



## Chesapeake Research Consortium C-StREAM Internship Interest Form

**Student Name:**

**Date:**

The list below displays our available opportunities for the summer 2024 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, January 28, 2024, 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.

#### **\_\_\_\_\_ Invasive Species BMP**

The intern will assist in developing a database of invasive species commonly affecting riparian forest buffer projects. The intern will then create fact sheets for each species detailing their history, spread, and BMPs for each species. The intern may accomplish this task by collaborating with and interviewing forestry partners and the USFS forest health team, considering the best science available, and through field visits. Depending on the interests and skills of the intern, the intern may also assist in the creation of educational public-facing graphics, create GIS maps, and support other timely Forestry Workgroup projects. These resources will provide valuable information for practitioners on effective methods for managing invasive species in riparian areas and supporting the successful establishment and maintenance of new forested buffers in the watershed. Degree in natural resource management, environmental science, forestry, biology, or related field preferred.

#### **\_\_\_\_\_ Developing a Graph Database and Knowledge Graph Visualization Application for the Chesapeake Bay Partnership**

This intern will be assisting USGS scientists to support the Chesapeake Bay Program's efforts. The internship will culminate with the presentation of an interactive knowledge graph visualization of Chesapeake Bay watershed system complexity using one of these technologies.

**National Oceanic and Atmospheric Administration (NOAA) Chesapeake Bay Office (CBPO)** (<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.

—— **Environmental Literacy Workgroup Intern**

This position will support the work of the NCBO Environmental Literacy and Partnerships branch (ELP) and the Chesapeake Bay Program Stewardship Workgroup. The EP branch, in part, encourages and supports K-12 education in the development and implementation of comprehensive environmental literacy programs by supporting regional environmental literacy policy initiatives, education resource development, grantmaking, and professional learning programming. The Chesapeake Bay Program (CBP) is a partnership that guides the conservation and protection of the Bay. One of the goals of the Bay Program is to support students and schools in progressing towards environmental literacy and NCBO leads this component of the Bay Program's work. The current Chesapeake Bay Agreement runs through 2025 and the partnership is working on updating/developing the new agreement that will guide the Partnerships efforts beyond 2025. The selected intern will work with the CBP Education Workgroup and its partners to convene listening sessions that explore and document community perspectives about what the future of environmental literacy work in the region should look like. This information will inform conversations about the next iteration of a Chesapeake Bay watershed agreement. The intern will also explore the potential for a climate change project proposal that draws on the priorities and memberships of the Education, Diversity, and Stewardship workgroups (i.e., community resilience hubs).

—— **Fish Ecology Position**

This position will assist with collecting fish biodiversity data (fish species composition) in support of understanding the impact of Chesapeake Bay conservation and restoration efforts. This Field-based internship will support NCBO's fisheries-related survey operations. During the summer the selected intern will support: Fish community sampling in salt marsh habitats; Fish collection and tagging for acoustic telemetry projects; Processing of fish samples (identification and enumeration); and entering data from sampling events. The intern will also have the opportunity to work on independent projects that will provide further analysis of available fisheries data: Conduct weekly summaries of fish telemetry contacts from Bay-wide acoustic receiver arrays; Analyze length frequency data from long-term fisheries datasets to identify demographic trends in fish communities from restored and natural salt marsh habitats; Compare geomorphology of restored and natural saltmarsh habitats with LIDAR elevation data.

**Old Dominion University (ODU)** (<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.

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

This intern will understand how shallow groundwater levels would respond to sea level rise and precipitation alteration resulting from climate change in the long run. In this regard, an integrated surface water-groundwater model will be developed by considering interrelations among the atmosphere, land surface, vadose zone, shallow aquifer, and the mid-Atlantic ocean, and applied to predict impacts of future climates and sea levels on the shallow groundwater levels beneath City of Norfolk, Virginia at a continuous time step for a centurial or longer period.

**Penn State University (PSU)**( <https://www.psu.edu/> )

PSU first started under the name of "The Farmers High School." On February 22, 1855, Governor James Pollock signed the charter that would become the birth of the agricultural school. However, to establish the school, the board of trustees needed to find a location for the school. PSU is now ranked one of the USA's top 30 research universities. PSU researchers believe the best ideas and solutions come from including a multitude of perspectives. The University's interdisciplinary institutes promote collaboration across departmental boundaries to focus research strengths on vital scientific questions and pressing societal needs.

\_\_\_\_\_ **Research Assistant – Assessing the feasibility of assisted macroinvertebrate colonization in achieving ecological uplift in restored streams in the Chesapeake Bay Region**

This intern will be working with faculty and graduate students at Penn State University along with collaborators at the University of Maryland Center for Environmental Science and project stakeholders at the Chesapeake Bay Trust, Maryland DNR, and Anne Arundel County. The internship would involve a mixture of fieldwork collecting and sampling streams and freshwater invertebrates, and research in the lab, sorting and identifying macroinvertebrates. The intern would have the opportunity to develop an independent research project.

**United States Naval Academy (USNA)** (<https://www.usna.edu/Oceanography/index.php> )

The United States Naval Academy is a unique institution of higher learning located in desirable Annapolis, Maryland. As a historic officer accession program and premier undergraduate college, the United States Naval Academy has its distinctive niche amongst American educational institutions. Our talented faculty and staff are united by one common purpose--to develop the next generation of leaders for naval service. To deliver on this promise to our nation, we recruit from all segments of society to find faculty, instructors, and support staff who model the highest professional standards.

\_\_\_\_\_ **Describing the Coastal Soundscape in the Severn River, Annapolis MD USNA**

This intern will learn to calibrate and deploy passive acoustic sensors (hydrophones); and to download, process, and analyze the subsequent data. The advisor currently has extensive data sets from small demonstration oyster reefs in the Tred Avon River (NOAA Cooperative Oxford Lab), and College Creek, a tributary of the Severn River. Research questions will include comparing anthropogenic vs. biological noise by time of day, season, site, weekday/weekend, etc.

**Virginia Institute of Marine Science (VIMS)** (<http://www.vims.edu/ccrm/> )

The Virginia Institute of Marine Science (VIMS) was founded as the Virginia Fisheries Laboratory in 1940 through the efforts of Dr. Donald W. Davis, then chair of the Biology Department at William & Mary. The Laboratory was named the Virginia Institute of Marine Science and became an independent institution by an Act of Virginia's General Assembly in 1962. VIMS returned to the administrative umbrella of W&M in 1979. William & Mary's School of Marine Science is VIMS' graduate education component. The School, which granted its first Ph.D. degree in 1968, evolved from a Master's Program in Aquatic Science that began at W&M in 1940. The total number of M.S. and Ph.D. degrees earned by students at VIMS now exceeds 1,000. VIMS celebrated its 50th anniversary in 1990 and its 75th anniversary in 2015.

\_\_\_\_\_ **Environmental Justice Science Communication**

The intern will be working on optimizing a science translation tool for community use. The Virginia Institute of Marine Science (VIMS) in collaboration with the Elizabeth River Project non-profit, has created a tool specifically to help the Elizabeth River Project bring Environmental Justice considerations into their planning efforts. This intern may also work on other VIMS science communication projects, such as rural community resilience tool training or community outreach. This is envisioned as a position at VIMS, in Gloucester Point, VA, but a remote internship is also a possibility.