs

- Building Resilient Infrastructure and Communities (BRIC)
- Flood Mitigation Assistance (FMA)

Post Disaster Programs

- Hazard Mitigation Grant (HMGP)
- Program Public Assistance (PA)

Congressional Earmarks

Pre-Disaster Mitigation (PDM)



Resilience Funding Opportunities through the Commonwealth

- Emergency Shelter Upgrade Fund



PRINCE GEORGE COUNTY

Shelter Upgrade Grant Project

PHASE I

GENERATOR INSTALLATION

\$75,480
VDEM Grant

\$35,520
County's Match

\$111,000

The Virginia Department of Emergency Management awarded Prince George County, Virginia a \$75,480 Shelter Upgrade Grant to purchase a new, larger generator at its Central Wellness Center. The total cost of the generator with installation was \$111,000 and the County's local match was \$35,520.

PHASE I RENOVATIONS

The Generator was replaced during a **\$1.9 Million Phase I** renovation of the Central Wellness Center that included:

- IMPROVEMENTS FOR HANDICAPPED ACCESSIBILITY
- FIRST FLOOR RESTROOM AND LOCKER ROOM UPGRADES
- ELECTRICAL UPGRADES
- INSTALLATION OF A NEW DOMESTIC WATER LINE
- CONSTRUCTION OF A REAR PARKING LOT RAMP
- INSTALLATION OF A NEW SPRINKLER SYSTEM
- INSTALLATION OF A NEW LARGER GENERATOR

The VDEM grant facilitated the purchase and installation of the new generator which will support electrical service to the entire first floor during a power outage. Because of these renovations, the Central Wellness Center is a **designated County-owned shelter** that will be used during emergencies.

PRINCE GEORGE COUNTY
Suburban Community
43,010 residents

The County has a combined paid and volunteer Coordinated Fire & EMS system, a Police Department and a devoted Emergency Manager position.

The Emergency Manager position was recently vacated, and has been approved to transition from part-time to full-time when filled. The Emergency Manager works closely with VDEM, the Red Cross and our Department of Social Services to coordinate shelter operations during emergencies.

“ Our newly renovated Central Wellness Center can now be easily converted to an emergency shelter thanks to the award of the VDEM grant. We are very appreciative of the partnership with the state in order to better prepare the Commonwealth and the County for the next emergency. **”**

Jeffrey D. Stoke
County Administrator

Mitigation Planning

To be eligible for FEMA funding...

- There must be a state approved and adopted Hazard Mitigation Plan for which the project is referenced
- There must be a locally approved and adopted Hazard Mitigation Plan or which the project is referenced
- The local government must be in good standing with the NFIP for flood projects



Regional Plans – PDC Relationship



VDEM Regions

Virginia Department of Emergency Management

- VDEM Regional Offices
 - Region 1 - Richmond
 - Region 2 - Culpepper Area
 - Region 3 - Central Virginia
 - Region 4 - Southwest
 - Region 5 - Hampton Roads
 - Region 6 - Roanoke Area
 - Region 7 - Northern Virginia
- Virginia Tribes**
- State & Federal Recognition
 - Virginia Recognition
- Disaster Services Bureau Divisions**
- East (Regions 1,2,5 & 7)
 - West (Regions 3,4 & 6)

- Region 3**
- Albemarle County
 - Amherst County
 - Appomattox County
 - Augusta County
 - Buckingham County
 - Campbell County
 - Charlotte County
 - City of Charlottesville
 - City of Harrisonburg
 - City of Lynchburg
 - City of Staunton
 - City of Waynesboro

- Region 3**
- Cumberland County
 - Fluvanna County
 - Halifax County
 - Lunenburg County
 - Mecklenburg County
 - Nelson County
 - Prince Edward County
 - Rockingham County
 - Town of Farmville
 - Town of South Boston
 - Monacan Indian Nation

- Region 2**
- Caroline County
 - City of Fredericksburg
 - City of Winchester
 - Clarke County
 - Culpeper County
 - Fauquier County

- Region 2**
- Frederick County
 - Greene County
 - King George County
 - Louisa County
 - Madison County
 - Orange County

- Region 2**
- Page County
 - Rappahannock County
 - Shenandoah County
 - Spotsylvania County
 - Warren County

