

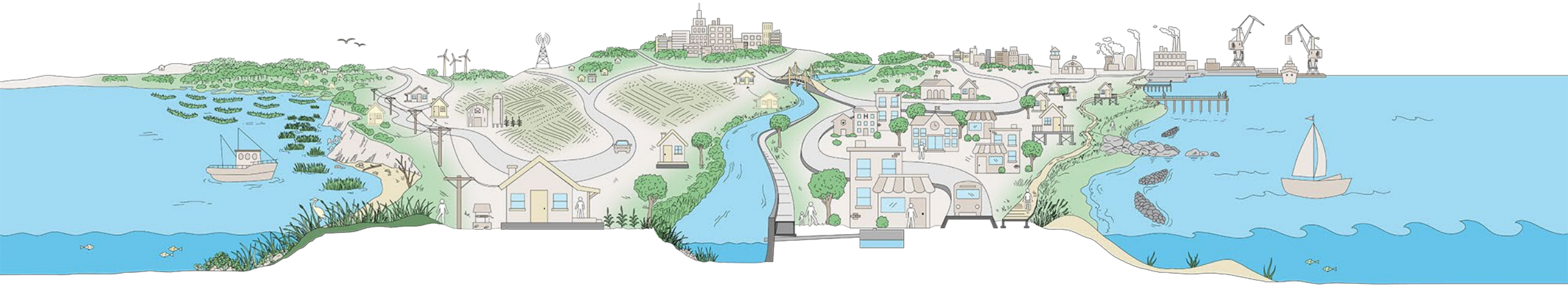
# Setting the Stage

*Statewide urgency and opportunity for flood resilience*

Matthew Wells, Director



# Achieving a Flood Resilient Commonwealth



**Our charge:** to minimize loss of life, property damage, and negative impacts on the environment resulting from flooding.

**Flood Resilience:** the capability to anticipate, prepare for, respond to, and recover from flood hazards with minimal damage to social well-being, health, the economy, and the environment.

# Our Principles for Flood Resilience



**Address  
challenges  
related to  
flooding and  
resiliency**



**Establish  
programs that  
work for all  
impacted parts  
of Virginia**



**Create  
comprehensive,  
cohesive plans to  
*ensure our  
programs work  
together***



**Develop and  
implement our  
programs and  
plans with  
transparency  
and input from  
the public**

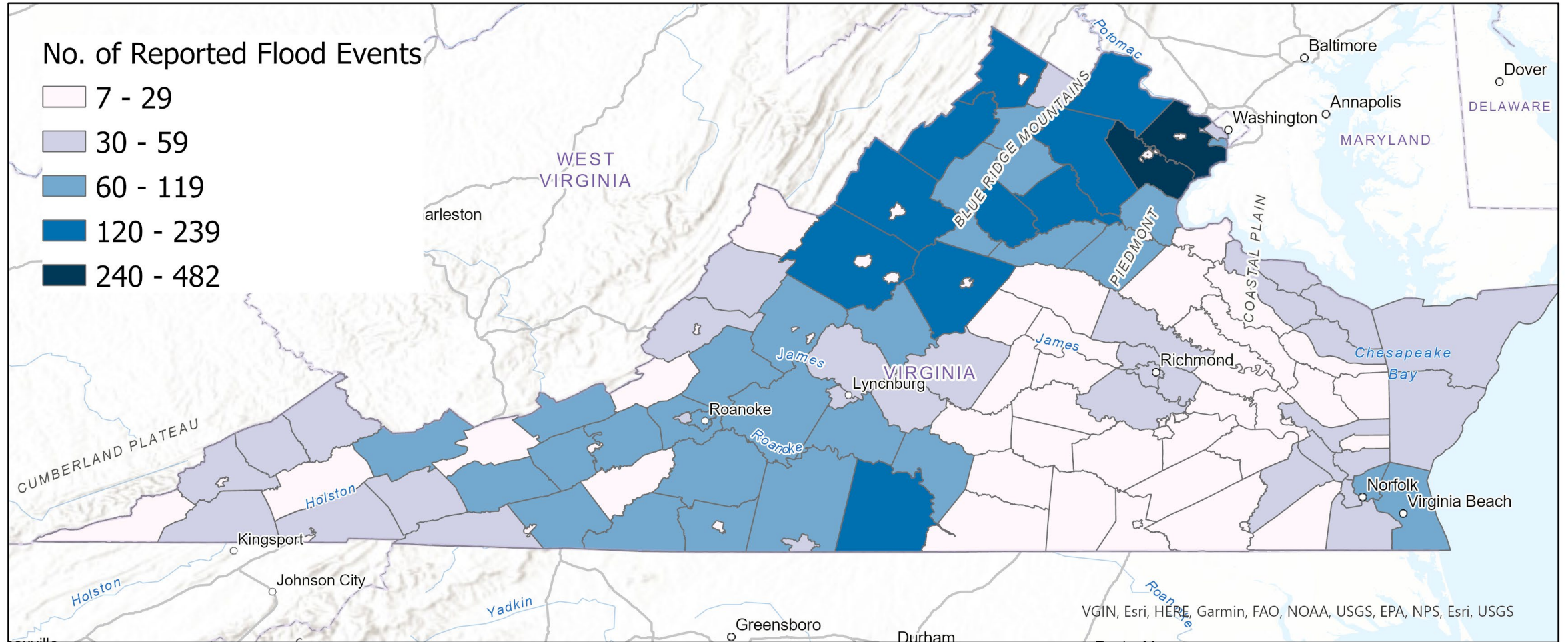
# Framing the Challenge



*"The impacts of flooding are felt across the commonwealth, and Governor Youngkin has ensured that resiliency and flood mitigation efforts are a priority for this administration." – Travis Voyles, Chief Resilience Officer and Secretary of Natural and Historic Resources*

