Building Coastal and Flooding Resilience Capacity in Northampton County

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Scope of Work Narrative

Northampton County, located on the Eastern Shore of Virginia, is a rural area that is highly vulnerable to rising seas and recurrent flooding- inland and coastal. This rural county has a population of just under 12,000 and has a small town feel where the residents take pride in their communities and the surrounding nature on which the local economy depends. The area is bounded by Accomack County to the north, the Chesapeake Bay to the west and coastal bays and barrier islands to the east with the highest elevation of 30-35 feet above sea level found along the spine of the peninsula. Numerous areas along the bayside and seaside as well as the many creeks that feed into these larger waterways experience sunny day flooding that is increasing with sea level rise. Additionally, with so much low-lying land and a highwater table, many inland regions also flood with increasingly heavy rain events. The region is expected to face accelerated sea level rise and an increase in storm intensity, including hurricanes and annual precipitation. Northampton County recognizes the need to increase resilience by mitigating and minimizing flooding vulnerability and is requesting funding to increase capacity to accomplish that.

Specifically in this proposal, we are seeking funds to

- 1. Increase staff resilience capacity by hiring a full-time Environmental Outreach and Certified Floodplain Manager (CFM) who will manage the day-to-day activities of such work, including serving as lead for public engagement support and leading the efforts to proactively seek funding from public sources- state and federal; and
- Conduct an assessment of stormwater/drainage at identified location(s) within Northampton County to better understand the issues and next steps that are needed to allow solutions to be implemented.

Northampton County's seaside and bayside communities and villages, such as Cape Charles, Oyster and Willis Wharf, share many common characteristics and face similar challenges with sea level rise and storm surge flooding, while inland communities experience flooding during increasingly heavy storm and rain events. These frequent events impact road access, school schedules, increased farmland flooding, boat ramp access for working watermen and other essential functions.

Working waterfronts and agricultural villages are a legacy of the past that are still important to Northampton County's economy, and tourism, especially eco-tourism, is the fastest growing portion of our economy. Accessibility to nature for aquaculture and recreation through trails and water activities is important to the local community and attracts tourism. The County contains some of the last remaining stretches of undeveloped coastline on the East Coast and large portions of the County are protected through conservation – including two large public parks, the Eastern Shore of Virginia National Wildlife Refuge, and Kiptopeke State Park. Northampton County remains a rural gem, with the major industries of the area reliant on the abundant natural and cultural resources of the County – agriculture, aquaculture, and tourism.

The lands and waters of the County not only include important resources and habitat but also support the vibrant agriculture and seafood industry of the region as well as support the growing ecotourism industry. As a vital player in the local economy, agriculture, aquaculture and habitat resources must be responsibly managed and protected such that they continue to contribute to the economic resiliency of the region. The following demonstrate that importance:

• Of the 212 square miles, the most common land cover is wetlands making up 37.4% of the land surface. These wetlands provide important habitats for the region's various rare species as well as supporting a vibrant seafood industry in the region. Most of the wetlands are in the eastern portion of the county and are protected as conservation areas.

- Cropland is also an important use of land making up 28.9% of the land area.
- Collectively, wetlands and croplands, which make up two-thirds of the county's total land area, provide significant environmental value to the county.
- Agriculture, Forestry, Fishing and Hunting are some of the largest industry sectors in the County, making up 18.9% of all jobs and surpassing national averages.
- In 2017, aquaculture commodity sales in Northampton County topped \$28 million. This makes Northampton County not only the leader in aquaculture sales in Virginia, but also along the entire East Coast.

In June 2021, the County adopted a Comprehensive Plan with an outlook to 2040, called *Your Northampton County*

(https://www.co.northampton.va.us/government/departments elected offices/planning permiting enf orcement/planning/comp plan). The Comprehensive Plan recognizes the impact global forces such as climate change and sea level rise can have on its assets and defines the following goals:

- Build a more resilient community protected against the hazards of climate change
- Participate in regional energy and climate change planning
- All activities will plan for climate change resiliency
- Encourage the use of design techniques to slow water's rise and help absorb water into the landscape, such as living shorelines, rain gardens, and green roofs.
- Participate in the development and implementation of the Statewide Resiliency Master Plan.
- Under categories of Adapt to Climate Change and Minimize and Mitigate Environmental Hazards, the Implementation Matrix in the plan lists numerous needs for the County concerning sea level rise, flooding and stormwater management. Included in these projects are infrastructure assessments, environmental considerations such as marsh migration, and engagement with the communities.
- Inundation of roads is expected to be a growing problem as sea level is projected to rise and weather events become more severe. Northampton County must work with VDOT and A-NPDC to accomplish the recommendations found in the 2015 Infrastructure Inundation Vulnerability Assessment.
- Stormwater management is identified as a high priority.
- Flooding caused by hurricanes, northeasters, and tropical storms has proven to be the greatest natural hazard to people and property on the Eastern Shore of Virginia. A FEMA Flood Risk Report estimates that 212 square miles of the county's land area is within some Flood Hazard Area. Much of this land which is undeveloped consists of Coastal High Hazard Areas where a 1% annual chance of flooding exists as the result of storm induced wave action. Other portions of the county are in areas that require flood insurance because a 1% chance of annual flooding is possible. As of January 2016, there were 572 National Flood Insurance Program policies in the County, with 334 of those being in the unincorporated portions of the County.

Specific actions outlined in the Comprehensive Plan include:

- Review and update local floodplain regulations in accordance with the National Flood Insurance Program requirements.
- Proactively implement the Northampton County-specific strategies and projects in the Eastern Shore Hazard Mitigation Plan, as amended.
- Recommend the provision of independent back-up sources of power (e.g. gas generators) for commercial and institutional uses when primary power source is interrupted for an extended period.

- Participate in the "Advancing Ecosystem and Community Resilience" project through the Virginia Coastal Zone Management Program to identify the County's resiliency needs, establish resilience priorities, and conceptualize potential projects.
- Provide education and outreach materials on hazard preparedness, food management, sea level rise, and recommended mitigation steps to homeowners and private businesses that have been identified as located in vulnerable areas.
- Preserve available open spaces adjacent to marsh lands to support marsh migration and inland retreat of the marshes under rising sea level.
- Review non-conforming lot and structure standards to encourage safe building and rebuilding in areas subject to sea level rise.
- Consider establishing a transfer of development rights (TDR) program to encourage density reductions in vulnerable areas
- Guide new development and locate critical facilities and infrastructure outside areas at a high risk for flooding, areas subject to inundation within 100 years (as identified by the National Oceanic and Atmospheric Administration), and other hazards.
- Utilize TNC's Coastal Resilience Mapping portal to visualize food and sea-level rise risks, identify sustainable natural solutions for resiliency, and demonstrate historic coastline changes when considering land-use applications.

On Virginia's Eastern Shore, assessment of the effects of global climate change on local natural resources and development of adaptation and resilience strategies began back in 2009 and culminated in formation of the (first of its kind in the region) Climate Adaptation Working Group (CAWG) that continues to work as an effective partnership. The CAWG consists of the following sectors and representatives:

- State and federal agencies U. S. Fish and Wildlife Service, Virginia Department of Conservation and Recreation, Virginia Department of Wildlife Resources, NASA-Wallops Flight Facility, Virginia Department of Forestry, and Virginia Department of Environmental Quality's Coastal Zone Management Program
- Local Government County Board of Supervisors members, mayors, town and county planners, and A-NPDC planners
- Academic research partners (including the University of Virginia and the Virginia Institute of Marine Science)
- Virginia Eastern Shore Land Trust
- Special Assistant to the Governor on Coastal Adaptation and Protection (previous administration)
- The Nature Conservancy's Virginia Coast Reserve

The CAWG has been meeting quarterly since 2011 and has worked on resilience projects collaboratively including creation of a living shoreline demonstration project on Occohannock Creek in Accomack County and creation of TNC's online Virginia Eastern Shore Coastal Resilience (CR) Tool (maps.coastalresilience.org/virginia). Working with the CAWG, the County was recently focused on creating a list of resilience projects for inclusion in the Virginia Coastal Resilience Master Plan. This list will also be utilized by the CAWG, County, and localities to prioritize projects and prepare for upcoming funding opportunities in the Commonwealth and beyond.

The Comprehensive Plan outlines numerous steps the County wishes to take to increase resilience to flooding, both coastal and inland, but to begin acting on these steps, increased capacity in County staff is required. This position would work proactively with local landowners on flooding issues (wetland management, living shorelines, etc.) and would work on implementing the items prioritized in the Comprehensive Plan. An important part of this process taken on by this position will be to

pursue additional public funding opportunities that will increase resilience and benefit the County. We anticipate future funding through the Infrastructure Investment and Jobs Act through agencies such as NOAA and NFWF as well as continued funding through the CFPF.

As a step forward in addressing inland flooding due to rainfall, the County is also requesting funds to complete a Stormwater Drainage Assessment for 1-2 localities. This(s) plan will serve as a blueprint for other localities within the County and inform the creation of a county-wide effort to address inland flooding. The Environmental Outreach and Certified Floodplain Manager position will oversee these projects once hired.

Vulnerability Assessment

Northampton County is expected to experience continued sea level rise, an environment in which tropical storms and hurricanes are more intense, and increased precipitation, all of which increases the vulnerability of the region to flooding. In the following, we assess the vulnerability to flooding from these environmental changes as well as the social vulnerability of the population using various online assessment tools.

