



Chesapeake StREAM Internship Describing the coastal soundscape in the Severn River, Annapolis MD USNA

The Chesapeake-Student Recruitment, Early Advisement, and Mentoring program (C-StREAM) is a collaboratively funded effort that develops and trains a diverse population of future leaders in environmental research, restoration, and protection by engaging them over multiple years in mentored engagement experiences. The program focuses on recruiting future leaders from populations historically excluded from the environmental field and currently under-represented in environmental research and management professions.

Project Description

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.

Soundscapes include all the sounds in the marine environment: anthropogenic, physical, biological, and geological. Over the last decade, marine soundscapes have received increased study because of their potential to provide information on the health of benthic communities without requiring expensive or disruptive sampling. In this project, the 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.

A second potential project will analyze the potential role of biodegradable containers for oyster spat-on-shell grow-out. As grey/green infrastructure is gaining popularity for shoreline protection, this project will examine the efficacy of more sustainable material in both containing spat-on-shell while reducing plastic debris loads to coastal habitats. Additional work will include field deployments and analysis of water quality sondes at the USNA site, exposure to the





Oceanography, Atmospheric Science facilities at USNA (AUV's drones, autonomous vehicles, current meters); and tours of the Naval Architecture and Ocean Engineering lab (wave tanks, flumes).

Opportunities

This internship will provide a unique opportunity to contribute to large-scale, long-term natural resource management and policy development critical to understanding new ways to improve Chesapeake Bay water quality and manage Chesapeake Bay living resources most effectively and efficiently across the 64,000 square mile Chesapeake Bay watershed. The C-StREAM student will gain experience in natural resource management, restoration science, and environmental policy. In addition, this internship experience will provide insights into careers in natural resource management, policy development, and science beyond those applied for and allow students to make connections with established environmental management and science professionals.

Responsibilities and Deliverables

- Develop a hypothesis related to the soundscape of the Severn River
- Deploy, recover, and analyze data from hydrophones and water quality sondes.
- Prepare a short report on the research conducted.
- Presentation at the C-StREAM end-of-summer student symposium.

Requirements

- Interest in environmental science, communication, Geographic Information Systems/mapping applications, and/or community engagement.
- Basic experience is desired but not required.
- Motivated self-starter with the ability to work and reason independently.
- Must be a college-level student entering sophomore, junior, or senior year of undergraduate study. Students are also eligible to participate during the immediate summer following their graduation if they are pursuing graduate studies in the fall.
- Must be a U.S. Citizen and willing to undergo a security background check.

Work Location and Duration

This position will be in person with options for remote work as needed. This in-person and virtual opportunity will be based on the USNA Yard in Annapolis, Maryland. The internship is





scheduled to begin on May 22, 2024, and end Friday, August 9, 2024. These are our preferred dates, but the dates can be adjusted to accommodate a student's school schedule if required. We

plan on providing interns with access to a computer, email, and phone services if this internship is offered in person. If the internship is virtual, interns will need to have access to suitable internet, computer, and communication resources.

Compensation

The intern will be reimbursed at the end of each month (June, July, and August), for a total of up to \$6,000 (\$500/week) for the equivalent of 12 weeks (480 hours) of full-time activities. Candidates should expect to follow a normal weekday work schedule (roughly 9-5, M- F) with occasional variations for possible fieldwork or other activities. No benefits are provided. We help arrange local housing if the position is an in-person opportunity. A one-time housing allowance of \$1,000 is available to each intern to assist with living and transportation expenses. Funds are also available to compensate interns for occasional work-related travel and professional development activities.

Diversity and Inclusion

The Chesapeake Research Consortium and EPA Chesapeake Bay Program are committed to supporting a diverse and inclusive science-oriented workforce. Our internship program endeavors to recruit from a diverse, qualified group of potential applicants to secure a high-performing workforce drawn from all segments of American society. CRC and CBP are strongly supportive of broadening the participation of historically Black colleges and universities, Hispanic serving institutions, Tribal colleges and universities, and institutions that work in underserved areas. We highly encourage applications from students at any of the above institutions as well as students that identify as Black, Indigenous, person of color, or 1st generation college student.

Application Instructions

Application instructions required materials, and the C-StREAM application portal can be found on the C-StREAM website (<u>http://chesapeake.org/c-stream/</u>). **The deadline for applications is by midnight on January 28, 2024. The deadline for the Reference Form is by midnight February 4, 2024.**