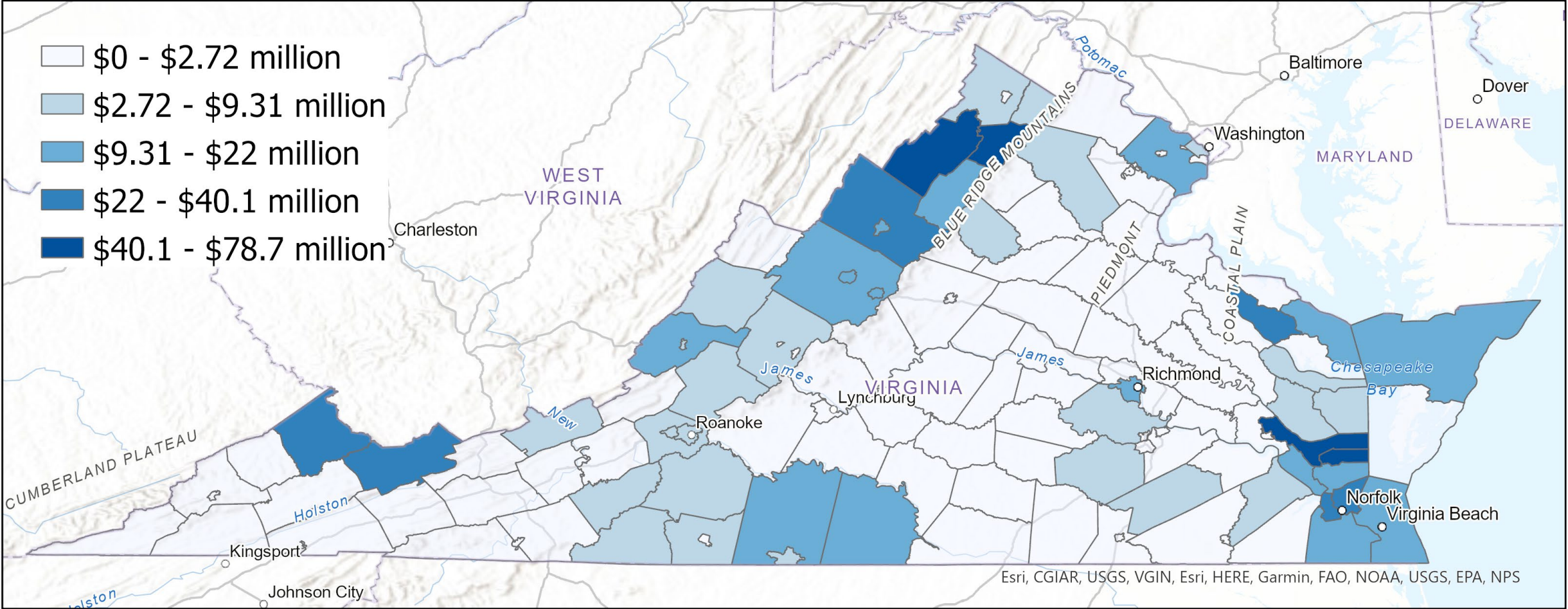
# Reported Flood Events (1950-2023)