- Region 7**
- Arlington County
 - City of Alexandria
 - City of Fairfax
 - City of Falls Church
 - City of Manassas
 - City of Manassas Park
 - Fairfax County
 - Loudoun County
 - Prince William County
 - Stafford County
 - Patawomeck Indian Tribe

- Region 6**
- Alleghany County
 - Bath County
 - Bedford County
 - Botetourt County
 - City of Buena Vista
 - City of Covington
 - City of Danville
 - City of Lexington
 - City of Martinsville
 - City of Roanoke
 - City of Salem
 - Craig County
 - Floyd County
 - Franklin County
 - Henry County
 - Highland County

- Region 6**
- Montgomery County
 - Patrick County
 - Pittsylvania County
 - Roanoke County
 - Rockbridge County
 - Town of Christiansburg
 - Town of Vinton

- Region 4**
- Bland County
 - Buchanan County
 - Carroll County
 - City of Bristol
 - City of Galax
 - City of Norton
 - City of Radford
 - Dickenson County
 - Giles County
 - Grayson County
 - Lee County
 - Pulaski County
 - Russell County
 - Scott County

- Region 4**
- Smyth County
 - Tazewell County
 - Washington County
 - Wise County
 - Wythe County

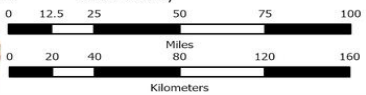
- Region 4**
- Amelia County
 - Brunswick County
 - Goochland County
 - Greensville County
 - Hanover County
 - Henrico County
 - King William County
 - King and Queen County
 - New Kent County
 - Nottoway County
 - Powhatan County

- Region 1**
- Prince George County
 - Sussex County
 - Town of West Point
 - Chickahominy Indians Eastern Division
 - Chickahominy Tribe
 - Mattaponi Tribe
 - Pamunkey Indian Tribe
 - Rappahannock Tribe
 - Upper Mattaponi Tribe

- Region 5**
- Accomack County
 - City of Chesapeake
 - City of Franklin
 - City of Hampton
 - City of Newport News
 - City of Norfolk
 - City of Poquoson
 - City of Portsmouth
 - City of Suffolk
 - City of Virginia Beach

- Region 5**
- City of Williamsburg
 - Gloucester County
 - Isle of Wight County
 - James City County
 - Lancaster County
 - Mathews County
 - Middlesex County
 - Northampton County
 - Northumberland County
 - Richmond County

- Region 5**
- Southampton County
 - Surry County
 - Town of Chincoteague
 - Westmoreland County
 - York County
 - Cheroenhaka (Nottoway) Indian Tribe
 - Nansemond Indian Nation
 - Nottoway Indian Tribe



Map Created: 11/8/2013 | Updated: 12/8/2021



How do we get applications

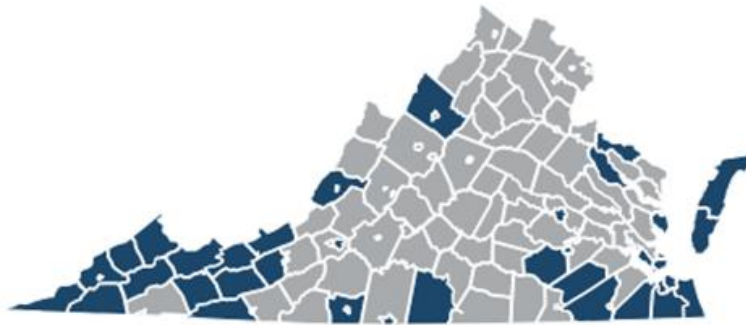
- Eligible applicants apply to FEMA, private property owners apply to the local government.

VDEM provides technical assistance for application development throughout the course of the year

- As disasters happen, so do funding opportunities so we want to support our local governments in being ready
- VDEM provides guidance on the best program based on the local government's project.