- All of the fringing land areas on the peninsula will be inundated with 4-6 feet of water by the year 2100 under the high sea level rise scenario (TNC's Coastal Resilience (CR) Tool, maps.coastalresilience.org/virginia, Figure 2). Parts of the seaside and bayside communities, such as Oyster, Willis Wharf, Cape Charles and others, will become flooded.
- More pressing, by the year 2075, much of this area is predicted to be under 1-2 feet of water, including towns such as Cape Charles and areas just to its north surrounding Cherrystone Inlet and the Village of Oyster, among others. (TNC's CR Tool)
- Hotspots for inundation exist in extremely low-lying areas in the southern part of the county
 on the bayside and the northern portion, from Machipongo to the county line, on the seaside
 (TNC's CR Tool). An example of commonly occurring coastal flooding already threatening
 these communities is shown in the attached images (Photos 1-6).
- The estimated economic annual loss from coastal flooding in the year 2065 predicted under the high sea level rise scenario for the majority of the region is \$1,000-\$500,000 with many areas in the \$500,000-\$1M range and the \$1M-\$5M range (TNC's CR Tool, Figure 2).
- Using a threat index within the CR Tool, which incorporates "storm surge scenarios and landscape characteristics that exacerbate flood potential," the entirety of Northampton County is in the medium to high range.
- The majority Northampton County, except for the barrier and marsh islands, is made up of soil that is easily eroded by water, characterized as medium-high (along the spine and to the seaside) to high (from the spine to the bayside) erodibility. This information is found using the Coastal Resilience Evaluation and Siting Tool (CREST, resilientcoasts.org) from the National Fish and Wildlife Foundation (NFWF).
- The total amount of annual precipitation in the contiguous U.S. has increased over the past century. Figure 3, taken from the EPA website (https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-precipitation) which is based on data from NOAA (NOAA, 2021), shows the difference in annual precipitation from 1901-2020 compared to the century average. Note that in the early century, more years fell below that average while in the last half of the century, annual precipitation is exceeding that average.
- Annual rainfall on the Eastern Shore of Virginia is expected to increase from 5-10% within the next 15-20 years. (FloodFactor.com, First Street Foundation).
- The amount of rain within a single storm event has increased in recent decades, due to warming of the atmosphere and oceans. Figure 4 shows the land area (y-axis) for which single storm events have contributed a large portion of the annual rainfall. As time has progressed into the late 20th and early 21st centuries, the amount of land where this is

happening has been increasing. In fact, for the contiguous U.S., 9 of the top 10 years for extreme 1-day precipitation events have occurred in the last 26 years (NOAA, 2016).

To assess social vulnerability, we examined the ADAPTVA Vulnerability Viewer, which uses Census Tract data. Northampton County is classified as having moderate social vulnerability with a vulnerability index score of 0.9. The table below includes the characteristics as listed in this tool.

Classification	Characteristics
Socio-economic	Rural, high dependency on social security, moderate elderly population, moderately low income, moderately high nursing home population, moderately high minority population
Housing	high density, mobile homes, vacant homes, second homes, low rent and long-term renters
Hazardous/Toxic	Very high potential for hazardous/toxic exposure

The Centers for Disease Control (CDC) also produce a Social Vulnerability Index (https://svi.cdc.gov/map.html) for each county based on Census Tract data. This tool indicates that Northampton County has a moderate to high level of vulnerability. The main contributor to this high vulnerability is minority status and language; however, all categories ranked above the 55th percentile including socioeconomic, household composition and disability, and housing type and transportation. The table below outlines vulnerable population demographics from other online vulnerability mapping tools which use Census as well as other data sources.

Descriptor	Characteristics
Population	15% under the age of 5* 21% over the age of 64* 73% people of color* 11-14% with a disability+
Income	59% low income* 9% unemployed+
Resources	14-16% food insecure ⁺ 18% without computer access ⁺
Education	42% with less than a high school education*

^{*} Source: Environmental Protection Agency, Environmental Justice, https://ejscreen.epa.gov/mapper/index.html?wherestr=Oyster%2C+VA

Northampton County is identified as low income based on the definition given in the Grant Manual that "any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income." The U.S. Census Bureau (https://www.census.gov/quickfacts/fact/map/northamptoncountyvirginia,VA/INC110220) lists the median household income for Virginia as \$76,398 and for Northampton County as \$50,819; therefore the County is in the 66.5th percentile compared to all of Virginia.

⁺ Source: PolicyMap.com

Outcome(s)

The goal for the proposed funding is to increase the capacity of Northampton County to address flooding. The purpose of the funding is twofold:

1. Increase capacity within the existing and new county staff for an Environmental Outreach and Certified Floodplain Manager (CFM).

Job description: Provides environmental technical support and administers the Northampton County Floodplain Ordinance for the Planning, Permitting and Enforcement Department.

Duties:

- Responsible for administering the floodplain ordinance
- Reviews and analyzes stormwater issues countywide both tidal and in-land flooding
- Prepares grant applications
- Provides public outreach and community engagement for flooding and environmental issues including but not limited to coastal resiliency, wetlands, beaches and coastal primary sand dunes and additional resource protection areas.
- Represents the County at stakeholder meetings.
- 2. Create an assessment of stormwater drainage needs for 1-2 defined localities to inform needed projects to increase the resilience of these localities to flooding hazards.
 - The County will hire a consulting firm to conduct stormwater drainage assessments and provide project design plans.
 - The assessments will lead to projects that will address flooding issues, increasing resilience to storm and rain events. Project designs outlined will provide details for funding applications.
 - Stormwater drainage assessments are needed county-wide, and the goal for the County is to implement assessments and projects throughout all areas. The assessments conducted for the first 1-2 localities will serve as a model for county-wide implementation.

Activities

The below timeline assumes funding will be dispersed in Fall 2022. Due to the difficulty in hiring professionals with specific qualifications (i.e. required certification and knowledge) in rural communities, we have allotted 9 months between advertising and having the position filled. If awarded, the county will repurpose current staff to move this project forward until the duties are sufficiently assigned. Once this position is filled, the staff member will begin engaging with the community, partners, and stakeholders to develop and fund projects to enhance the resilience of Northampton County to flooding.

Target Timeframe	Activity
Summer 2022 (pre-award)	Develop position description/duties for Environmental Outreach and
	Certified Floodplain Manager
Fall 2022	Recruit for the Environmental Outreach and Certified Floodplain
	Manager position
Winter 2022	Determine 1-2 localities for stormwater assessment
Summer 2023	Train new and existing staff to perform duties of Environmental
	Outreach and Certified Floodplain Manager position
Spring 2023	Release request for proposals for consulting firm to conduct the
	defined stormwater assessment(s)
Fall 2023	Hire and orient consulting firm
Winter 2023	Consulting firm begins stormwater assessment
Summer 2024	Stormwater assessment complete
Fall 2024	Plan next steps for implementation of stormwater recommendations

Required Application Components (Part IV from the Round 3 Grant Manual)

- 1. Assess capacity needs and assets
 - County assets, in the form of businesses, agriculture, industry, communities and
 infrastructure, are at risk due to flooding, and that risk is predicted to worsen in the future
 with climate change.
 - The County anticipates additional opportunities to fund projects that will address flooding and needs the capacity to respond to these opportunities. Awareness of coastal flooding issues is the focus of Virginia's Coastal Resilience Master Plan, and there are plans to expand it into a statewide flooding resilience master plan. Currently, Virginia has appropriated funds through the CFPF, and federal government funds will address climate resilience through the nationwide Infrastructure Investment and Jobs Act initiative.
 - As in many rural counties, the staff within the Northampton County Planning Division is not large, and each person takes on numerous duties to fulfill all County needs. The County currently does not have a Certified Floodplain Manager (CFM) on staff. Using the funds proposed here, the County will hire an Environmental Outreach and Certified Floodplain Manager. As part of the outreach, this position will work proactively with landowners on resilience issues, thus preventing loss of wetlands and using more nature-based resilience planning and implementation.
 - The County is aware that stormwater management plans and projects are needed throughout the County, but they lack the staff to conduct the assessments and implement projects. The County will prioritize localities in need of improvements and will use funds from this proposal to hire a consultant to conduct the assessments and plan designs for improvements for 1-2 localities. We anticipate this to be the first of many such projects, but realizing that we cannot tackle all localities at one time, will prioritize, fund, and implement them as resources allow. Using project and design plans outlined in the resulting assessment, the County will apply for additional funding to implement the needed improvements to stormwater drainage to ameliorate the impacts of rainwater flooding.

- 2. Goals and objectives tied to improving flood protection and prevention in a whole community approach to resilience. Identify and describe the goals and objectives of the project.
 - The overarching goal for this proposal is to increase capacity within Northampton County to address flooding issues. First, to enable the County to manage flooding projects, including funding, implementation, and community outreach, we propose to hire an Environmental Outreach and Certified Floodplain Manager. Secondly, the need currently exists for stormwater drainage improvements in communities throughout the County. We also intend to use funds from this proposal to create a stormwater management plan for 1-2 localities, anticipating that this will be an ongoing process to encompass all stormwater management needs in the County. The CFM will enable the County to take a whole community approach to flooding resilience and create an ongoing plan for tackling those issues.
- 3. Stakeholder identification, outreach and education strategies.

Community outreach and education is a large part of the duties of the County Planning office for every type of planning need. Stakeholders (homeowners, business owners, contractors, etc.) all need information regarding the specific problem and activity affecting them.