Source: NOAA NCEI Storm Events Database

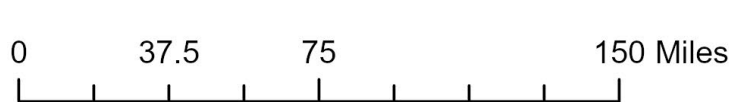


# Value of Flood Damages to Crops and Property (1950-2021)

Source: COVA Hazard Mitigation Plan, 2023 via NCEI

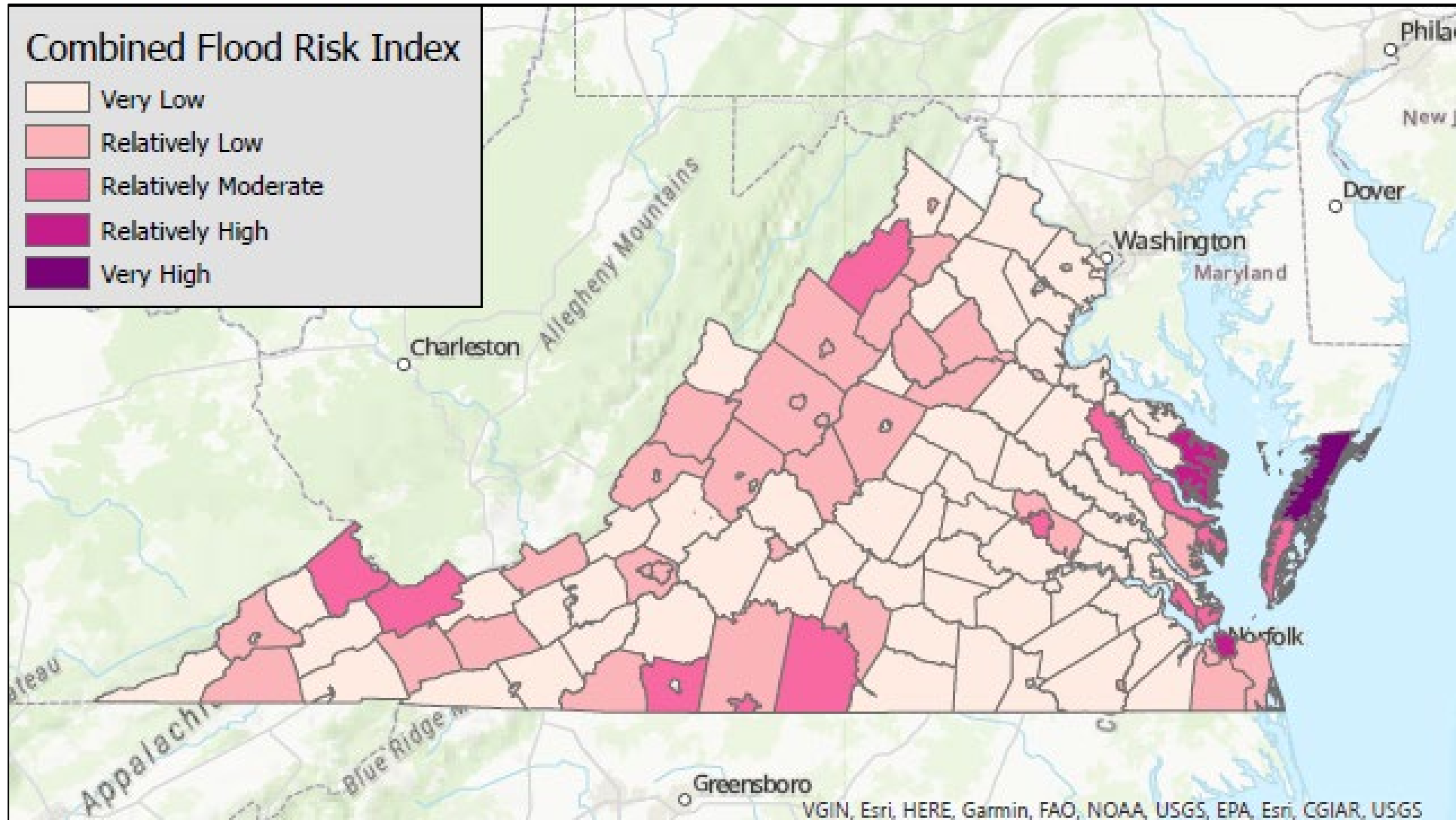


Esri, CGIAR, USGS, VGIN, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

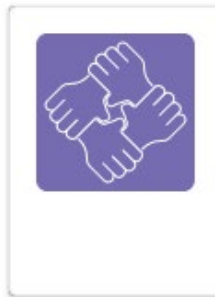


# National Risk Index: Combined Flood Risk (2021)

Source: FEMA NRI



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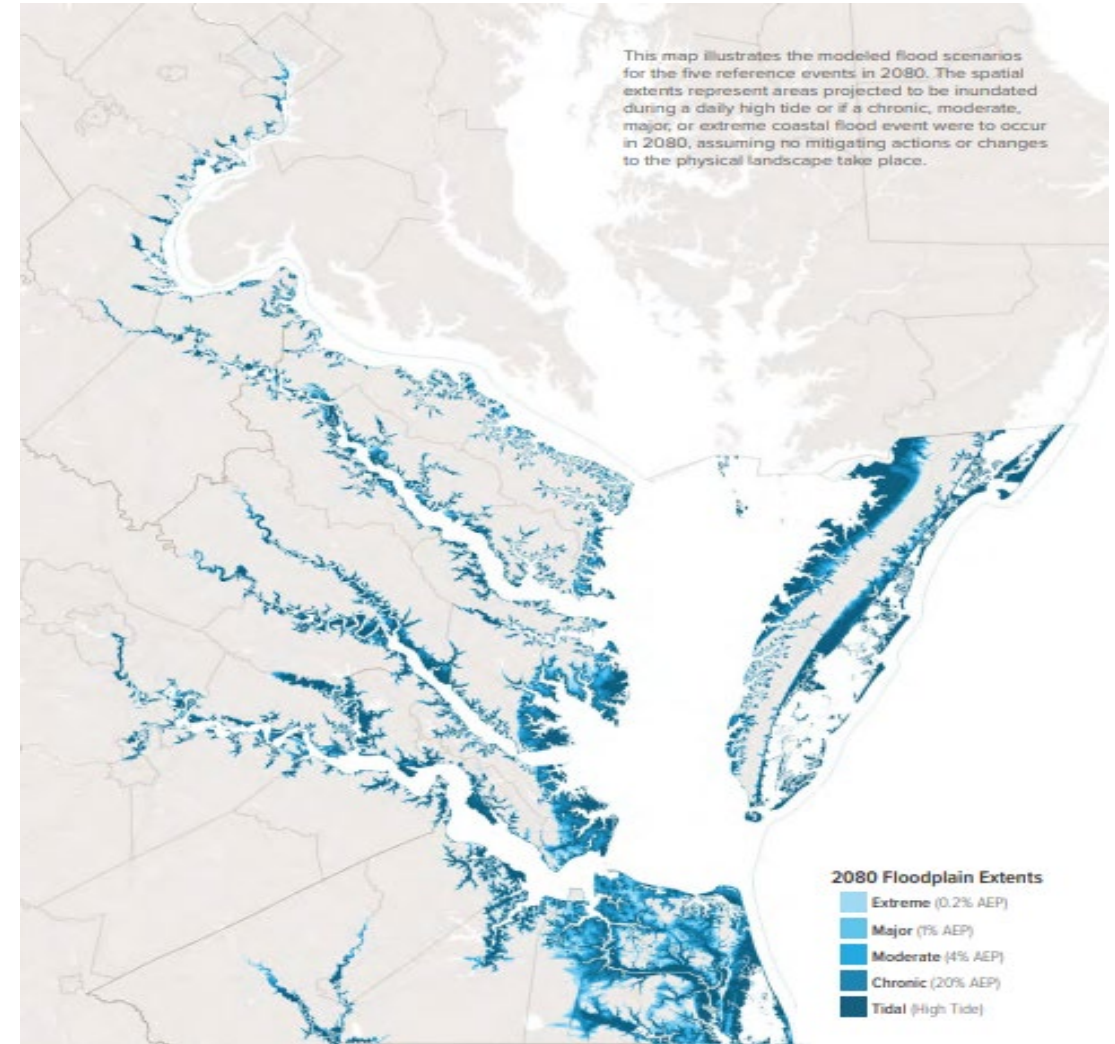
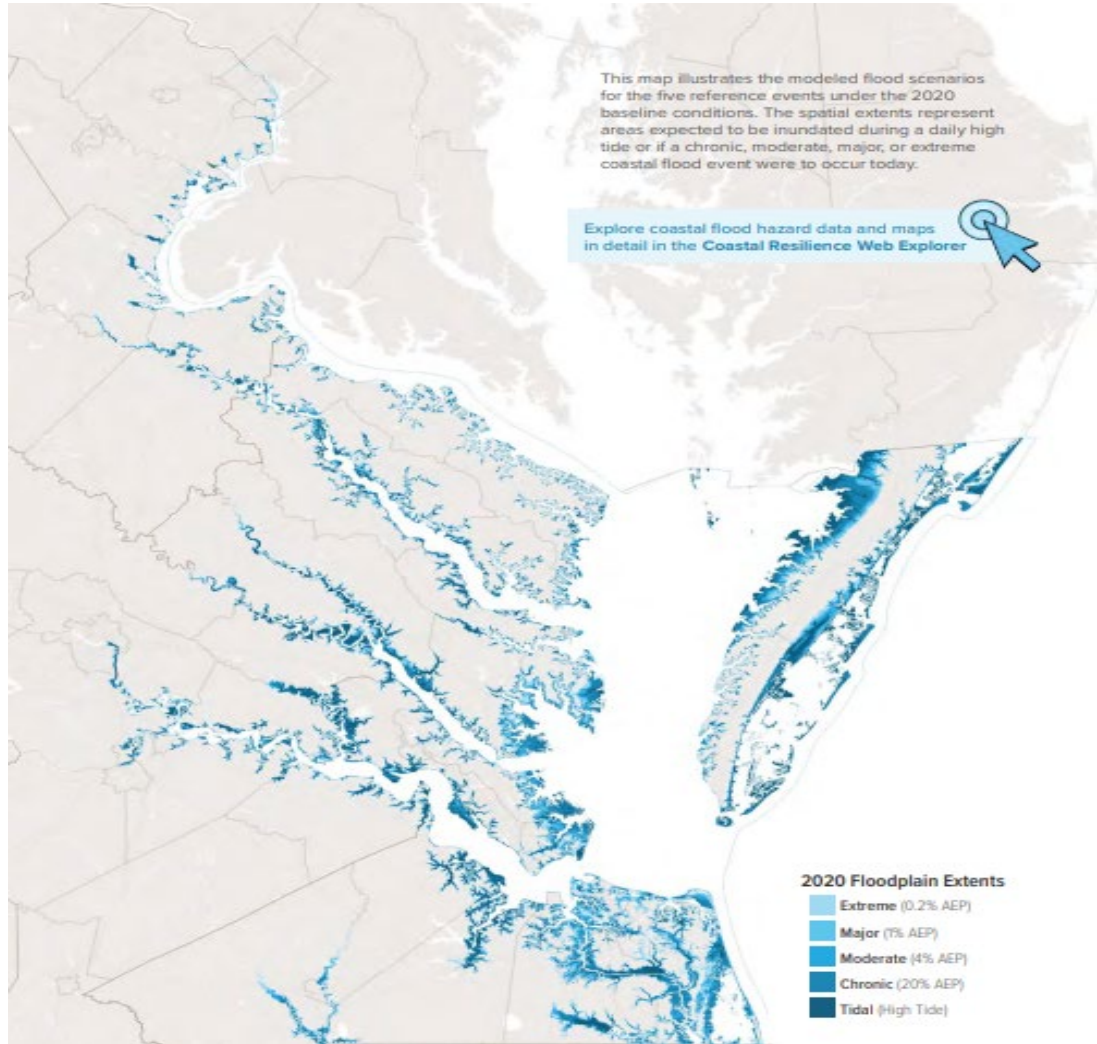