Focus on most vulnerable localities



40 Localities
Identified Scoring
Over 70%



Funding Cycles

- BRIC and FMA applications are due to FEMA in January each year
- HMGP is a 1 year application period
- Awards from FEMA may take several years from the initial application



Key Concepts

FEMA programs are voluntary

property owner, locality, state, and FEMA must all be on the same page



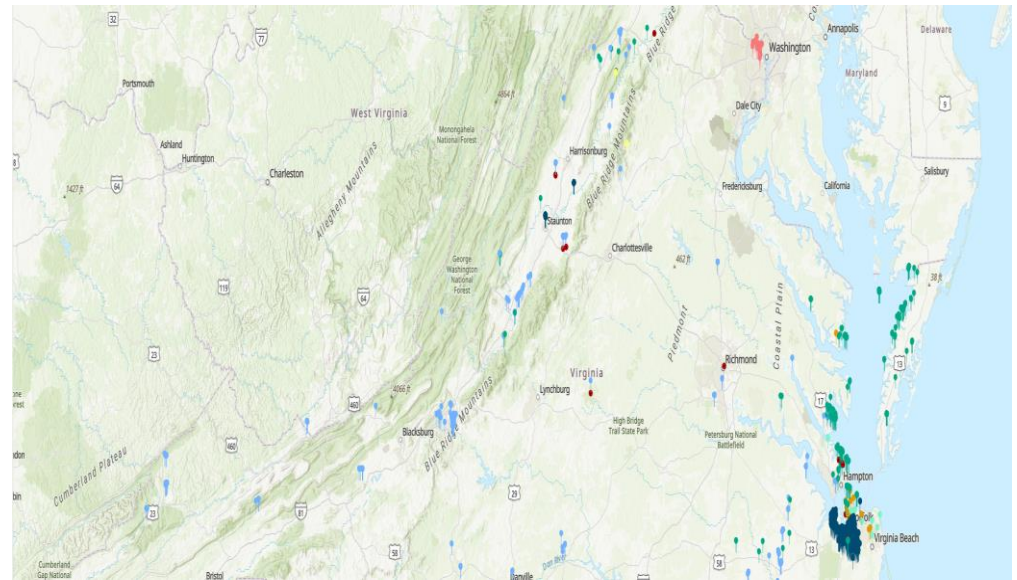
VDEM Current Grant Portfolio

- 181 projects funded totaling \$204M
- 129 project applications in development or submitted, totaling \$734M



Ongoing Initiatives

- Coordinating with DCR and DHCD to commemorate mitigation efforts in Virginia following Hurricane Isabel.



Questions?



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804-516-5774
Robert.Coates@VDEM.virginia.gov

THANK YOU!





Department of Housing and Community Development

Resiliency Efforts



VIRGINIA DEPARTMENT OF HOUSING
AND COMMUNITY DEVELOPMENT
Partners for Better Communities



Ohio Creek Watershed Project Before Construction



VIRGINIA DEPARTMENT OF HOUSING
AND COMMUNITY DEVELOPMENT
Partners for Better Communities



Location

As one of the largest populations at risk for sea level rise in the United States, the City of Norfolk's Ohio Creek Watershed project is transforming the Chesterfield Heights Historic District and Grandy Village neighborhoods that frequently faced coastal flooding due to sea level rise and major rainfall events. The project is located in a low-lying portion of Norfolk that surrounds Ohio Creek, a tributary to the Eastern Branch of the Elizabeth River in Norfolk's south-central sector.





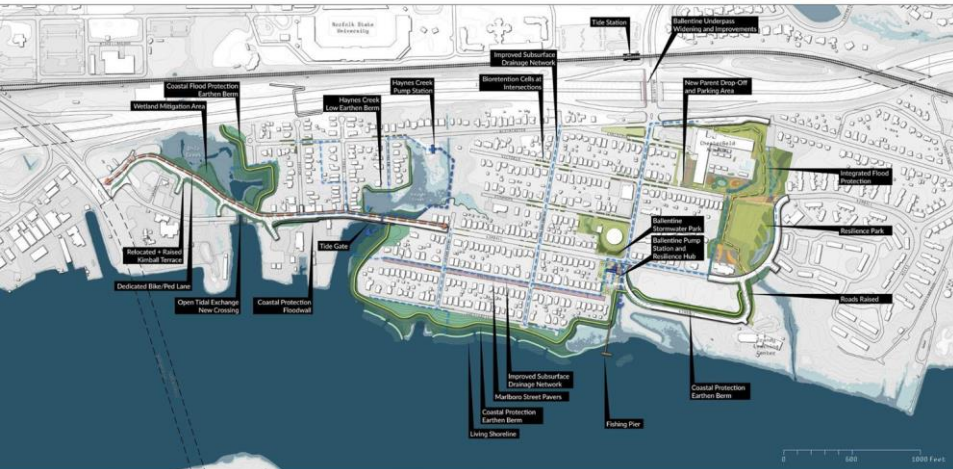
Community Resilience

The project has contributed to economic revitalization by updating infrastructure and natural landscapes to reduce impacts of flooding on businesses and the local workforce.