- 4. *Implementation plan and timelines for specific elements of completion such as training, certifications, plan development, etc.*
 - Please see the Activities section on page 7 for these details.
- 5. Parties responsible for capacity building and/or plan development process.
 - Northampton County staff is responsible for hiring and assigning the duties of the Environmental Outreach and Certified Floodplain Manager and hiring a consulting firm to conduct a stormwater assessment for 1-2 localities identified by the County.
- 6. Performance outputs and measures. Describe the expected results and benefits and how success will be measured.
 - For this specific funding period, the outcomes will be the hiring of an Environmental Outreach and Certified Floodplain Manager and the creation of a stormwater management plan for 1-2 localities complete with needs and engineering plans.
 - Benefits from the funds requested go beyond the term of this funding, however. The
 intent is for the CFM position to be permanent, enabling the County to conduct future
 planning concerning flooding. This could include a Flooding Resilience Countywide Plan
 which will define projects that can be implemented using future funding opportunities, all
 of which the CFM can manage and execute.
 - The stormwater management plan created with this funding will define specific improvements needed such that funds can be sought and projects implemented.
 - The floodplain manager position will help the County acquire additional funding, such as through the CFPF or the Infrastructure Investment and Jobs Act, to implement proactive projects to increase flood resilience and prevent flooding.
- 7. Plans for maintaining capacity, as necessary, over the long term.
 - The Environmental Outreach and Certified Floodplain Manager duties and position are intended to be permanent and will be funded through public sources.

- Our goal is that the CFM will apply for future funding to assess and implement specific projects that increase flooding resilience.
- The Stormwater Drainage Assessment will identify projects for which funding will be sought for implementation. It will also inform the County in creating a county-wide stormwater plan.

Required Checklist Items (Appendix D from CFPF Manual)

- Link to current floodplain ordinance:
 https://codelibrary.amlegal.com/codes/northamptoncounty/latest/northampton_va/0-0-0-16924
- Current Hazard Mitigation plan: http://www.a-npdc.org/wp-content/uploads/2016/04/FullHMP2016.pdf

Please note that the 2022 Eastern Shore Hazard Mitigation Plan rewrite is underway with the status at the following link https://a-npdc.org/accomack-northampton-planning-district-commission/coastal-resources/hazard-mitigation-planning/

• Current comprehensive plan: https://www.co.northampton.va.us/government/departments_elected_offices/planning_pe
rmiting_enforcement/planning/comp_plan **Figures and Photos**

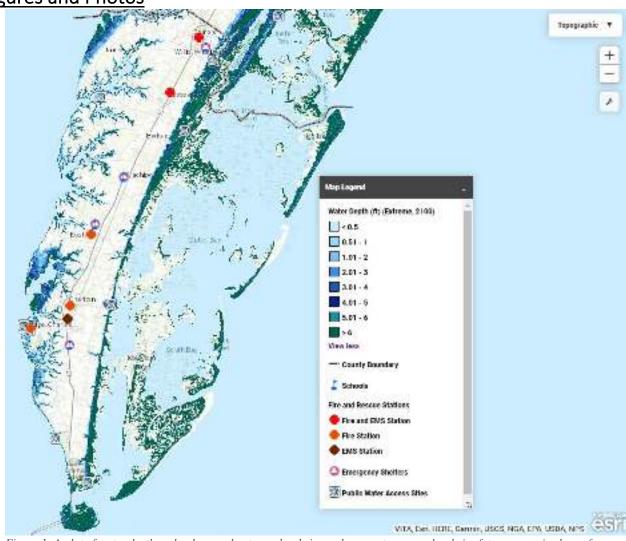


Figure 1: A plot of water depth on land areas due to sea level rise under an extreme sea level rise future scenario shown for the year 2100 as plotted by TNC's CR Too (maps.coastalresilience.org/virginia). Important community resources (fire and rescue stations and public boat ramps) are shown with icons.

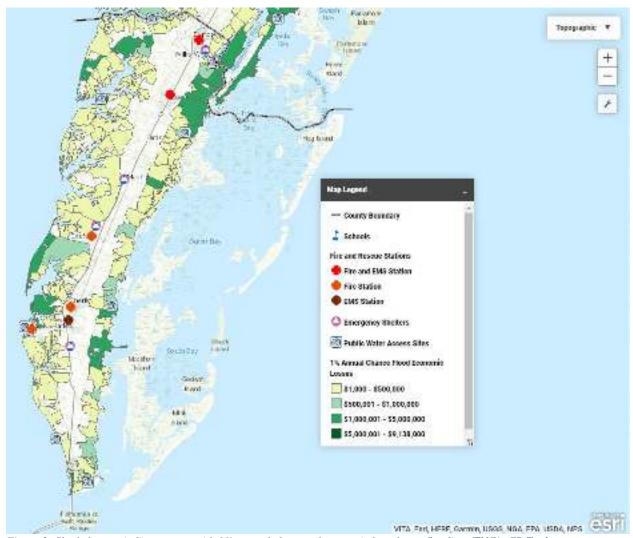


Figure 2: Shaded areas indicate areas with 1% annual chance of economic loss due to flooding (TNC's CR Tool; maps.coastalreseilience.org/virginia). The color of the shading indicates the amount of loss estimated. The data used in this analysis were generated using FEMA's HAZUS-MH risk analysis software and are derived from the maximum extent of modeled flooding at all locations across the Eastern Shore and are therefore not representative of any single flood event.

Precipitation in the Contiguous 48 States, 1901-2020

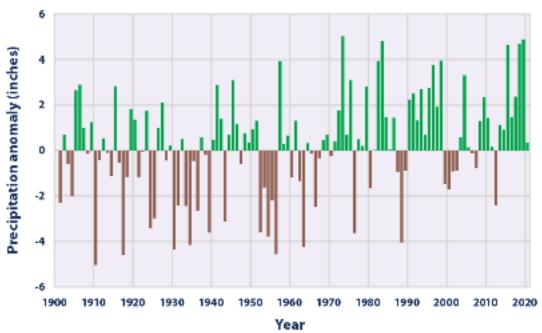


Figure 3: The total annual amount of precipitation in the contiguous 48 states has changed since 1901. This graph uses the 1901–2000 average as a baseline for depicting change. Choosing a different baseline period would not change the shape of the data over time. Image taken from the EPA website, https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-precipitation (NOAA, 2021).

Extreme One-Day Precipitation Events in the Contiguous 48 States, 1910-2020

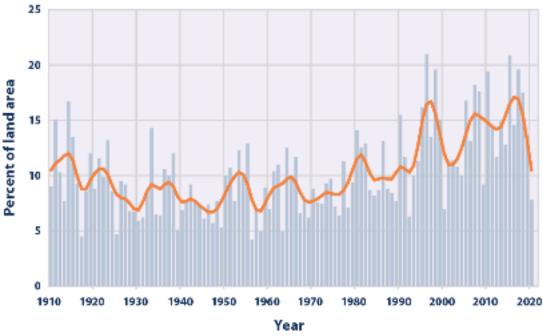


Figure 4: The percentage of the land area of the contiguous 48 states where a much greater than normal portion of total annual precipitation has come from extreme single-day precipitation events. The bars represent individual years, while the line is a nine-year weighted average. Image taken from the EPA website, https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation (NOAA, 2021).



Photo 1: Flooding of Sunnyside Road and Broadwater Circle in the seaside community of Oyster due to storm surge.



Photo 2: Flooding of ditches and road on Church Neck Road, the only access to communities extending down Church Neck, due to rainfall and inadequate drainage.



Photo 3: Flooding on Church Neck Road and adjacent farm fields from rainfall and inadequate drainage.



Photo 4: Flooding in the town of Nassawadox from rainfall and inadequate drainage.



Photo 5: Flooding of a farm field in the town of Nassawadox due to rainfall and inadequate drainage.



Photo 6: Flooding of a parking lot in the town of Nassawadox due to rainfall and inadequate drainage.

Budget Narrative

Budget: Building Coastal and Flooding Capacity in Northampton County	CEI	DE Votes	Match Year 1		ERE Vote 7	Match Voor 7	3	Total CFPF	Total Match
NHC Staff Time (salary and fringe benefits)	-	100	Maccin Team I	Ť	rar nearz	Muster Feat 2		rucar crrr	rosar maisir
County Administrator			\$1,665.60			5999.36		\$0.00	\$2,664.96
Deputy County Administrator			\$1,674.72			\$1,674.72		50.00	\$3,349,44
Director Permitting, Planning and Enforcement			\$3,997.44			\$3,497.76		1000	\$7,495.20
Human Resources Spedalikt			\$1,524.00			\$304.80			\$1,828.80
Certified Floodplain Manager					\$87,000.00		19	\$87,000.00	
Total NHC Staff		50.00	\$8,861.76		\$87,000.00	\$6,476.64	193	\$87,000.00	\$15,338.40
Contractual									
Consultant to conduct Stormwater Drainage Assessment	\$ 1	15,000.00					\$	45,000.00	
Engineering Firm to conduct Mapping and Create Designs				5	15,000.00		5	15,000.00	
Total Contractual		15,000.00		\$	15,000.00	\$0	5	60,000.00	
Office Supplies				ş	2,500,000		Ş	2,500,00	
Position Advertisement	\$	2,000.00						\$2,000.00	
TOTAL		\$47,000.00	\$8,861.76		\$104,500.00	\$6,476.64		\$151,500.00	\$15,338.40
PROJECT TOTAL (CFPF + Match): \$166,838.40									

The total cost for this two-year project is \$166,838.40 with \$151,500.00 requested from the CFPF and \$15,338.40 provided as match.

Staff time

Northampton County Staff (direct expenses):

• Environmental Outreach and Certified Floodplain Manager – Salary (\$65,000) and employer cost (taxes, benefits and workers compensation, \$22,000) for a total of \$87,000. We anticipate that persons in this position would start working in Year 2 of the proposal.

Northampton County (match):

- *County Administrator* Salary for time spent recruiting for the position, interviewing and hiring, management for the position as well as creating a Request for Proposal and hiring a consultant to conduct the stormwater assessment.
- Deputy County Administrator Salary for time spent recruiting for the position, interviewing and hiring, management for the position as well as creating a Request for Proposal and hiring a consultant to conduct the stormwater assessment.
- Director Permitting, Planning and Enforcement- Salary for time spent recruiting for the position, interviewing and hiring, management for the position as well as creating a Request for Proposal and hiring a consultant to conduct the stormwater assessment.
- Human Resources Specialist Salary for staff time spent hiring the new position.