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# Chronic Risk: Tidal Flooding





# Chronic Risk: Tidal Flooding

## Notable Findings from the Technical Study's Impact Assessment

Between 2020 and 2080...



the number of **residents** living in homes exposed to major coastal flooding is projected to grow from approximately 360,000 to 943,000, an increase of **160%**.



the number of residential, public, and commercial **buildings** exposed to an extreme coastal flood is projected to increase by almost **150%**, from 140,000 to 340,000, while annualized flood damages increase by over **930%** from \$550 million to \$5.7 billion.

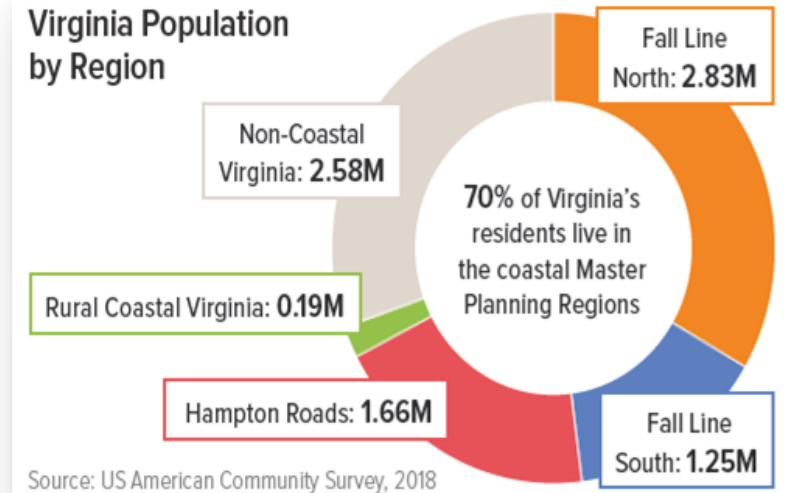


the number of miles of **roadways** exposed to chronic coastal flooding is projected to increase from approximately 500 to nearly 2,800 miles, an increase of **460%**.