Connectivity

With new and improved vehicular and pedestrian access, a greater connection exists between the Ohio Creek neighborhoods and the greater City of Norfolk.



**Projected for completion
Spring/Summer 2023**

Today, the Ohio Creek Watershed project is an active construction site with almost all of the projects complete.

Community-Driven Design



DESIGN INPUT

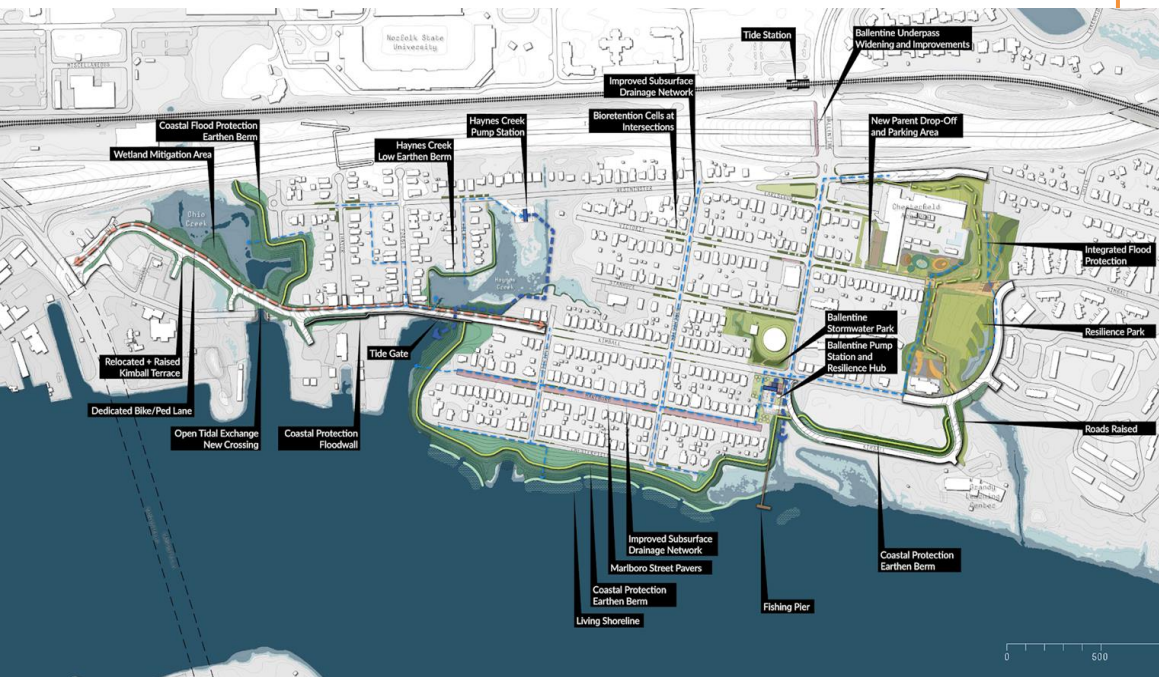


SECTION THREE MIXER



CHESTERFIELD ACADEMY
STUDENTS

Over 40 community meetings were held including design charrettes, feedback sessions, outdoors demonstrations, section three mixers and bidders workshop.