<u>Contractual</u>

Funds to contract an engineering/consulting firm for mapping and civil engineering services for stormwater/drainage study at identified location(s) within Northampton County (\$45,000) to take place in Year 1. We estimate an additional \$15,000 for design services taking place in Year 2.

Supplies (match)
Office and other supplies to allow Northampton County Staff to perform duties associated with this award.

<u>Position Advertisement</u> Cost to advertise the Certified Floodplain Manager position.

<u>Application Form</u> (Appendix A from CFPF Manual)

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund Grant Program
Name of Local Government:
Northampton County, Virginia
Category of Grant Being Applied for (check one):
X Capacity Building/Planning
Project
Study
NFIP/DCR Community Identification Number (CID) 510105
If a state or federally recognized Indian tribe, Name of tribe
Name of Authorized Official: M.E. Mapp
Signature of Authorized Official:
Mailing Address (1): P.O. Box 66
Mailing Address (2):
City: Eastville State: VA Zip: 23347
Telephone Number: (757) 678-0440 Cell Phone Number: ()
Email Address: bmapp@co.northampton.va.us

Application Form CFPF| 1-A

Co	ntact Person (If different from authorized official): Charles Kolakowski
Ma	ailing Address (1): P.O. Box 66
Ma	ailing Address (2):
Cit	y: Eastville State: VA Zip: 23347
Te	lephone Number: (757) 678-0440 Cell Phone Number: (757) 442-1107
Em	nail Address: ckolakowski@co.northampton.va.us
	the proposal in this application intended to benefit a low-income geographic area as defined the Part 1 Definitions? Yes X No
Ca	tegories (select applicable project):
Pro	oject Grants (Check All that Apply)
	Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
	Wetland restoration. Floodplain restoration. Construction of swales and settling ponds. Living shorelines and vegetated buffers. Structural floodwalls, levees, berms, flood gates, structural conveyances. Storm water system upgrades.
	Medium and large scale Low Impact Development (LID) in urban areas. Permanent conservation of undeveloped lands identified as having flood resilience value by ConserveVirginia Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
	Dam restoration or removal.

Application Form CFPF| 2-A

Stu	ıdy Grants (Check All that Apply)
	Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
	Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
	Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
	Studies and Data Collection of Statewide and Regional Significance.
	Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
	Other relevant flood prevention and protection project or study.
Ca	pacity Building and Planning Grants
X	Floodplain Staff Capacity.
X	Resilience Plan Development
	 Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans. Resource assessments, planning, strategies and development. Policy management and/or development. Stakeholder engagement and strategies.
	cation of Project (Include Maps): Northampton County, Virginia
F_	IP Community Identification Number (CID#):(See appendix 510105

Application Form CFPF| 3-A

Is Project Located in an NFIP Participating Community?
Is Project Located in a Special Flood Hazard Area? Yes No
Flood Zone(s) (If Applicable):
Flood Insurance Rate Map Number(s) (If Applicable):
Total Cost of Project: \$166,838.40
Total Amount Requested \$151,500.00

Application Form CFPF 4-A

Scoresheet (Appendix D from CFPF manual)

Appendix D: Scoring Criteria for Capacity Building & Planning

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund Grant Program

	Applicant Na	ime:						
	Eligibility Information							
	Criterion		Description	Check One				
1.	 Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)? 							
	Yes	Eligible	for consideration	✓				
	No	Not elig	ible for consideration					
2.	Does the lo plan with t	_	rnment have an approved resilience plan and has provided a copy cation?	or link to the				
	Yes Eligible for consideration under all categories							
8 18	No	Eligible	for consideration for studies, capacity building, and planning only	✓				
3.		licant is <u>not a town, city, or county</u> , are letters of support from all affected local ents included in this application?						
	Yes	Eligible	for consideration	NA				
	No	Not elig	ible for consideration					
4.	4. Has this or any portion of this project been included in any application or program funded by the Department?			viously				
	Yes	Not elig	tible for consideration					
	No	Eligible	for consideration	✓				
5. Has the applicant provided evidence of an ability to provide the required matching funds?				nds?				
	Yes	Eligible	for consideration	✓				
	No	Not elig	lble for consideration					
	N/A	Match r	not required					

Capacity Bu	ilding and Planning Eligible for Consideration		☑ Yes ☐ No		
Applicant Name:					
	Scoring Information				
	Criterion	Point Value	Points Awarded		
6. Eligible Capacity Bui	lding and Planning Activities (Select all that apply)				
Revisions to existing resi and hazard mitigation pl	lience plans and modifications to existing comprehensive ans.	55			
Development of a new r		55	55		
Resource assessments, p	planning, strategies and development.	45	45		
Policy management and	*	40			
Stakeholder engagemen	t and strategies.	25	25		
Goal planning, implemen	ntation and evaluation.	25	25		
Long term maintenance	strategy.	25	25		
Other proposals that will significantly improve protection from flooding on a statewide or regional basis.					
	e local government to which the grant is targeted socially valuerability Index Score.	ulnerable	e? (Based		
Very High Social Vulnera	bility (More than 1.5)	15			
High Social Vulnerability	(1.0 to 1.5)	12			
Moderate Social Vulnera	ability (0.0 to 1.0)	8	8		
Low Social Vulnerability	(-1.0 to 0.0)	0			
Very Low Social Vulneral	bility (Less than -1.0)	0			
Is the proposed acti suspension from the	vity part of an effort to join or remedy the community's pro • NFIP?	bation or			
Yes		10			
No		0	✓		
9. Is the proposed proj	ect in a low-income geographic area as defined in this man	ual?			
Yes		10	10		
No		0			
10. Does this project provide "community scale" benefits?					
Yes		20	20		
No					
	Total Points		213		

Checklist All Categories | 3-D

Support Letters



The Nature Conservancy in Virginia Virginia Coast Reserve P.O. Box 158 11332 Brownsville Rd. Nassawadox, VA 23413 Tel (757) 442-3049 Fax (757) 442-5418

nature.org

April 6, 2022

Community Flood Preparedness Fund Review Committee:

I am writing this letter to provide support for the North Hampton County's proposed project, Building Coastal and Flooding Resilience Capacity in Northampton County. The Nature Conservancy recognizes that the County needs additional capacity to deal with increasing threats from coastal and inland flooding, sea level rise and more intense and frequent storm events.

The proposal's scope of work represents a real effort by a local community and the Commonwealth of Virginia to address coastal and inland flooding as well as adaptation and resilience in a highly vulnerable, rural landscape by providing capacity to hire additional County staff to be proactive both with landowners dealing with these issues as well as to take advantage of new potential funding sources that will be provided by the state and federal governments in the next few years. Understanding the County's inland flooding is also <u>critical</u> and we support hiring a consultant to help develop a plan to deal with overflowing ditches, other drainage issues and access to important community assets.

Thank you for support of this project and feel free to contact me at jbieri@tnc.org or 757-442-5416 if you should any specific questions about this proposal.

Sincerely,

Jill Bieri

Director, Virginia Coast Reserve

References

NOAA (National Oceanic and Atmospheric Administration). 2021. Climate at a glance. Accessed February 2021. www.ncdc.noaa.gov/cag.

NOAA (National Oceanic and Atmospheric Administration). 2016. U.S. Climate Extremes Index. Accessed January 2016. www.ncdc.noaa.gov/extremes/cei.



CFPF, rr <cfpf@dcr.virginia.gov>

Grant application for Northampton County

1 message

Susan McGhee <smcghee@co.northampton.va.us>

Fri, Apr 8, 2022 at 2:04 PM

To: "cfpf@dcr.virginia.gov" <cfpf@dcr.virginia.gov>

Cc: Charles Kolakowski <ckolakowski@co.northampton.va.us>, Janice Williams <jwilliams@co.northampton.va.us>, Betsy Mapp

donorthampton.va.us>

Please find attached our attached grant application for the current round of funding. Please let me know if there are any questions or if additional information is needed.

Sincerely,

Susan M. McGhee, PE, PMP

Director of Planning, Permitting & Enforcement

County of Northampton

P.O. Box 538

Eastville, VA 23347

(757) 678-0443 ext. 541



Building Coastal and Flooding Resilience Capacity in Northampton County

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Scope of Work Narrative

Northampton County, located on the Eastern Shore of Virginia, is a rural area that is highly vulnerable to rising seas and recurrent flooding- inland and coastal. This rural county has a population of just under 12,000 and has a small town feel where the residents take pride in their communities and the surrounding nature on which the local economy depends. The area is bounded by Accomack County to the north, the Chesapeake Bay to the west and coastal bays and barrier islands to the east with the highest elevation of 30-35 feet above sea level found along the spine of the peninsula. Numerous areas along the bayside and seaside as well as the many creeks that feed into these larger waterways experience sunny day flooding that is increasing with sea level rise. Additionally, with so much low-lying land and a highwater table, many inland regions also flood with increasingly heavy rain events. The region is expected to face accelerated sea level rise and an increase in storm intensity, including hurricanes and annual precipitation. Northampton County recognizes the need to increase resilience by mitigating and minimizing flooding vulnerability and is requesting funding to increase capacity to accomplish that.

Specifically in this proposal, we are seeking funds to

- 1. Increase staff resilience capacity by hiring a full-time Environmental Outreach and Certified Floodplain Manager (CFM) who will manage the day-to-day activities of such work, including serving as lead for public engagement support and leading the efforts to proactively seek funding from public sources- state and federal; and
- Conduct an assessment of stormwater/drainage at identified location(s) within Northampton County to better understand the issues and next steps that are needed to allow solutions to be implemented.