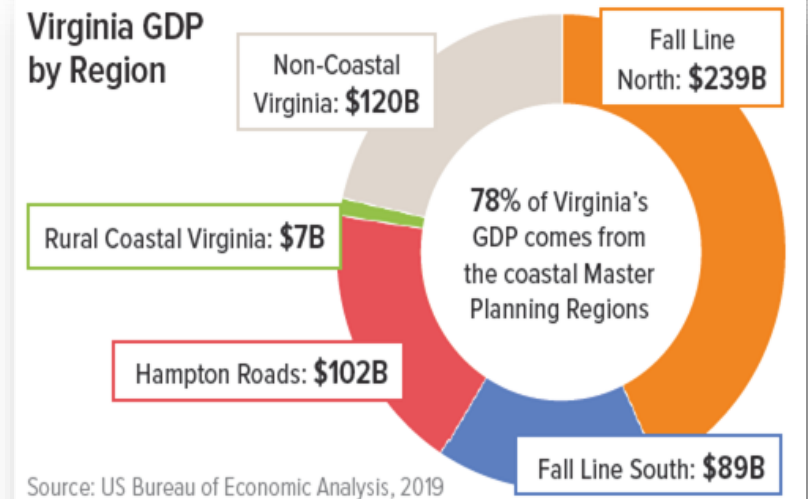


an estimated 170,000 acres, or **89%**, of **existing tidal wetlands** and 3,800 acres, or **38%**, of **existing dunes and beaches** may be permanently inundated, effectively lost to open water.

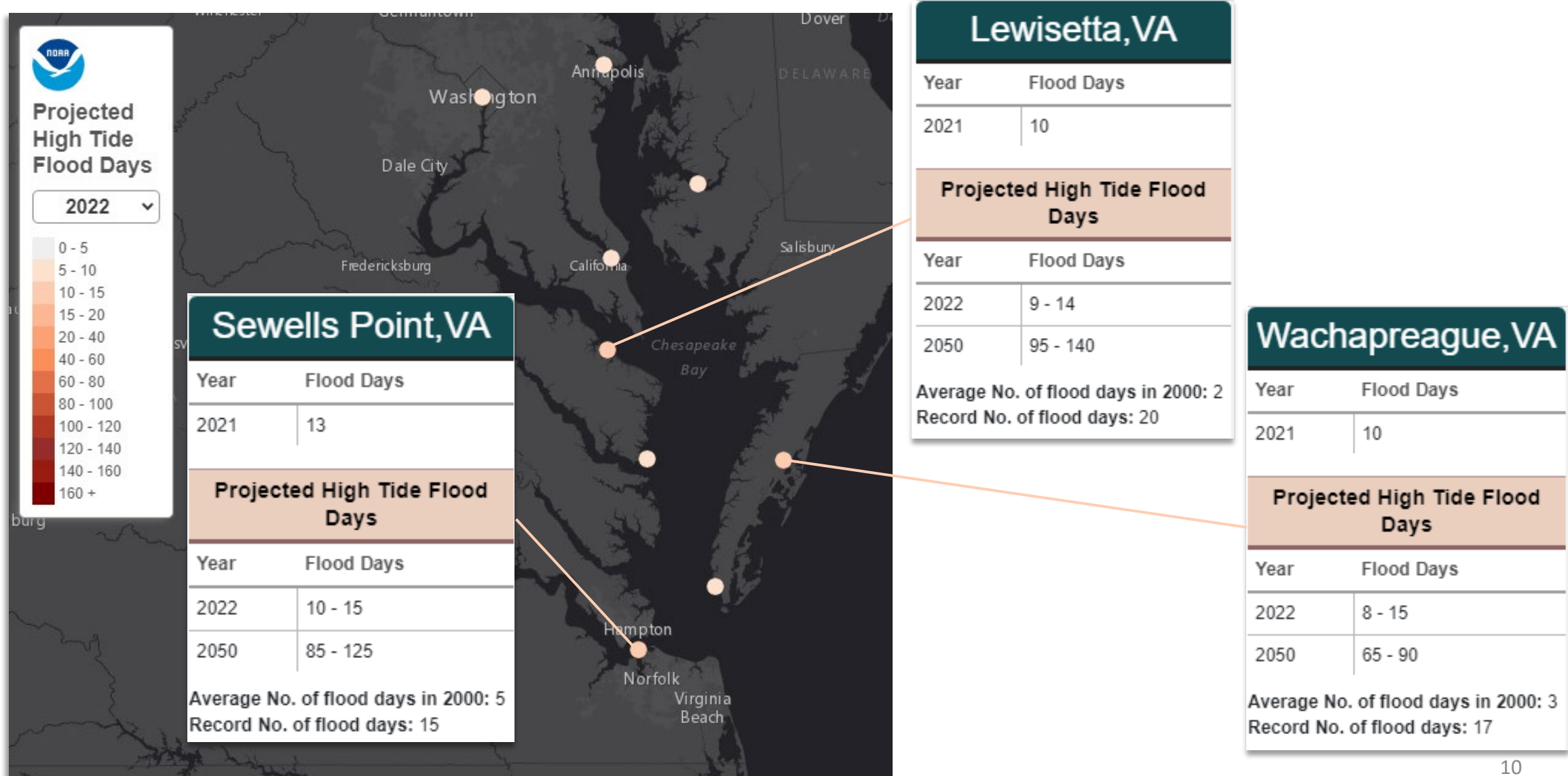
### Virginia Population by Region



### Virginia GDP by Region



# Chronic Risk: Tidal Flooding



# Acute Risk: Western Virginia Flood Events

## All 44 people reported unaccounted for in destructive Virginia flooding have been found

There were no fatalities or injuries related to the flooding, the Buchanan County Sheriff's Office said.