Ohio Creek Project Components



Realignment of Kimball Ter



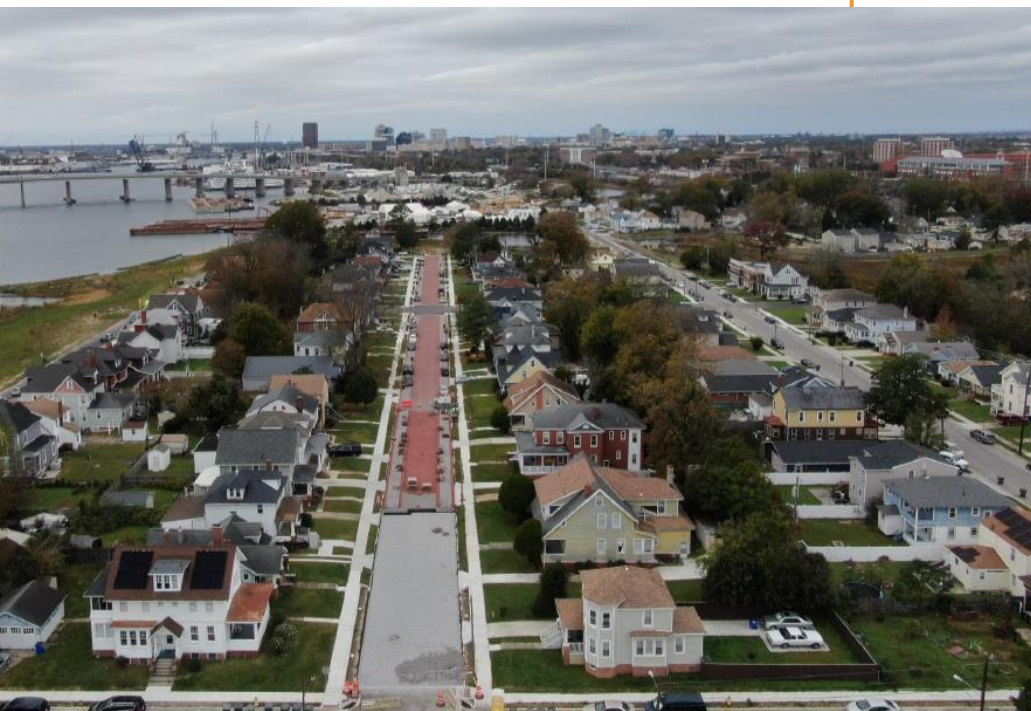


Development of Earth Berm Meeting Kimball Ter



Haynes Creek Pump Station





Redevelopment of Marlboro Avenue



Grandy Village Stormwater Park





Ballentine Pump Station and New Fishing Pier



RISE: Challenge Planning 2023-24

RISE

Resilience Innovations



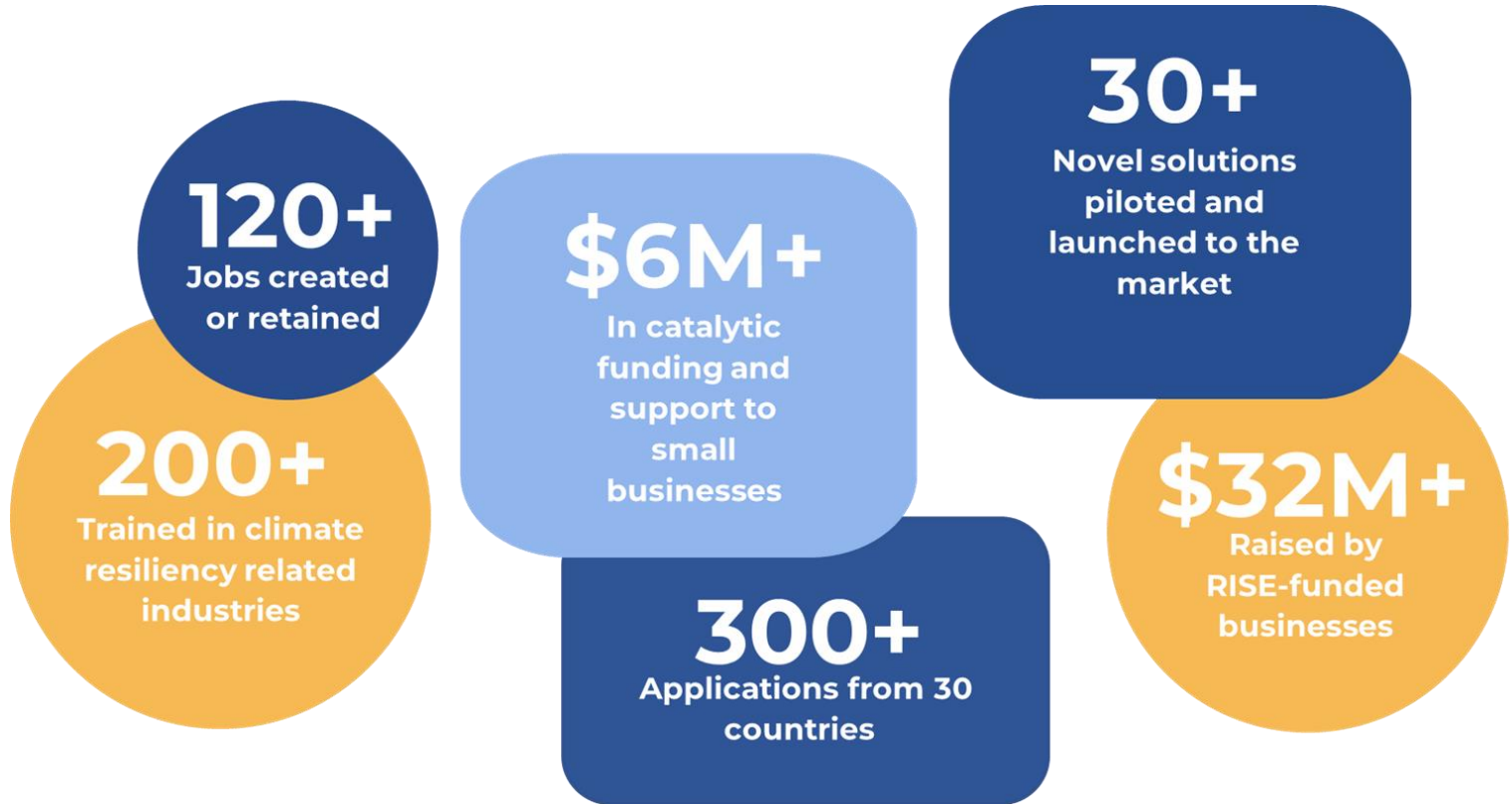
VIRGINIA DEPARTMENT OF HOUSING
AND COMMUNITY DEVELOPMENT
Partners for Better Communities