Northampton County's seaside and bayside communities and villages, such as Cape Charles, Oyster and Willis Wharf, share many common characteristics and face similar challenges with sea level rise and storm surge flooding, while inland communities experience flooding during increasingly heavy storm and rain events. These frequent events impact road access, school schedules, increased farmland flooding, boat ramp access for working watermen and other essential functions.

Working waterfronts and agricultural villages are a legacy of the past that are still important to Northampton County's economy, and tourism, especially eco-tourism, is the fastest growing portion of our economy. Accessibility to nature for aquaculture and recreation through trails and water activities is important to the local community and attracts tourism. The County contains some of the last remaining stretches of undeveloped coastline on the East Coast and large portions of the County are protected through conservation – including two large public parks, the Eastern Shore of Virginia National Wildlife Refuge, and Kiptopeke State Park. Northampton County remains a rural gem, with the major industries of the area reliant on the abundant natural and cultural resources of the County – agriculture, aquaculture, and tourism.

The lands and waters of the County not only include important resources and habitat but also support the vibrant agriculture and seafood industry of the region as well as support the growing ecotourism industry. As a vital player in the local economy, agriculture, aquaculture and habitat resources must be responsibly managed and protected such that they continue to contribute to the economic resiliency of the region. The following demonstrate that importance:

• Of the 212 square miles, the most common land cover is wetlands making up 37.4% of the land surface. These wetlands provide important habitats for the region's various rare species as well as supporting a vibrant seafood industry in the region. Most of the wetlands are in the eastern portion of the county and are protected as conservation areas.

- Cropland is also an important use of land making up 28.9% of the land area.
- Collectively, wetlands and croplands, which make up two-thirds of the county's total land area, provide significant environmental value to the county.
- Agriculture, Forestry, Fishing and Hunting are some of the largest industry sectors in the County, making up 18.9% of all jobs and surpassing national averages.
- In 2017, aquaculture commodity sales in Northampton County topped \$28 million. This makes Northampton County not only the leader in aquaculture sales in Virginia, but also along the entire East Coast.

In June 2021, the County adopted a Comprehensive Plan with an outlook to 2040, called *Your Northampton County*

(https://www.co.northampton.va.us/government/departments elected offices/planning permiting enf orcement/planning/comp plan). The Comprehensive Plan recognizes the impact global forces such as climate change and sea level rise can have on its assets and defines the following goals:

- Build a more resilient community protected against the hazards of climate change
- Participate in regional energy and climate change planning
- All activities will plan for climate change resiliency
- Encourage the use of design techniques to slow water's rise and help absorb water into the landscape, such as living shorelines, rain gardens, and green roofs.
- Participate in the development and implementation of the Statewide Resiliency Master Plan.
- Under categories of Adapt to Climate Change and Minimize and Mitigate Environmental Hazards, the Implementation Matrix in the plan lists numerous needs for the County concerning sea level rise, flooding and stormwater management. Included in these projects are infrastructure assessments, environmental considerations such as marsh migration, and engagement with the communities.
- Inundation of roads is expected to be a growing problem as sea level is projected to rise and weather events become more severe. Northampton County must work with VDOT and A-NPDC to accomplish the recommendations found in the 2015 Infrastructure Inundation Vulnerability Assessment.
- Stormwater management is identified as a high priority.
- Flooding caused by hurricanes, northeasters, and tropical storms has proven to be the greatest natural hazard to people and property on the Eastern Shore of Virginia. A FEMA Flood Risk Report estimates that 212 square miles of the county's land area is within some Flood Hazard Area. Much of this land which is undeveloped consists of Coastal High Hazard Areas where a 1% annual chance of flooding exists as the result of storm induced wave action. Other portions of the county are in areas that require flood insurance because a 1% chance of annual flooding is possible. As of January 2016, there were 572 National Flood Insurance Program policies in the County, with 334 of those being in the unincorporated portions of the County.

Specific actions outlined in the Comprehensive Plan include:

- Review and update local floodplain regulations in accordance with the National Flood Insurance Program requirements.
- Proactively implement the Northampton County-specific strategies and projects in the Eastern Shore Hazard Mitigation Plan, as amended.
- Recommend the provision of independent back-up sources of power (e.g. gas generators) for commercial and institutional uses when primary power source is interrupted for an extended period.

- Participate in the "Advancing Ecosystem and Community Resilience" project through the Virginia Coastal Zone Management Program to identify the County's resiliency needs, establish resilience priorities, and conceptualize potential projects.
- Provide education and outreach materials on hazard preparedness, food management, sea level rise, and recommended mitigation steps to homeowners and private businesses that have been identified as located in vulnerable areas.
- Preserve available open spaces adjacent to marsh lands to support marsh migration and inland retreat of the marshes under rising sea level.
- Review non-conforming lot and structure standards to encourage safe building and rebuilding in areas subject to sea level rise.
- Consider establishing a transfer of development rights (TDR) program to encourage density reductions in vulnerable areas
- Guide new development and locate critical facilities and infrastructure outside areas at a high risk for flooding, areas subject to inundation within 100 years (as identified by the National Oceanic and Atmospheric Administration), and other hazards.
- Utilize TNC's Coastal Resilience Mapping portal to visualize food and sea-level rise risks, identify sustainable natural solutions for resiliency, and demonstrate historic coastline changes when considering land-use applications.

On Virginia's Eastern Shore, assessment of the effects of global climate change on local natural resources and development of adaptation and resilience strategies began back in 2009 and culminated in formation of the (first of its kind in the region) Climate Adaptation Working Group (CAWG) that continues to work as an effective partnership. The CAWG consists of the following sectors and representatives:

- State and federal agencies U. S. Fish and Wildlife Service, Virginia Department of Conservation and Recreation, Virginia Department of Wildlife Resources, NASA-Wallops Flight Facility, Virginia Department of Forestry, and Virginia Department of Environmental Quality's Coastal Zone Management Program
- Local Government County Board of Supervisors members, mayors, town and county planners, and A-NPDC planners
- Academic research partners (including the University of Virginia and the Virginia Institute of Marine Science)
- Virginia Eastern Shore Land Trust
- Special Assistant to the Governor on Coastal Adaptation and Protection (previous administration)
- The Nature Conservancy's Virginia Coast Reserve

The CAWG has been meeting quarterly since 2011 and has worked on resilience projects collaboratively including creation of a living shoreline demonstration project on Occohannock Creek in Accomack County and creation of TNC's online Virginia Eastern Shore Coastal Resilience (CR) Tool (maps.coastalresilience.org/virginia). Working with the CAWG, the County was recently focused on creating a list of resilience projects for inclusion in the Virginia Coastal Resilience Master Plan. This list will also be utilized by the CAWG, County, and localities to prioritize projects and prepare for upcoming funding opportunities in the Commonwealth and beyond.

The Comprehensive Plan outlines numerous steps the County wishes to take to increase resilience to flooding, both coastal and inland, but to begin acting on these steps, increased capacity in County staff is required. This position would work proactively with local landowners on flooding issues (wetland management, living shorelines, etc.) and would work on implementing the items prioritized in the Comprehensive Plan. An important part of this process taken on by this position will be to

pursue additional public funding opportunities that will increase resilience and benefit the County. We anticipate future funding through the Infrastructure Investment and Jobs Act through agencies such as NOAA and NFWF as well as continued funding through the CFPF.

As a step forward in addressing inland flooding due to rainfall, the County is also requesting funds to complete a Stormwater Drainage Assessment for 1-2 localities. This(s) plan will serve as a blueprint for other localities within the County and inform the creation of a county-wide effort to address inland flooding. The Environmental Outreach and Certified Floodplain Manager position will oversee these projects once hired.

Vulnerability Assessment

Northampton County is expected to experience continued sea level rise, an environment in which tropical storms and hurricanes are more intense, and increased precipitation, all of which increases the vulnerability of the region to flooding. In the following, we assess the vulnerability to flooding from these environmental changes as well as the social vulnerability of the population using various online assessment tools.

- All of the fringing land areas on the peninsula will be inundated with 4-6 feet of water by the year 2100 under the high sea level rise scenario (TNC's Coastal Resilience (CR) Tool, maps.coastalresilience.org/virginia, Figure 2). Parts of the seaside and bayside communities, such as Oyster, Willis Wharf, Cape Charles and others, will become flooded.
- More pressing, by the year 2075, much of this area is predicted to be under 1-2 feet of water, including towns such as Cape Charles and areas just to its north surrounding Cherrystone Inlet and the Village of Oyster, among others. (TNC's CR Tool)
- Hotspots for inundation exist in extremely low-lying areas in the southern part of the county
 on the bayside and the northern portion, from Machipongo to the county line, on the seaside
 (TNC's CR Tool). An example of commonly occurring coastal flooding already threatening
 these communities is shown in the attached images (Photos 1-6).
- The estimated economic annual loss from coastal flooding in the year 2065 predicted under the high sea level rise scenario for the majority of the region is \$1,000-\$500,000 with many areas in the \$500,000-\$1M range and the \$1M-\$5M range (TNC's CR Tool, Figure 2).
- Using a threat index within the CR Tool, which incorporates "storm surge scenarios and landscape characteristics that exacerbate flood potential," the entirety of Northampton County is in the medium to high range.
- The majority Northampton County, except for the barrier and marsh islands, is made up of soil that is easily eroded by water, characterized as medium-high (along the spine and to the seaside) to high (from the spine to the bayside) erodibility. This information is found using the Coastal Resilience Evaluation and Siting Tool (CREST, resilientcoasts.org) from the National Fish and Wildlife Foundation (NFWF).
- The total amount of annual precipitation in the contiguous U.S. has increased over the past century. Figure 3, taken from the EPA website (https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-precipitation) which is based on data from NOAA (NOAA, 2021), shows the difference in annual precipitation from 1901-2020 compared to the century average. Note that in the early century, more years fell below that average while in the last half of the century, annual precipitation is exceeding that average.
- Annual rainfall on the Eastern Shore of Virginia is expected to increase from 5-10% within the next 15-20 years. (FloodFactor.com, First Street Foundation).
- The amount of rain within a single storm event has increased in recent decades, due to warming of the atmosphere and oceans. Figure 4 shows the land area (y-axis) for which single storm events have contributed a large portion of the annual rainfall. As time has progressed into the late 20th and early 21st centuries, the amount of land where this is

happening has been increasing. In fact, for the contiguous U.S., 9 of the top 10 years for extreme 1-day precipitation events have occurred in the last 26 years (NOAA, 2016).

