

STRENGTHENING RESILIENCE

Incorporating Climate Resiliency in Virginia's Coastal Zone Management Enforceable Policies

William & Mary Law School
Virginia Coastal Policy Center



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About Us

The Virginia Coastal Policy Center (VCPC) at William & Mary Law School operates at the intersection of law, science, and policy to provide science-based legal and policy analyses of ecological issues affecting the state's coastal resources.

We provide education and advice to a host of Virginia's decision-makers, from government officials and legal scholars to non-profit and business leaders.



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AGENDA

Background

Current
Efforts

Climate Impacts

Defining
Resilience

Evaluating NEPs

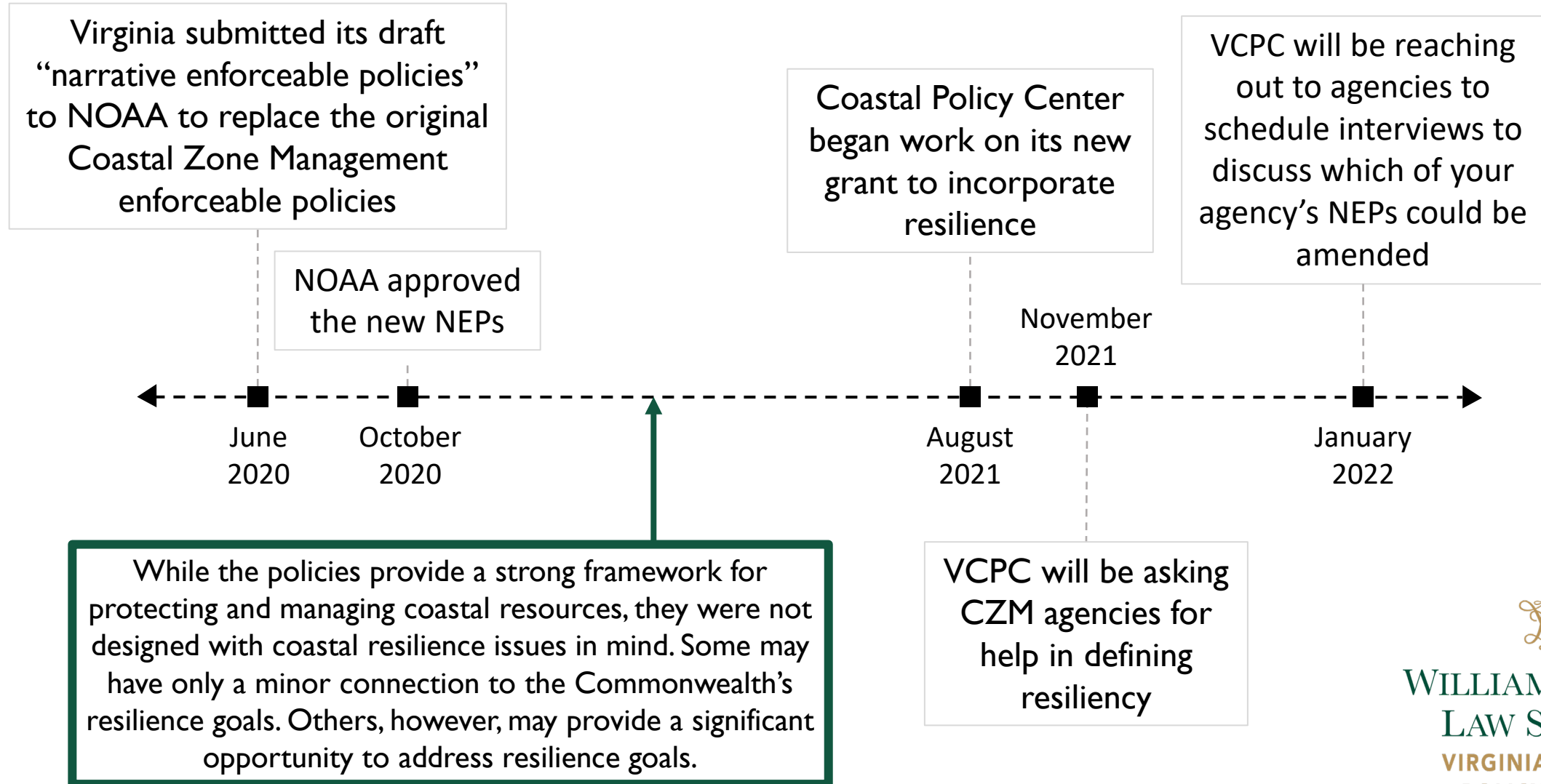
Next Steps



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PROJECT BACKGROUND

Virginia's Narrative Enforceable Policies



SOME EFFORTS UNDERWAY

Agency	Project
Department of Environmental Quality	<p>The purposes of the Department are . . . [t]o address climate change by developing and implementing policy and regulatory approaches to reducing climate pollution and promoting climate resilience in the Commonwealth and by ensuring that climate impacts and climate resilience are taken into account across all programs and permitting processes.</p> <p><i>Code of Virginia § 10.1-1183</i></p>
Chesapeake Bay Preservation Act	<p>The criteria adopted by the Board . . . shall encourage and promote . . . coastal resilience and adaptation to sea-level rise and climate change</p> <p><i>Code of Virginia § 62.1-44.15:72</i></p>
Department of Health	<p>The regulations of the Board shall . . . be designed to protect the public health and promote the public welfare and may include . . . consideration of the impacts of climate change on proposed treatment works</p> <p><i>Code of Virginia § 32.1-164</i></p>
Council on Environmental Justice	<p>The Council shall . . . [incorporate] potential solutions to environmental justice issues related to stakeholder communication, local governments, climate change and resilience, transportation, clean energy, outdoor access, and cultural preservation</p> <p><i>Code of Virginia § 2.2-2699.12</i></p>
Department of Conservation and Recreation	<p>The Department shall develop a . . . model . . . synthesiz[ing] multiple mapped data inputs, divided into categories, each representing a different overarching conservation value, including (i) agriculture and forestry, (ii) natural habitat and ecosystem diversity, (iii) floodplains and flooding resilience, (iv) cultural and historic preservation, (v) scenic preservation, (vi) protected landscapes resilience, and (vii) water quality improvement.</p> <p><i>Code of Virginia § 10.1-104.6:1</i></p>
Commonwealth Transportation Board	<p>The Statewide Transportation Plan . . . shall promote economic development and all transportation modes, intermodal connectivity, environmental quality, accessibility for people and freight, resiliency, and transportation safety.</p> <p><i>Code of Virginia § 33.2-353</i></p>

CLIMATE CHANGE IMPACTS

Climate Change Impacts Driving the New Grant

Water Quantity and Quality



- Groundwater and sea level rise
 - Increased storm events
 - Increased drought
 - Increased precipitation

Habitats and Species



- Invasive species
 - Species loss
- Diminished water and grasslands
 - Ocean acidification

Heat



- Water temperature rise
 - Heat waves
- Increased infrastructural stress

Other



- Decreased food availability
 - Heat and water stress
 - Human health impacts
- Many more—this is not an exhaustive list!