The RISE Model.



RISE: By the numbers





RISE Sustainability.

- ✓ Identify industry partners for Challenges
- ✓ Expand the RISE model across Virginia



Rural Coastal Community Resilience Challenge



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION



Drainage Systems



Next-generation Buildings



Septic Systems



Nature-based Living Shorelines



Dredge Materials





Buchanan County, VA

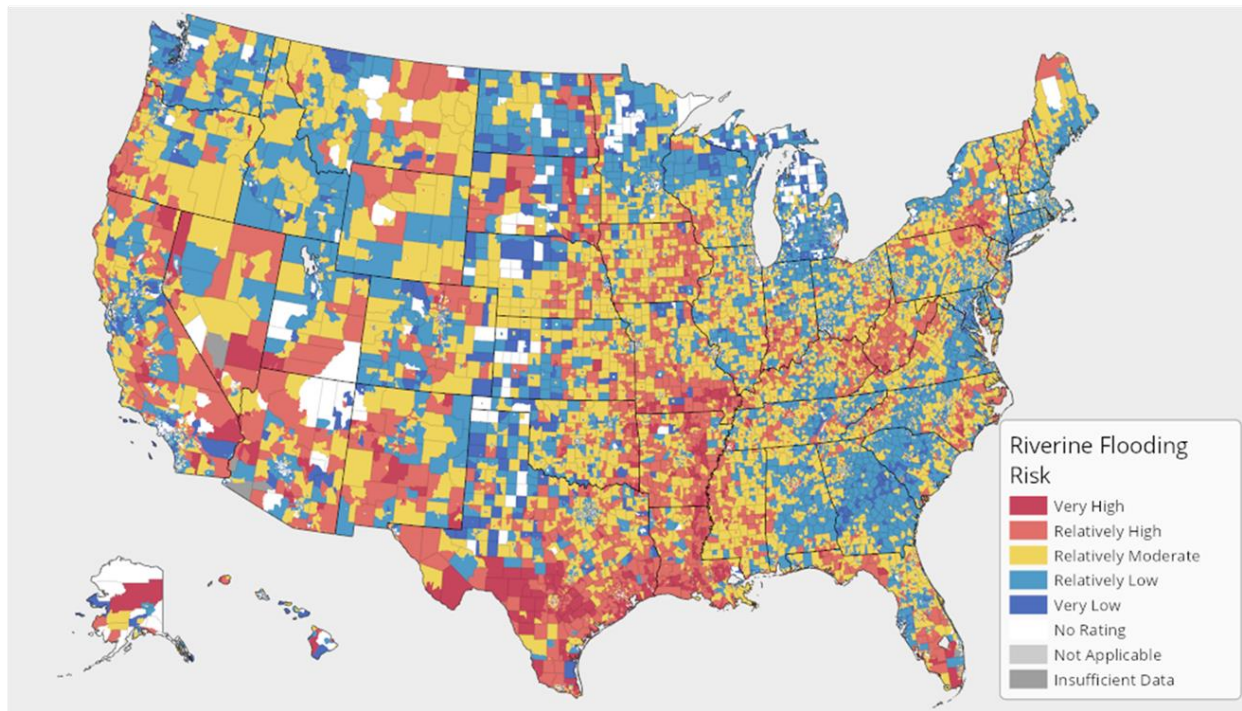
On July 12, 2022, within hours, 4-6"+ of rain caused life-threatening flash flooding that destroyed homes, roads, and bridges.