To assess social vulnerability, we examined the ADAPTVA Vulnerability Viewer, which uses Census Tract data. Northampton County is classified as having moderate social vulnerability with a vulnerability index score of 0.9. The table below includes the characteristics as listed in this tool.

Classification	Characteristics	
Socio-economic	Rural, high dependency on social security, moderate elderly population, moderately low income, moderately high nursing home population, moderately high minority population	
Housing	high density, mobile homes, vacant homes, second homes, low rent and long-term renters	
Hazardous/Toxic	Very high potential for hazardous/toxic exposure	

The Centers for Disease Control (CDC) also produce a Social Vulnerability Index (https://svi.cdc.gov/map.html) for each county based on Census Tract data. This tool indicates that Northampton County has a moderate to high level of vulnerability. The main contributor to this high vulnerability is minority status and language; however, all categories ranked above the 55th percentile including socioeconomic, household composition and disability, and housing type and transportation. The table below outlines vulnerable population demographics from other online vulnerability mapping tools which use Census as well as other data sources.

Descriptor	Characteristics
Population	15% under the age of 5* 21% over the age of 64* 73% people of color* 11-14% with a disability+
Income	59% low income* 9% unemployed+
Resources	14-16% food insecure ⁺ 18% without computer access ⁺
Education	42% with less than a high school education*

^{*} Source: Environmental Protection Agency, Environmental Justice, https://ejscreen.epa.gov/mapper/index.html?wherestr=Oyster%2C+VA

Northampton County is identified as low income based on the definition given in the Grant Manual that "any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income." The U.S. Census Bureau (https://www.census.gov/quickfacts/fact/map/northamptoncountyvirginia,VA/INC110220) lists the median household income for Virginia as \$76,398 and for Northampton County as \$50,819; therefore the County is in the 66.5th percentile compared to all of Virginia.

⁺ Source: PolicyMap.com

Outcome(s)

The goal for the proposed funding is to increase the capacity of Northampton County to address flooding. The purpose of the funding is twofold:

1. Increase capacity within the existing and new county staff for an Environmental Outreach and Certified Floodplain Manager (CFM).

Job description: Provides environmental technical support and administers the Northampton County Floodplain Ordinance for the Planning, Permitting and Enforcement Department.

Duties:

- Responsible for administering the floodplain ordinance
- Reviews and analyzes stormwater issues countywide both tidal and in-land flooding
- Prepares grant applications
- Provides public outreach and community engagement for flooding and environmental issues including but not limited to coastal resiliency, wetlands, beaches and coastal primary sand dunes and additional resource protection areas.
- Represents the County at stakeholder meetings.
- 2. Create an assessment of stormwater drainage needs for 1-2 defined localities to inform needed projects to increase the resilience of these localities to flooding hazards.
 - The County will hire a consulting firm to conduct stormwater drainage assessments and provide project design plans.
 - The assessments will lead to projects that will address flooding issues, increasing resilience to storm and rain events. Project designs outlined will provide details for funding applications.
 - Stormwater drainage assessments are needed county-wide, and the goal for the County is to implement assessments and projects throughout all areas. The assessments conducted for the first 1-2 localities will serve as a model for county-wide implementation.

Activities

The below timeline assumes funding will be dispersed in Fall 2022. Due to the difficulty in hiring professionals with specific qualifications (i.e. required certification and knowledge) in rural communities, we have allotted 9 months between advertising and having the position filled. If awarded, the county will repurpose current staff to move this project forward until the duties are sufficiently assigned. Once this position is filled, the staff member will begin engaging with the community, partners, and stakeholders to develop and fund projects to enhance the resilience of Northampton County to flooding.

Target Timeframe	Activity
Summer 2022 (pre-award)	Develop position description/duties for Environmental Outreach and
	Certified Floodplain Manager
Fall 2022	Recruit for the Environmental Outreach and Certified Floodplain
	Manager position
Winter 2022	Determine 1-2 localities for stormwater assessment
Summer 2023	Train new and existing staff to perform duties of Environmental
	Outreach and Certified Floodplain Manager position
Spring 2023	Release request for proposals for consulting firm to conduct the
	defined stormwater assessment(s)
Fall 2023	Hire and orient consulting firm
Winter 2023	Consulting firm begins stormwater assessment
Summer 2024	Stormwater assessment complete
Fall 2024	Plan next steps for implementation of stormwater recommendations

Required Application Components (Part IV from the Round 3 Grant Manual)

- 1. Assess capacity needs and assets
 - County assets, in the form of businesses, agriculture, industry, communities and
 infrastructure, are at risk due to flooding, and that risk is predicted to worsen in the future
 with climate change.
 - The County anticipates additional opportunities to fund projects that will address flooding and needs the capacity to respond to these opportunities. Awareness of coastal flooding issues is the focus of Virginia's Coastal Resilience Master Plan, and there are plans to expand it into a statewide flooding resilience master plan. Currently, Virginia has appropriated funds through the CFPF, and federal government funds will address climate resilience through the nationwide Infrastructure Investment and Jobs Act initiative.
 - As in many rural counties, the staff within the Northampton County Planning Division is not large, and each person takes on numerous duties to fulfill all County needs. The County currently does not have a Certified Floodplain Manager (CFM) on staff. Using the funds proposed here, the County will hire an Environmental Outreach and Certified Floodplain Manager. As part of the outreach, this position will work proactively with landowners on resilience issues, thus preventing loss of wetlands and using more nature-based resilience planning and implementation.
 - The County is aware that stormwater management plans and projects are needed throughout the County, but they lack the staff to conduct the assessments and implement projects. The County will prioritize localities in need of improvements and will use funds from this proposal to hire a consultant to conduct the assessments and plan designs for improvements for 1-2 localities. We anticipate this to be the first of many such projects, but realizing that we cannot tackle all localities at one time, will prioritize, fund, and implement them as resources allow. Using project and design plans outlined in the resulting assessment, the County will apply for additional funding to implement the needed improvements to stormwater drainage to ameliorate the impacts of rainwater flooding.

- 2. Goals and objectives tied to improving flood protection and prevention in a whole community approach to resilience. Identify and describe the goals and objectives of the project.
 - The overarching goal for this proposal is to increase capacity within Northampton County to address flooding issues. First, to enable the County to manage flooding projects, including funding, implementation, and community outreach, we propose to hire an Environmental Outreach and Certified Floodplain Manager. Secondly, the need currently exists for stormwater drainage improvements in communities throughout the County. We also intend to use funds from this proposal to create a stormwater management plan for 1-2 localities, anticipating that this will be an ongoing process to encompass all stormwater management needs in the County. The CFM will enable the County to take a whole community approach to flooding resilience and create an ongoing plan for tackling those issues.
- 3. Stakeholder identification, outreach and education strategies.

Community outreach and education is a large part of the duties of the County Planning office for every type of planning need. Stakeholders (homeowners, business owners, contractors, etc.) all need information regarding the specific problem and activity affecting them.

- 4. *Implementation plan and timelines for specific elements of completion such as training, certifications, plan development, etc.*
 - Please see the Activities section on page 7 for these details.
- 5. Parties responsible for capacity building and/or plan development process.
 - Northampton County staff is responsible for hiring and assigning the duties of the Environmental Outreach and Certified Floodplain Manager and hiring a consulting firm to conduct a stormwater assessment for 1-2 localities identified by the County.
- 6. Performance outputs and measures. Describe the expected results and benefits and how success will be measured.
 - For this specific funding period, the outcomes will be the hiring of an Environmental Outreach and Certified Floodplain Manager and the creation of a stormwater management plan for 1-2 localities complete with needs and engineering plans.
 - Benefits from the funds requested go beyond the term of this funding, however. The
 intent is for the CFM position to be permanent, enabling the County to conduct future
 planning concerning flooding. This could include a Flooding Resilience Countywide Plan
 which will define projects that can be implemented using future funding opportunities, all
 of which the CFM can manage and execute.
 - The stormwater management plan created with this funding will define specific improvements needed such that funds can be sought and projects implemented.
 - The floodplain manager position will help the County acquire additional funding, such as through the CFPF or the Infrastructure Investment and Jobs Act, to implement proactive projects to increase flood resilience and prevent flooding.
- 7. Plans for maintaining capacity, as necessary, over the long term.
 - The Environmental Outreach and Certified Floodplain Manager duties and position are intended to be permanent and will be funded through public sources.

- Our goal is that the CFM will apply for future funding to assess and implement specific projects that increase flooding resilience.
- The Stormwater Drainage Assessment will identify projects for which funding will be sought for implementation. It will also inform the County in creating a county-wide stormwater plan.