DEFINING RESILIENCE

"Resilience" means, as it pertains to climate change, the ability to anticipate, prepare for, and adapt to changing conditions and to withstand, respond to, and recover rapidly from disruptions through adaptable planning and climate solutions.

Virginia Code § 2.2-2699.8

Following the guidance of the U.S. Global Climate Change Research Program, we define resilience as the capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, health, the economy, and the environment.

Virginia Coastal Resilience Master Plan Framework

Resilience is a state where communities, economies, and ecosystems are better able to rebound, positively adapt to, and thrive amid changing conditions and challenges, including disasters and climate change while improving quality of life for all, maintaining healthy growth, increasing shared prosperity, building durable systems and conserving resources for present and future generations.

Executive Summary, North Carolina Climate Risk Assessment and Resilience Plan, June 2020

"Coastal resilience" means the ability of natural and built coastal environments to withstand and recover from hazardous events such as extreme weather, storm surge, and recurrent flooding.

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DEFINING RESILIENCE

Themes

1. Keep on keeping on

How can we maintain our quality of life in the face of climate change effects?

2. Build back better

How can we maintain our quality of life and build back better when climate change gets ahead of us?



DRAFT DEFINITION

Climate change resilience refers to a natural and built environment's ability to prepare, withstand, and adapt to changing climate conditions and challenges, build back stronger when devastated by climate driven disaster, and improve quality of life for all by building durable systems that conserve and protect our environment for present and future generations.



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EVALUATING NEPs

Where can resiliency be incorporated?

Example: DEQ's Underground Storage Tank Regulations

Current requirements include tank protection and design measures to prevent spills or releases into the environment:

- installation to prevent release
- cathodic protection
- compatible materials for repair materials and components



Consider potential impacts from flooding: take into account the risk of flooding when siting the tanks, etc.

Examples of additional resiliency fortification measures:

- Locating them outside of the flood plain
- Include criteria for strapping USTs in areas outside of the coastal zone that are considered high risk areas for flooding, standing water, or storm drain back up
- Identify the need for assessments following floods in order to determine any additional steps that need to be taken to better protect the tanks in the next flooding event



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NEXT STEPS

Defining Resiliency

1. How should resiliency be defined for purposes of the Narrative Enforceable Policies? What aspects or attributes of the concept are we missing? What are some key terms or concepts to include in our considerations?

Identifying Opportunities

2. Which of your agency's enforceable policies could provide an opportunity to address resilience goals? Do they need to be revised to better address coastal hazard issues? How much so?

Resources

3. What conversations is your agency currently having about resilience? What resources can you provide to VCPC in order to help us better understand the goals and policies behind your agency's enforceable policies?





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