Student Name:

Date:

The list below displays our available opportunities for the summer 2023 internship season. Full descriptions of the identified internships can be viewed on the C-StREAM website (https://chesapeake.org/c-stream/).

For all opportunities below, please rank your preference (1 through 9, 1 being most preferred). If you are not interested in an internship, please write “NO” on the line next to the internship.

You should complete this form and upload it as part of your application materials by 11:59 PM, February 21, 2023 via the C-StREAM website (https://chesapeake.org/c-stream/).

Chesapeake Bay Program Office (https://www.chesapeakebay.net/)

Since 1983, the Chesapeake Bay Program has led and directed the restoration of the Chesapeake Bay. Bay Program (CBP) partners include federal and state agencies, local governments, non-profit organizations, and academic institutions.

_____ Capacity Building
This intern will be responsible for evaluating financial and human capacity needs for accelerating riparian forest buffer planting. The intern will work with mentors to explore the financial and human capacity factors driving the implementation gap for riparian forest buffers. Other tasks could include meeting with state and local forestry and non-governmental organization partners to document and evaluate how their funding/staffing levels have changed over time, looking for relationships between funding/staffing levels and planting rates, and evaluating how funding and staffing levels have impacted riparian forest buffer planting rates across the watershed. This intern also will support other Forestry Workgroup projects. This work supports the Water Quality – 2025 science need to compile best practices and case studies of effective capacity-building and retention of technical assistance providers.

_____ Development of a Dynamic Tributary Basin Summary Report
This intern will be responsible for working with The Chesapeake Bay Program (CBP) Integrated Trends Analysis Team (ITAT) to combine the efforts of the CBP analysts with those of investigators in governmental, academic, and non-profit organizations to identify potential research synergies and collaborations that will enhance our understanding of spatial and temporal patterns in water quality. This intern will also help meet a CBP science need, to develop a StoryMap template that can be updated concurrently with future Tributary Basin Summary reports. The StoryMap(s) produced will serve as work...
samples for career advancement. Knowledge of Geographic Information Systems (GIS) software is preferred.

Data-Gathering For Effective Capacity Building In The Environmental Sector

This intern will spearhead data-gathering and synthesis of related materials that cumulatively document and compile examples, stories, and case studies about best practices for effective capacity building in the environmental sector, particularly among entities that install, inspect, maintain water quality best management practices, or provide related training and education for associated audiences. Working with the CBP, this intern will be looking into the many confluences of factors that exacerbate long-standing needs, of which the Chesapeake Bay Program partners are aware: the difficulty of maintaining and expanding capacity in public and private sector environmental entities. This intern will look at how capacity can encompass many things, such as with an emphasis from partners on technical assistance that is needed to educate stakeholders or the public as well as install, inspect and maintain restoration projects.

National Oceanic and Atmospheric Administration (NOAA) Chesapeake Bay Office (CBPO) ([https://www.fisheries.noaa.gov/topic/chesapeake-bay](https://www.fisheries.noaa.gov/topic/chesapeake-bay))

The NOAA Chesapeake Bay Office uses science, service, and stewardship to improve the health of the Chesapeake Bay and ensure its sustainable use for generations to come. As part of NOAA Fisheries Office of Habitat Conservation, we apply science and engage communities to tackle problems and challenges facing the Bay. Our work includes habitat science, oyster restoration, sustainable fisheries, climate resiliency, and environmental literacy. We are a partner in the Chesapeake Bay Program, leading the Program’s fisheries, environmental literacy, and climate resiliency efforts, and supporting the habitat work. The NOAA Chesapeake Bay Office was formally established by Congress in 1992.

Habitat Science

The intern will assist in collecting fish biodiversity data (fish species composition) in Poplar island, and the reference site. Poplar Island is a restored island made of dredge material. The island is considered a model for the beneficial use of dredge material and wildlife habitat restoration. With this project, the intern will quantify fish biodiversity using various fish-capturing techniques (e.g., rods, and traps) and link it with fauna structure using snapshot habitat composition with image methodology (drop camera, aerial images). The goal of the research is to measure restoration success within the selected sites using structural diversity (combination of fish diversity and fauna structure) as an indicator of restoration success.

Community Partnerships

This intern will be supporting and building upon lessons from the Traditional Ecological Knowledge (TEK) report developed last year, the work to start tribal resource guide work in the northeast and putting together a NOAA resource guide for 1 or more federally recognized tribes. A tribe-specific tailored resource guide will assist each tribe with the accessibility of NOAA information, funding, and staff. This intern will help enhance
NOAA's tribal relationships and support projects/goals (community engagement, potentially nearshore habitat).

**Old Dominion University (ODU)** ([https://www.odu.edu/](https://www.odu.edu/))

ODU is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, master’s, education specialist, and doctoral degrees. Old Dominion University began its tradition of excellence when it was founded in 1930 by the College of William and Mary, the second oldest university in the United States. Established as an extension of William and Mary in Williamsburg, Virginia, and Virginia Polytechnic Institute in Blacksburg, Virginia, Old Dominion began educating teachers and engineers. The two-year school rapidly evolved into a four-year institution and was granted independence in 1962 as Old Dominion College.

