

## Virginia Resilience Adaptation Feasibility Tool (RAFT)

With flooding on the rise in Virginia, three universities came together between 2015 and 2016 — [University of Virginia](#), [William & Mary](#), and [Old Dominion University](#) — in an interdisciplinary academic partnership as the RAFT University Collaborative. Together they developed the [Resilience Adaptation Feasibility Tool \(RAFT\)](#) to help coastal communities evaluate risks, set priorities for increasing resilience, and identify sources of technical assistance and funding.

### The Challenge

Flooding already threatens communities in Virginia and is [expected](#) to [increase](#) over the next 30 years — driven by sea level rise, high-tide flooding, coastal erosion, and severe storms. Sea level rise impacts are particularly pronounced along Virginia's shores where the [land is sinking](#). Local governments and the state face daunting challenges from flood risks to residents, businesses, agriculture, public health, infrastructure, national security facilities, and economies. RAFT helps Virginia's under-resourced localities improve resilience against floods and other climate hazards, while striving to be welcoming for people and businesses. RAFT offers an easy and accessible way to measure localities' baseline resilience and propose solutions.

### Policy Design

To kickoff the RAFT University Collaborative, participating universities first investigated the state's existing resilience and sustainability scorecards, analyzed its metrics and approaches for scoring, and developed a RAFT scorecard. The universities then developed RAFT's 18-month three-stage process in which localities receive:

#### RAFT Resilience Scorecard categories

- Policy, leadership, and collaboration
- Risk assessment and emergency management
- Infrastructure resilience
- Planning for resilience
- Community engagement, health, and wellbeing

*Social equity considerations are integrated throughout the scorecard.*

- **An independent assessment of their resilience using the RAFT Scorecard.** Scoring is conducted with support from relevant local government staff, and the results are presented to local elected officials. The Scorecard topic areas that receive the lowest scores are highlighted as opportunities for resilience-building projects.
- **A regional community leadership workshop**, hosted by the RAFT University Collaborative in cooperation with the local Planning District Commission. At the workshop, local leaders will discuss community strengths and weaknesses and develop a checklist of resilience actions for each locality that can be completed (or at least achieve significant progress) within one year. To support the workshop and show future levels of risk, a GIS map is developed by [RAFT partners](#) using sea level rise

scenario guidance from the National Oceanic and Atmospheric Administration and other federal agencies, as well as storm surge information. Attendees are divided into locality-specific small groups that select three to five projects to increase the community's resilience over the course of a year.

- **One year of implementation support** by the RAFT University Collaborative. The RAFT team also helps communities find expertise and funding for projects.

The RAFT process was first used with three pilot localities: a town (Cape Charles), a city (Portsmouth), and a county (Gloucester). Each locality is in a different coastal region, and each has different needs and cultures. Pilot communities were selected based on a willingness to participate; demographic diversity; diversity in municipality type, density, and size; varying stages in comprehensive planning; and physical vulnerability to coastal flooding.

Through the first pilot projects and focus groups in 2017 and 2018, the RAFT process was refined to support localities in creating resilience action checklists and then carrying out those actions over the course of a year. Since then, RAFT has been used by five regional cohorts across Virginia, supporting both counties and towns pursuing flood resilience. An annual participant survey helps refine RAFT.

## State Role

The state does not play a formal role in the RAFT process, which is created and administered by the RAFT University Collaborative. However, the state noted the importance of the RAFT program in the Virginia Coastal Resilience Master Plan that was issued in December 2021. Additionally, state officials from various [state agencies](#) often present at RAFT workshops and engage with participants during monthly RAFT meetings. RAFT has also received funding from the Virginia Coastal Zone Management Program.

## Cost and Funding

RAFT receives support from federal and private foundation grants, as well as donated services, which allows the program to be [provided at no cost](#) to localities. Initial funding came from a 2016 Restoration and Community Stewardship grant by the National Fish and Wildlife Foundation, which was used to complete the Resilience Scorecard and test the scorecard in the three pilot localities.

Since then, RAFT has received several grants, including from the Virginia Environmental Endowment, the Virginia Coastal Zone Management Program, NOAA's Office of Coastal Management, and the Jessie Ball duPont Fund. Other partners include the Virginia Sea Grant Adaptation and Resilience Program, and the University of Virginia's Environmental Resilience Institute and School of Architecture.

To help communities carry out resilience strategies, RAFT is offering micro-grants (up to \$5,000) and mini-grants (up to \$25,000) to localities and community organizations in the Northern Neck and Middle Peninsula regions of Virginia.

## Modifications

Since RAFT began, the University Collaborative has made several modifications to the program.

- Social equity is now incorporated as a theme throughout all categories of the RAFT Scorecard.
- RAFT now conducts focus groups and interviews with grassroots leaders of organizations serving vulnerable and disadvantaged populations early in the assessment process. By conducting these focus groups and interviews, participating local governments can better understand their resilience strengths and gaps through the lens of social equity. The interviews also identify community representatives who should be included in the RAFT process and get their input into the Opportunity Lists shared with the localities at the community workshop.
- The RAFT University Collaborative now provides each locality at the community workshop with a list of resilience opportunities informed by Scorecard results, the locality's Hazard Mitigation Plan and comprehensive plan, and social equity resilience needs. The list makes it easier for communities to create action checklists that most effectively use the year of support provided by RAFT.
- Emphasis is placed on the long-term value of creating community-wide discussion and strengthening collaboration on climate resilience.
- The Planning District Commissions/regional entities help identify community contacts to support resilience efforts; these entities also partner with the RAFT University Collaborative to organize the community workshops, providing invaluable guidance about the region's resilience needs.

## Impact

Since the [three pilot projects](#), the RAFT University Collaborative has applied RAFT on the [Eastern Shore](#) of Virginia in 2018–19, [Northern Neck](#) in 2019–20, [Middle Peninsula](#) in 2021–22. RAFT is working with the [Crater](#) Planning District Commission for 2023. The RAFT University Collaborative helps each community work through its checklist of three to five Resilience Actions — this includes incorporating resilience into comprehensive local plans, developing green infrastructure plans, assessing road vulnerability to flooding, and improving services for elderly and socially vulnerable residents.