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July 13, 2022, 10:22 PM EDT / Updated July 14, 2022, 12:21 PM EDT

By Maya Brown and Marlene Lenthag

## Evacuations underway as flooding hits Roanoke, Virginia

By Kristina Pydynowski, AccuWeather senior meteorologist

Published May 20, 2020 4:43 PM EDT

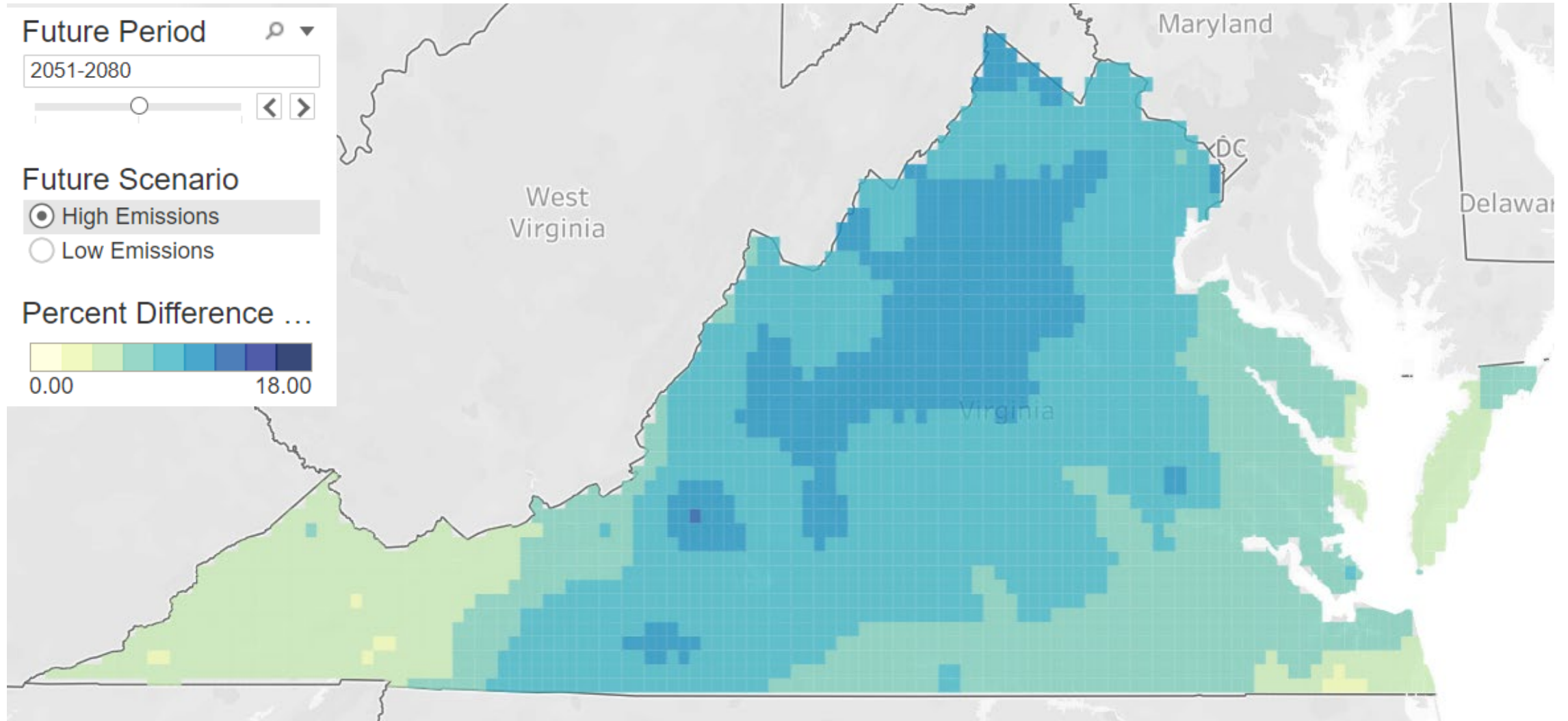


An onslaught of heavy rain has triggered extensive life-threatening flooding in the southern Appalachians of North Carolina and Virginia, with evacuations underway in the city of Roanoke. The flood danger prompted the National Weather Service's (NWS) Weather Prediction Center (WPC) to issue a **high risk for flooding** for Wednesday and Wednesday night, the first time since Feb. 11.



# Percent Difference from “Normal” Total Annual Precipitation

Based on 1981-2010 "Normal" Total Annual Precipitation



# Facing the Challenge

## Chesapeake Bay—Sea Level Rise, Salt Water and Sinking Septic Systems: Land Use And Public Health Policy Challenges

David Fridley, Environmental Health Manager Senior  
Three Rivers Health District  
[David.Fridley@vdh.virginia.gov](mailto:David.Fridley@vdh.virginia.gov)



## GOVERNOR YOUNGKIN ANNOUNCES MORE THAN \$2 MILLION DISTRIBUTED THROUGH HURLEY RELIEF FUND

December 21, 2022

RELIEF PROVIDED TO ELIGIBLE PROPERTY OWNERS AFFECTED BY AUGUST 2022 FLOODS



Virginia Department of  
Emergency Management

» [vaemergency.gov](http://vaemergency.gov)

f [VAemergency](#)

@VDEM

## FLOOD SAFETY

90 percent of all natural disasters in the United States involve some sort of flooding. Just one inch of water in a home or office costs thousands of dollars in cleanup and repair costs. Floods are one of the most common hazards in the U.S., but not all floods are alike. Some floods develop slowly, while others such as flash floods can develop within minutes and without visible signs of rain. Flood threats include: flash flooding, river flooding, storm surge, tidal flooding, snowmelt, burn scars and dam breaks.

Flash floods can occur within a few minutes or hours of excessive rainfall, a dam or levee failure, or a sudden release of water held by an ice jam. Overland flooding, the most common type of flooding event, typically occurs when waterways such as rivers or streams overflow their banks as a result of rainwater or a possible levee breach and cause flooding in surrounding areas.

## Virginia awards \$52 million for additional flood resilience projects

Supplemental round includes funding for projects to protect rural private properties

BY: CHARLIE PAULLIN - JANUARY 5, 2023 12:01 AM



## Virginia CZM Program FY 2022 Grant Project List

Grant Period: October 1, 2022 - September 30, 2023 (note: some projects may have different start and end dates).