Businesses and critical infrastructure were also damaged.



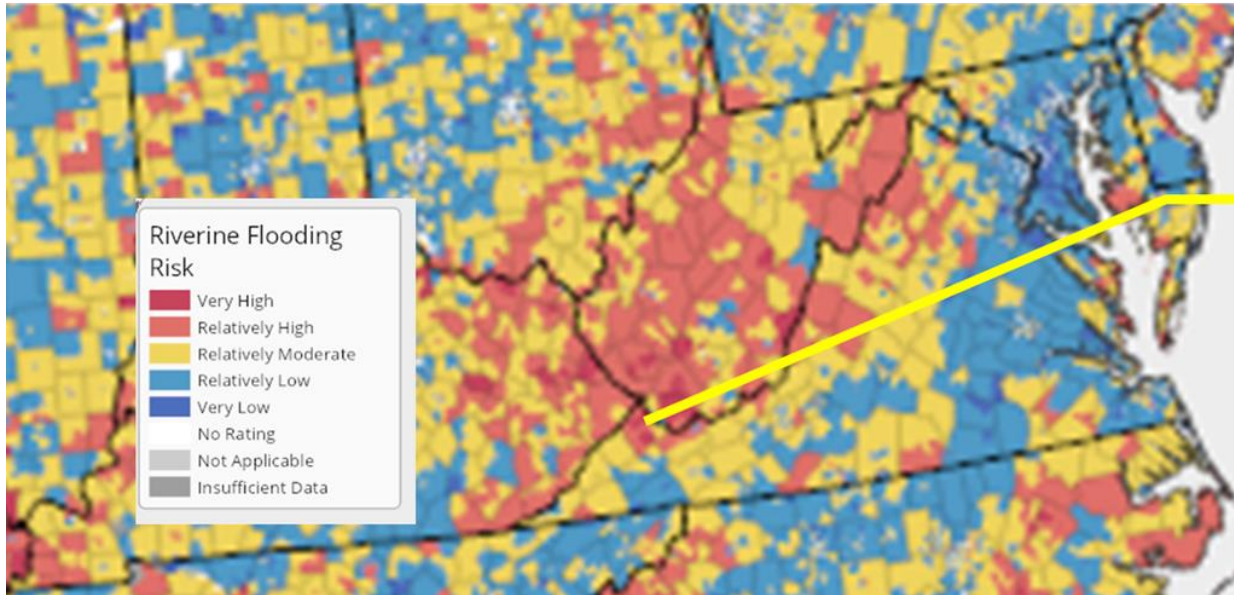


The Unique Threats Facing Riverine & Mountain Communities





The Unique Threats Facing Riverine & Mountain Communities



Buchanan County, Virginia



Next Steps.

- ✓ **RISE provides proposal to DHCD** for Riverine & Mountain Community Resilience Challenge
- ✓ **DHCD and RISE collaborate** to determine participating communities
- ✓ **DHCD provides connections** to help RISE better understand metrics used to assess flood impacts (e.g., July event in Buchanan County)

THANK YOU



**VIRGINIA DEPARTMENT OF HOUSING
AND COMMUNITY DEVELOPMENT**
Partners for Better Communities

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