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**Impacts of Sea Level Rise and Climate Change on Chesapeake Shallow Aquifer**

In Chesapeake coastal municipalities, such as Norfolk and Virginia Beach, the unconfined aquifer relates to saltwater intrusion likely induced by sea level rise, groundwater withdrawal, and land subsidence. This intern will gather research to better understand how shallow groundwater levels would respond to sea level rise and precipitation alteration resulting from climate change in the long run. As the sea level rises, the elevation of the upper surface of the unconfined aquifer (i.e., water table) may be changed. The water table is pertinent to green infrastructure solutions of retention and/or infiltration as well as underground infrastructure (e.g., septic systems and utility lines). In Chesapeake coastal municipalities, such as Norfolk and Virginia Beach, the unconfined aquifer relates to saltwater intrusion likely induced by sea level rise, groundwater withdrawal, and land subsidence. The intern would also be helping to develop a map showing water table contours for Norfolk as impacted by sea level rise and climate change.

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**The Department of Energy and Environment (DOEE)** ([https://doee.dc.gov/service/water-district](https://doee.dc.gov/service/water-district))

DOEE is the leading authority on energy and environmental issues affecting the District of Columbia. Using a combination of regulations, outreach, education, and incentives, our agency administers programs and services to fulfill our mission. DOEE works collaboratively with other government agencies, residents, businesses, and institutions to promote environmentally responsible behavior that will lead to a more sustainable urban environment. The District is a part of the Chesapeake Bay Watershed. DOEE administers several programs dedicated to monitoring and improving water quality within the District.

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**Migrating Historical Monitoring Data: The Municipal Washington Council of Governments To A New District of Columbia Water Quality Database**
This intern will be working with the District Department of Energy and Environment which has a robust stream water quality monitoring program that produces a significant amount of data. This project will be focused on making the data more useable, actionable, and available to the public. This intern project will be to migrate historical monitoring data from our monitoring partner (the Municipal Washington Council of Governments) to a new District of Columbia Water Quality Database. The intern will also receive training to support the District's Rapid Stream Assessment program. This internship experience will result in drawing conclusions, using monitoring data, and about the effectiveness of the District's stream restoration efforts. This information will help inform the District, and other stream restoration practitioners, about future investments, and efforts toward achieving water quality improvements.

The U.S. Geological Survey (USGS-Water Science Center) (https://www.usgs.gov/centers/md-de-de-water)

Toxic Contaminant Workgroup Research Outcome – Poly- and Perfluorinated Alkyl Substances (aka “Forever Chemicals”) in Resources of the Chesapeake Bay Region

USGS’s Water Science Center collects information needed to understand the Nation's water resources and provides access to water data, publications, and maps, as well as to recent water projects and events. Created by an act of Congress in 1879, the U.S. Geological Survey has evolved over the decades, matching its talent and knowledge to the progress of science and technology. The MD-DE-DC Water Science Center has three offices. The main office in Baltimore houses hydrologic technicians, research scientists, GIS analysts, IT staff, admin staff, and many students from UMBC (the Baltimore office is located at Research Park, adjacent to the UMBC campus). The Dover and Frostburg offices are comprised mainly of Hydrologic Technicians and a few research scientists.

This intern will be working with the Water Science Center, USGS, to improve information about the occurrence, concentrations, sources, and effects of toxic contaminants on fish and wildlife. While there are no quantitative, watershed-wide goals associated with toxic contaminants, more than 80 percent of the tidal waters of the Chesapeake Bay are partially or fully impaired by toxic contaminants. Project findings are of increasing concern in the Watershed due to the highly toxic properties at very low concentrations, their persistence, and widespread occurrence. The science and policy in the environment and its effects on fish, shellfish, and wildlife are rapidly evolving and are integrated into most management approaches in the research outcome strategy related to fish consumption, effects on fish and wildlife, sources, occurrence and fate, and mitigation. The intern will work with the mentor to identify which areas most align with their interests and goals for the summer experience. Opportunities to present findings and other partners will be involved as well.

The Izaak Walton League (IWLA) (https://www.iwla.org/about/about-us)

IWLA is one of America’s oldest and most successful conservation organizations – and is the only organization training, equipping, and coordinating volunteer water quality monitors on a national scale. These volunteers are the heart and soul of our common-sense conservation
mission. Through member-driven bottom-up governance, the Izaak Walton League protects outdoor America in communities across the country, while working strategically at the national level to win critical conservation battles. IWLA is a national conservation organization currently working to engage the public in community science and advocacy.

IWLA’s Chesapeake Monitoring Cooperative Internship

The Clean Water team operates three national water quality initiatives and would utilize an intern to enhance and grow these projects in data usage, community engagement, and advocacy tools. This intern will be responsible for data collection by volunteers within the watershed, and this intern will work on various science and engagement projects, enhance long-standing programs, and make their mark on brand-new initiatives. Salt Watch is a rapidly growing national community science initiative that aims to track road salt pollution hot spots around the country. Nitrate Watch is being launched in 2023 to similarly track nitrate pollution in both our waterways and taps. Through IWLA’s membership in the Chesapeake Monitoring Cooperative, data collected by volunteers within the watershed are sent to state agencies and the Chesapeake Bay Program.

The National Park Service (NPS) (https://www.nps.gov/index.htm)

NPS preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The Chesapeake Bay Program Community Level Partner Organization Development

This intern will be responsible for continuing NPS’s capacity-building efforts. The intern will work with mentors to identify a Chesapeake Bay Program community-level partner organization and work with the partner to aid (additional staff capacity) to allow the completion of a project lacking resources, thus strengthening their connection to the CBP. For example, one intern assisted an organization with a literature review about workforce development programs for Spanish-speaking individuals. Another intern assisted a community farm with their youth program and agriculture. Other tasks would include supporting the Diversity Action Workgroup’s efforts to assess and improve the Bay Program Partnership’s impact when engaging community-based organizations.