Required Checklist Items (Appendix D from CFPF Manual)

- Link to current floodplain ordinance:
 https://codelibrary.amlegal.com/codes/northamptoncounty/latest/northampton_va/0-0-0-16924
- Current Hazard Mitigation plan: http://www.a-npdc.org/wp-content/uploads/2016/04/FullHMP2016.pdf

Please note that the 2022 Eastern Shore Hazard Mitigation Plan rewrite is underway with the status at the following link https://a-npdc.org/accomack-northampton-planning-district-commission/coastal-resources/hazard-mitigation-planning/

• Current comprehensive plan: https://www.co.northampton.va.us/government/departments_elected_offices/planning_pe
rmiting_enforcement/planning/comp_plan **Figures and Photos**

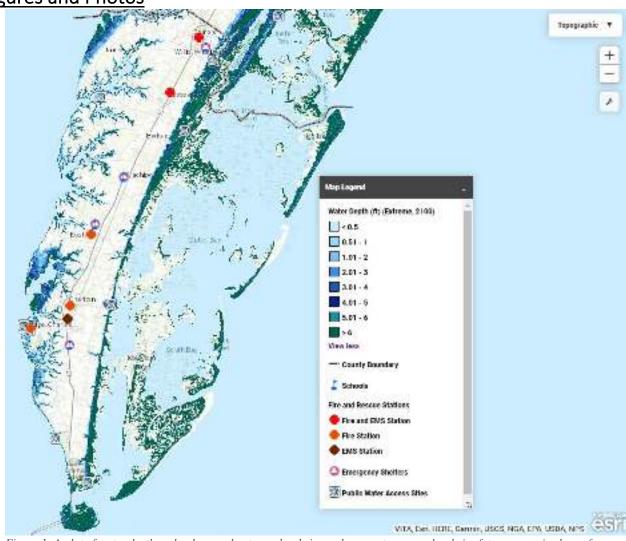


Figure 1: A plot of water depth on land areas due to sea level rise under an extreme sea level rise future scenario shown for the year 2100 as plotted by TNC's CR Too (maps.coastalresilience.org/virginia). Important community resources (fire and rescue stations and public boat ramps) are shown with icons.

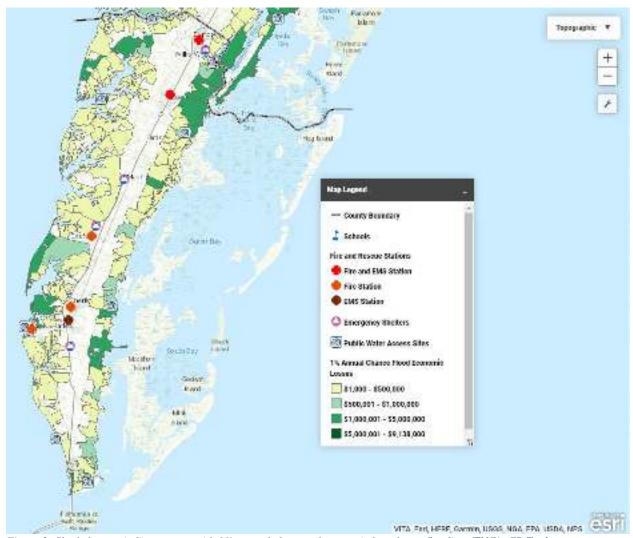


Figure 2: Shaded areas indicate areas with 1% annual chance of economic loss due to flooding (TNC's CR Tool; maps.coastalreseilience.org/virginia). The color of the shading indicates the amount of loss estimated. The data used in this analysis were generated using FEMA's HAZUS-MH risk analysis software and are derived from the maximum extent of modeled flooding at all locations across the Eastern Shore and are therefore not representative of any single flood event.

Precipitation in the Contiguous 48 States, 1901-2020

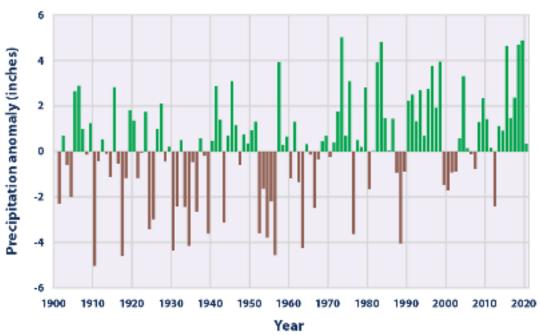


Figure 3: The total annual amount of precipitation in the contiguous 48 states has changed since 1901. This graph uses the 1901–2000 average as a baseline for depicting change. Choosing a different baseline period would not change the shape of the data over time. Image taken from the EPA website, https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-precipitation (NOAA, 2021).

Extreme One-Day Precipitation Events in the Contiguous 48 States, 1910-2020

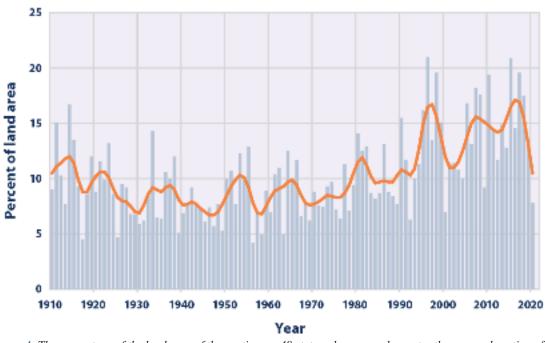


Figure 4: The percentage of the land area of the contiguous 48 states where a much greater than normal portion of total annual precipitation has come from extreme single-day precipitation events. The bars represent individual years, while the line is a nine-year weighted average. Image taken from the EPA website, https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation (NOAA, 2021).



Photo 1: Flooding of Sunnyside Road and Broadwater Circle in the seaside community of Oyster due to storm surge.



Photo 2: Flooding of ditches and road on Church Neck Road, the only access to communities extending down Church Neck, due to rainfall and inadequate drainage.



Photo 3: Flooding on Church Neck Road and adjacent farm fields from rainfall and inadequate drainage.



Photo 4: Flooding in the town of Nassawadox from rainfall and inadequate drainage.



Photo 5: Flooding of a farm field in the town of Nassawadox due to rainfall and inadequate drainage.



Photo 6: Flooding of a parking lot in the town of Nassawadox due to rainfall and inadequate drainage.

Budget Narrative

Budget: Building Coastal and Flooding Capacity in Northampton County	CFP	F Year1	Match Yea	r 1	CFPF Year 2	Match Year 2	Total CFPF	Total Match
NHC Staff Time (salary and fringe benefits)								
County Administrator			\$1,665	.60		\$999.36	50.00	\$2,664.96
Deputy County Administrator			\$1,674	.72		\$1,674.72	50.00	\$3,349.44
Director Permitting, Planning and Enforcement			\$3,993	44		\$3,497.76		\$7,495.20
Human Resources Spedalist			\$1,524	.00		\$304.80		\$1,828.80
Certified Floodplain Manager					\$87,000.00		\$87,000.00	
Total NHC Staff		\$0.00	\$8,86	.76	\$87,000.00	\$6,476.64	\$87,000.00	\$15,338.40
Contractual								
Consultant to conduct Stormwater Drainage Assessment	\$ 45	6,000.00					\$ 45,000.00	
Engineering Firm to conduct Mapping and Create Designs					\$ 15,000.00		\$ 15,000.00	
Total Contractual	5 49	5,000.00		1	\$ 15,000.00	\$0	\$ 60,000.00	
Office Supplies					\$ 2,500,000		\$ 2,500.00	
Position Advertisement	\$ 1	,000.00					\$2,000.00	
TOTAL	5	47,000.00	\$8,86	.76	\$104,500.00	\$6,476.64	\$151,500.00	\$15,338.40
PROJECT TOTAL (CFPF + Match): \$166,838.40								

The total cost for this two-year project is \$166,838.40 with \$151,500.00 requested from the CFPF and \$15,338.40 provided as match.

Staff time

Northampton County Staff (direct expenses):

• Environmental Outreach and Certified Floodplain Manager – Salary (\$65,000) and employer cost (taxes, benefits and workers compensation, \$22,000) for a total of \$87,000. We anticipate that persons in this position would start working in Year 2 of the proposal.

Northampton County (match):

- *County Administrator* Salary for time spent recruiting for the position, interviewing and hiring, management for the position as well as creating a Request for Proposal and hiring a consultant to conduct the stormwater assessment.
- Deputy County Administrator Salary for time spent recruiting for the position, interviewing and hiring, management for the position as well as creating a Request for Proposal and hiring a consultant to conduct the stormwater assessment.
- Director Permitting, Planning and Enforcement- Salary for time spent recruiting for the position, interviewing and hiring, management for the position as well as creating a Request for Proposal and hiring a consultant to conduct the stormwater assessment.
- Human Resources Specialist Salary for staff time spent hiring the new position.

Contractual Contractual

Funds to contract an engineering/consulting firm for mapping and civil engineering services for stormwater/drainage study at identified location(s) within Northampton County (\$45,000) to take place in Year 1. We estimate an additional \$15,000 for design services taking place in Year 2.

Supplies (match)
Office and other supplies to allow Northampton County Staff to perform duties associated with this award.

<u>Position Advertisement</u> Cost to advertise the Certified Floodplain Manager position.

