

The Department of Meteorology and Atmospheric Science at The Pennsylvania State University is seeking a **postdoctoral scholar in the area of numerical modeling of coastal waters**. The postdoctoral scholar will work with Raymond Najjar, Professor of Oceanography, and join a large team funded by the National Science Foundation to quantify the role of macrobiota—specifically benthic fauna, submerged aquatic vegetation, and tidal wetlands—in the cycling of carbon and alkalinity in estuarine waters. Project activities include fieldwork, numerical modeling, and historical data analysis. Fieldwork in the York River Estuary and the Potomac River Estuary, two tributaries of the Chesapeake Bay (eastern United States), will take place in 2023 and 2024. The postdoctoral scholar will collaborate with team members with expertise in biogeochemistry, estuarine ecology, and numerical modeling from the Virginia Institute of Marine Sciences, the University of Maryland Center for Environmental Sciences, Saint Mary's College of Maryland, and the Woods Hole Oceanographic Institution.

Responsibilities:

- Work with team members to quantify lateral fluxes of carbon and alkalinity from two tidal wetland sites in the York River Estuary. The postdoctoral scholar will be primarily responsible for developing a hydrodynamic model that simulates water flow across the wetland sites.
- Combine field data on macrobiota carbon and alkalinity fluxes with historical data on biomass distributions to develop flux maps that will serve as input to three-dimensional biogeochemical models of the York River and Potomac River Estuaries.
- Analyze historical alkalinity data across multiple estuaries to help generalize findings from the Chesapeake Bay.

Qualifications and Requirements:

- Must provide proof of having met all degree requirements for a PhD in oceanography, marine science, environmental science, environmental engineering, or a related discipline by the time of hire.
- Experience with numerical models is essential and preference will be given to candidates who have used coastal and estuarine numerical models, particularly the Regional Ocean Modeling System.

Application Instructions

Apply [here](#). Interested candidates should submit a cover letter describing their interest in the position and career goals, a CV including publication list, and names & contact information of up to three references.

This is a postdoctoral position, funded for one year from the date of hire, with excellent possibility of renewal pending available funding and satisfactory performance.

The Pennsylvania State University's College of Earth and Mineral Sciences takes an active role in building a talented, inclusive, and culturally competent workforce. We understand that our shared future is guided by basic principles of fairness, mutual respect, and commitment to each other. Applicants should provide evidence, either woven through their application materials or as a separate diversity statement, of a commitment to fostering diversity, equity, inclusive excellence, and belonging and of engagement which creates an inclusive environment in their department/workplace.