### Focal Area: Coastal Resilience (Competitive Tasks)

71	Virginia Institute of Marine Science	Conservation Targeting for Resilience (year 3 of 3)	\$101,250
72	Accomack-Northampton Planning District Commission	Promoting Ecotourism to Support Conservation of Conserved Lands and Resilient Communities	\$74,000
73	Middle Peninsula Planning District Commission	Next Generation Moderate Energy Shoreline Plan Development	\$50,000

### Coastal Enhancement Projects (Section 309)

91.01	College of William & Mary - Virginia Coastal Policy Center	Analysis and Recommendations for Potential In Lieu Fees for Habitat Impacts to Increase Climate Resilience in Virginia's Narrative Enforceable Policies	\$56,000
91.02	College of William & Mary - Virginia Coastal Policy Center	RAFT Expansion, Assessments, & Workshops	\$80,000
91.03	Wetlands Watch	Supporting & Growing the CRS Program in Virginia's Coastal Zone	\$40,000

# Community Flood Preparedness Fund & Resilient Virginia Revolving Fund

- CFPF and RVERF – working together

- CFPF Round 4 and initial RVERF Grant Manual(s) drafted for public comment 2023Q3, joint application period to follow
- Shift to an annual cycle, combination of grants and loans
- Goal is to have programs run together and complement 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 RVERF is more directed towards individual property and buildings
- CFPF prefers nature based; has 25% low-income requirement
- RVERF prefers projects that will utilize private industry and/or serve 2+ local gov'ts; has building hazard mitigation carve-out

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

# CFPF Round 4

Draft Allocation - Community Flood Preparedness Fund Round 4 – Total Available \$80,000,000\*

Category	Amount	Award Type	Notes
Planning & Capacity Building, Studies, and Resilience Projects	\$50,000,000	Grants	Awards require match that varies depending on activity/project type. Reduced match for low-income geographic areas. Total awards per applicant are capped.
Resilience Projects	\$25,000,000	Loans	Below market-rate loans for resilience projects. Awards do not require match. Designed primarily to accommodate large projects that exceed grant caps.
Start-Up Funding	\$5,000,000	Loans	Short term loans to provide up-front funding for activities funded by CFPF grants. Currently, CFPF grants are paid primarily on a reimbursement basis, which is a limiting factor for some localities.

\* Total currently available in Fund after June 2023 auction is approx. \$108 million. Anticipated total available funds through Dec 2023 is approx. \$198 million.

# RVRF Round 1

Draft Allocation - Resilient Virginia Revolving Fund Round 1 – Total Available \$18,500,000\*

Category	Amount	Award Type	Notes
Non-federal match for federal resilience grants to localities.	\$5,000,000	Loans	Below market-rate loans for localities to use as non-federal match for resilience projects (FMA, HMA, CDBG, BRIC, etc).
Hazard Mitigation of Buildings	\$7,500,000	Loans	Below market-rate loans for projects related to the hazard mitigation of buildings. Awards are for discrete projects that localities wish to support (may be on private property). Satisfies statutory requirement that a portion of the RVRF be set aside for this purpose.
Capitalization for Local Flood Resilience Programs	\$1,000,000	Loans	Interest-only loans to localities with existing revolving funds. Providing interest-only loans allows principal to be revolved within the locality. Loans to localities may be rolled over indefinitely.
Capacity Building for Local Flood Resilience Funding Programs	\$5,000,000	Grants	Grants to localities to support the establishment of Local Flood Resilience Funding Programs. Subject to the approval of DCR, these programs could fund a range of property-scale projects.

\* Total capitalization of fund is \$25,000,000; \$5,000,000 has been set aside for FEMA STORM RLF Grant match; \$1,500,000 has been set aside for administrative costs for current and future rounds (DCR and VRA).