<u>Application Form</u> (Appendix A from CFPF Manual)

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund Grant Program
Name of Local Government:
Northampton County, Virginia
Category of Grant Being Applied for (check one):
X Capacity Building/Planning
Project
Study
NFIP/DCR Community Identification Number (CID) 510105
If a state or federally recognized Indian tribe, Name of tribe
Name of Authorized Official: M.E. Mapp
Signature of Authorized Official:
Mailing Address (1): P.O. Box 66
Mailing Address (2):
City: Eastville State: VA Zip: 23347
Telephone Number: () Cell Phone Number: ()
Email Address: bmapp@co.northampton.va.us

Application Form CFPF| 1-A

Co	ntact Person (If different from authorized official): Charles Kolakowski
Ma	ailing Address (1): P.O. Box 66
Ma	ailing Address (2):
Cit	y: Eastville State: VA Zip: 23347
Te	lephone Number: (757) 678-0440 Cell Phone Number: (757) 442-1107
Em	nail Address: ckolakowski@co.northampton.va.us
	the proposal in this application intended to benefit a low-income geographic area as defined the Part 1 Definitions? Yes X No
Ca	tegories (select applicable project):
Pro	oject Grants (Check All that Apply)
	Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
	Wetland restoration. Floodplain restoration. Construction of swales and settling ponds. Living shorelines and vegetated buffers. Structural floodwalls, levees, berms, flood gates, structural conveyances. Storm water system upgrades.
	Medium and large scale Low Impact Development (LID) in urban areas. Permanent conservation of undeveloped lands identified as having flood resilience value by ConserveVirginia Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
	Dam restoration or removal.

Application Form CFPF| 2-A

Stu	ıdy Grants (Check All that Apply)
	Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
	Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
	Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
	Studies and Data Collection of Statewide and Regional Significance.
	Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
	Other relevant flood prevention and protection project or study.
Ca	pacity Building and Planning Grants
X	Floodplain Staff Capacity.
X	Resilience Plan Development
	 Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans. Resource assessments, planning, strategies and development. Policy management and/or development. Stakeholder engagement and strategies.
	cation of Project (Include Maps): Northampton County, Virginia
F_	IP Community Identification Number (CID#):(See appendix 510105

Application Form CFPF| 3-A

Is Project Located in an NFIP Participating Community?
Is Project Located in a Special Flood Hazard Area? Yes No
Flood Zone(s) (If Applicable):
Flood Insurance Rate Map Number(s) (If Applicable):
Total Cost of Project: \$166,838.40
Total Amount Requested \$151,500.00

Application Form CFPF 4-A

Scoresheet (Appendix D from CFPF manual)

Appendix D: Scoring Criteria for Capacity Building & Planning

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund Grant Program

		-				
	Applicant Na	ame:				
			Eligibility Information			
	Criterion		Description	Check One		
1.	authorities	, districts	cal government (including counties, cities, towns, municipal corpo s, commissions, or political subdivisions created by the General Ass stitution or laws of the Commonwealth, or any combination of the	sembly or		
	Yes	Eligible	for consideration	✓		
	No	Not elig	ible for consideration			
2.	Does the lo plan with t	_	rnment have an approved resilience plan and has provided a copy cation?	or link to the		
	Yes	Eligible	for consideration under all categories			
8-16	No	Eligible	for consideration for studies, capacity building, and planning only	✓		
3.			ot a town, city, or county, are letters of support from all affected led in this application?	ocal		
	Yes	Eligible	for consideration	NA		
	No	Not elig	ible for consideration			
4.	Has this or funded by		ion of this project been included in any application or program pre rtment?	viously		
	Yes	Not elig	tible for consideration			
	No	Eligible	for consideration	✓		
5.	5. Has the applicant provided evidence of an ability to provide the required matching funds?					
	Yes	Eligible	for consideration	✓		
	No	Not elig	lble for consideration			
	N/A	Match	not required			

Capacity Building and Planning Eligible for Consideration					
Applicant Name:					
Scoring Information					
	Criterion	Point Value	Points Awarded		
6. Eligible Capacity Bui	lding and Planning Activities (Select all that apply)				
Revisions to existing resi and hazard mitigation pl	lience plans and modifications to existing comprehensive ans.	55			
Development of a new r		55	55		
Resource assessments, p	planning, strategies and development.	45	45		
Policy management and	/or development.	40			
Stakeholder engagemen	t and strategies.	25	25		
Goal planning, implemen	ntation and evaluation.	25	25		
Long term maintenance	strategy.	25	25		
Other proposals that will significantly improve protection from flooding on a statewide or regional basis.					
	e local government to which the grant is targeted socially valuerability Index Score.	ulnerable	e? (Based		
Very High Social Vulnera	bility (More than 1.5)	15			
High Social Vulnerability (1.0 to 1.5)					
Moderate Social Vulnera	ability (0.0 to 1.0)	8	8		
Low Social Vulnerability	(-1.0 to 0.0)	0			
Very Low Social Vulnerability (Less than -1.0)					
Is the proposed acti- suspension from the	vity part of an effort to join or remedy the community's pro • NFIP?	bation or			
Yes		10			
No		0	✓		
9. Is the proposed proj	9. Is the proposed project in a low-income geographic area as defined in this manual?				
Yes 10					
No 0					
10. Does this project provide "community scale" benefits?					
Yes 20					
No					
	Total Points		213		

Checklist All Categories | 3-D

Support Letters



The Nature Conservancy in Virginia Virginia Coast Reserve P.O. Box 158 11332 Brownsville Rd. Nassawadox, VA 23413 Tel (757) 442-3049 Fax (757) 442-5418

nature.org

April 6, 2022

Community Flood Preparedness Fund Review Committee:

I am writing this letter to provide support for the North Hampton County's proposed project, Building Coastal and Flooding Resilience Capacity in Northampton County. The Nature Conservancy recognizes that the County needs additional capacity to deal with increasing threats from coastal and inland flooding, sea level rise and more intense and frequent storm events.

The proposal's scope of work represents a real effort by a local community and the Commonwealth of Virginia to address coastal and inland flooding as well as adaptation and resilience in a highly vulnerable, rural landscape by providing capacity to hire additional County staff to be proactive both with landowners dealing with these issues as well as to take advantage of new potential funding sources that will be provided by the state and federal governments in the next few years. Understanding the County's inland flooding is also <u>critical</u> and we support hiring a consultant to help develop a plan to deal with overflowing ditches, other drainage issues and access to important community assets.

Thank you for support of this project and feel free to contact me at jbieri@tnc.org or 757-442-5416 if you should any specific questions about this proposal.

Sincerely,

Jill Bieri

Director, Virginia Coast Reserve

References

NOAA (National Oceanic and Atmospheric Administration). 2021. Climate at a glance. Accessed February 2021. www.ncdc.noaa.gov/cag.

NOAA (National Oceanic and Atmospheric Administration). 2016. U.S. Climate Extremes Index. Accessed January 2016. www.ncdc.noaa.gov/extremes/cei.



CFPF, rr <cfpf@dcr.virginia.gov>

Grant application for Northampton County

1 message

Susan McGhee <smcghee@co.northampton.va.us>

Fri, Apr 8, 2022 at 2:04 PM

To: "cfpf@dcr.virginia.gov" <cfpf@dcr.virginia.gov>

Cc: Charles Kolakowski <ckolakowski@co.northampton.va.us>, Janice Williams <jwilliams@co.northampton.va.us>, Betsy Mapp

donorthampton.va.us>

Please find attached our attached grant application for the current round of funding. Please let me know if there are any questions or if additional information is needed.

Sincerely,

Susan M. McGhee, PE, PMP

Director of Planning, Permitting & Enforcement

County of Northampton

P.O. Box 538

Eastville, VA 23347

(757) 678-0443 ext. 541





Howard-cooper, Wendy <wendy.howard-cooper@dcr.virginia.gov>

RE: FW: CFPF Grant Application

1 message

Charles Kolakowski < ckolakowski@co.northampton.va.us>

Thu, Dec 1, 2022 at 12:59 PM

To: "Howard-cooper, Wendy" <wendy.howard-cooper@dcr.virginia.gov>, Susan McGhee <smcghee@co.northampton.va.us>

To: Wendy Howard Cooper

Re; Grant Number: CFPF-22-03-49

You had inquired as to authorization for the grant application and the certification of the salary match. The applicant was signed by Betsy Mapp who is the Chair of the Northampton County Board of Supervisors. The match is certified by her signature. Please let me know if additional information is required.

Charles Kolakowski

Northampton County Administrator

From: Howard-cooper, Wendy <wendy.howard-cooper@dcr.virginia.gov>

Sent: Thursday, December 1, 2022 10:12 AM

To: Susan McGhee <smcghee@co.northampton.va.us> Cc: Charles Kolakowski <ckolakowski@co.northampton.va.us>

Subject: Re: FW: CFPF Grant Application

Susan,

Did Northampton submit the additional information requested by 11/30? I do not see where we received the supplemental information.

Wendy C. Howard Cooper

Director, Dam Safety and Floodplain Management

Department of Conservation and Recreation

600 East Main Street, 24th Floor

Richmond, Virginia 23219

Office (804) 786-5099

Cell (804) 298-4288

Fax (804) 371-2630

"As a human being, I am committed to the promotion of what I call basic human values, by which I mean especially compassion. Nurturing the compassionate seed within us and acting out of this innate capacity are the keys to fulfilling our basic aspiration to happiness." Dalai Lama

"Distance means so little, when life means so much." - Amit Kalantri, Wealth of Words

On Thu, Dec 1, 2022 at 9:31 AM Susan McGhee <smcghee@co.northampton.va.us> wrote:

Wendy,

Following up on the voicemail message that I left to inquire about CFPF Round 3 or if we need to apply for Round 4.

Please let me and Mr. Kolakowski know if there are any questions or if additional information is needed from Northampton County.

Sincerely,

Susan

Susan M. McGhee, PE, PMP

Director of Planning, Permitting & Enforcement

County of Northampton

P.O. Box 538

Eastville, VA 23347

(757) 678-0443 ext. 541

From: Charles Kolakowski < ckolakowski@co.northampton.va.us>

Sent: Friday, October 14, 2022 12:53 PM

To: Wendy. Howard-Cooper@dcr.virginia.gov; cfpf@virginia.gov

Subject: CFPF Grant Application

Attached is a letter of interest from Northampton County concerning CFPF-22-03-49.