# RVRF Future Funding

## Items that may be supported with additional funding include:

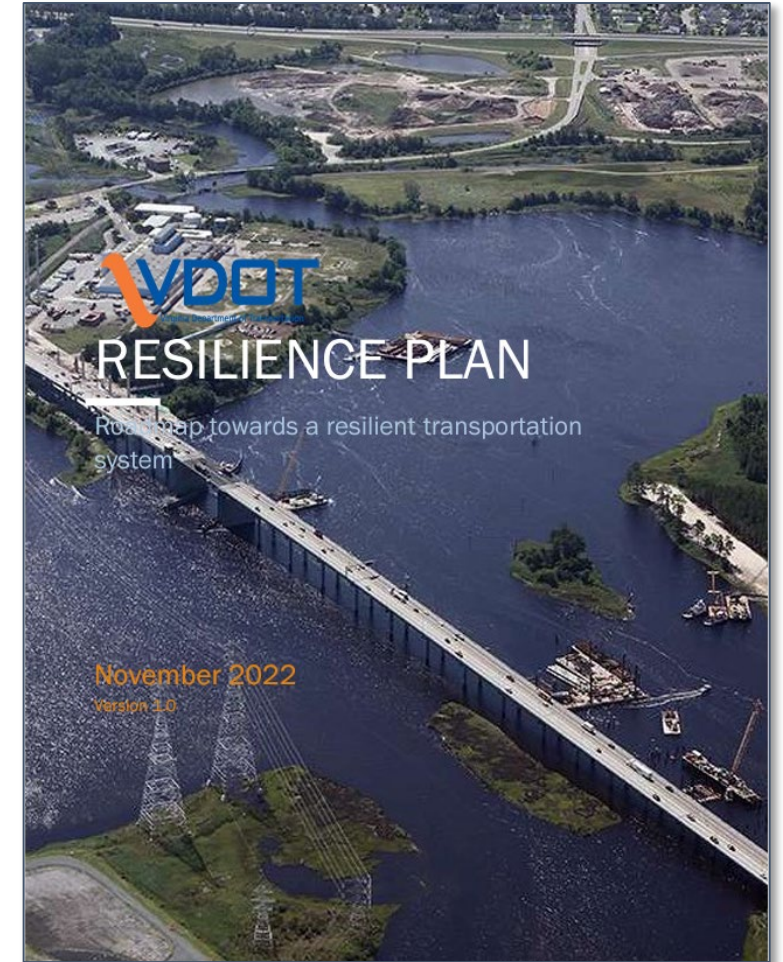
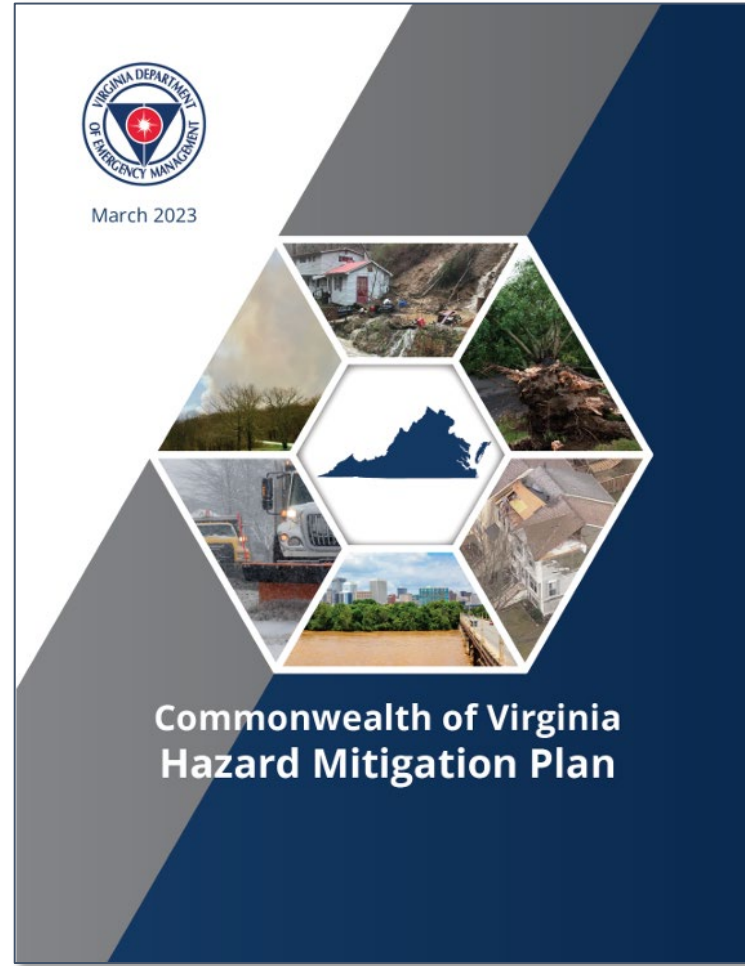
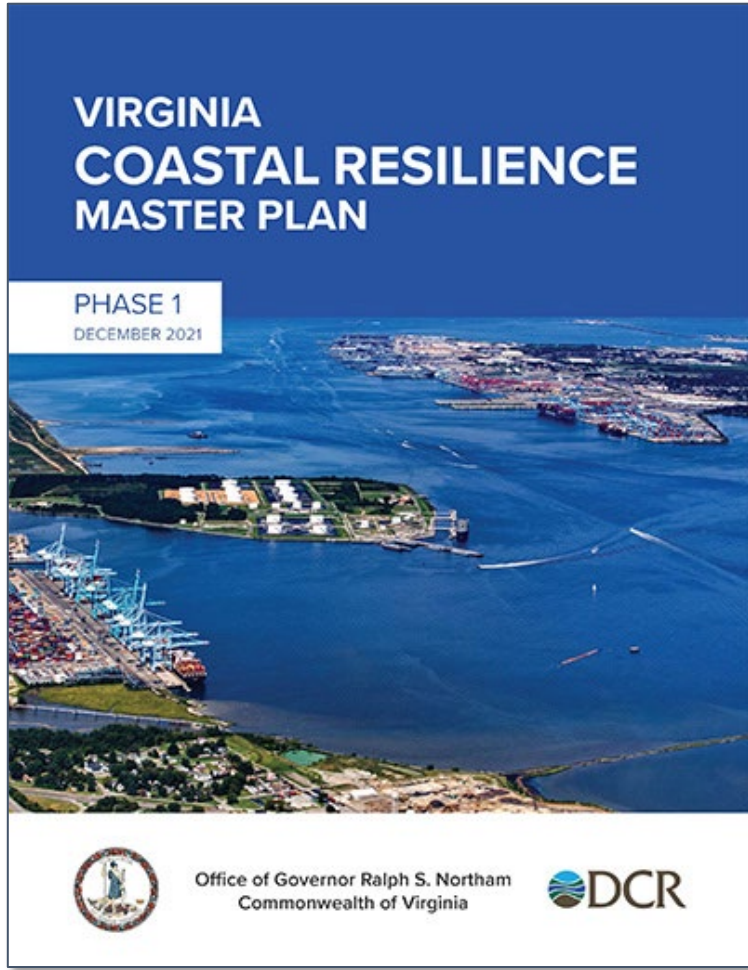
- Additional funding for local programs, including grants
- Funding for home buyouts and relocation/rent-backs
- Funding for federal grant applications not selected by respective federal agency
- Additional funding for categories identified for Round 1

# CFPF/RVRF 2023 Schedule

## DCR Anticipates Using the Following Schedule for the CFPF/RVRF

- Beginning of July – Manuals put out for 30 day public comment
- Beginning of September – Grant/Loan rounds open
- Beginning of November – Grant/Loan rounds close
- November/Early December – Department and Review Committee evaluate applications
- Mid/Late December – Awards announced

# Commonwealth Resilience Planning



# Coordinating the Commonwealth's Flood Resilience Efforts

## Ongoing Efforts

- Coastal Resilience Technical Advisory Committee
- Resilience Coordination Working Group
- Annual Flood Resilience Meeting

# Coordinating the Commonwealth's Flood Resilience Efforts

## Goals for today's meeting

- Create opportunity to develop new connections across the flood resilience community
- Build awareness of existing flood resilience programs in VA
- Gather information to inform future interagency resilience coordination

# Thank you

