

Postdoctoral Scientist - Ecosystems Center

Position Summary:

A postdoctoral position in coastal ecology and Earth System Modelling is available at the Marine Biological Laboratory (MBL), Woods Hole. This DOE-funded collaborative project with Oak Ridge National Laboratory (ORNL) seeks to improve mechanistic process understanding and modeling of tidal wetland hydro-biogeochemistry. The postdoctoral scientist will work as part of a multidisciplinary team developing representation of coastal processes by coupling DOE's earth system climate model, E3SM, with the biogeochemical model, PFLOTRAN. The postdoctoral scientist will be an MBL employee but will spend extended time early on at ORNL for modeling training. Upon return to MBL, the postdoc will continue to participate remotely in regular meetings of the ORNL wetland modelling community while also having the opportunity to participate in field campaigns. Field data describing temporally and spatially heterogeneous soil redox conditions and ecosystem-scale measurements of CO₂, CH₄ and energy exchange will be collected by team members. These field measurements will be used to help constrain three phases of ELM-PFLOTRAN development designed to improve simulations of brackish marsh biogeochemistry under fluctuating oxygen availability and salinity influenced by tides, diel and seasonal changes in plant physiology and river discharge.

Additional Information:

We seek a creative and motivated postdoctoral scientist with a publication track record in coastal ecology or related fields. The postdoc must be able to work independently but also effectively within a highly collaborative team environment. Funding support is available for two and a half years. Performance will be reviewed on an annual basis.

Basic Qualifications:

- A PhD in environmental sciences, biogeochemistry, marine sciences, or equivalent areas of research by start date.
- Programming experience in Fortran, python, R, or related language, ideally in the context of mechanistic numerical modeling of biological and/or biogeochemical processes.
- Demonstrated excellent oral and written communication skills through published papers and scientific presentations.

Preferred Qualifications: One or more of the following:

- Experience applying, evaluating, and/or developing mechanistic model(s) of the hydrological, biogeochemical, and vegetation components of coastal systems.
- A working knowledge of field and laboratory methods relevant to hydrological, biogeochemical, and/or ecological process studies in coastal systems

Application Instructions:

Please submit the following with your application:

- Cover Letter / Research Statement
 - Curriculum Vitae (CV)
 - Names and Contact Information of 3 References (please do not have referees send unsolicited letters)
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Equal Opportunity Employer/Protected Veterans/Individuals with Disabilities

The contractor will not discharge or in any other manner discriminate against employees or applicants because they have inquired about, discussed, or disclosed their own pay or the pay of another employee or applicant. However, employees who have access to the compensation information of other employees or applicants as a part of their essential job functions cannot disclose the pay of other employees or applicants to individuals who do not otherwise have access to compensation information, unless the disclosure is (a) in response to a formal complaint or charge, (b) in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or (c) consistent with the contractor's legal duty to furnish information. 41 CFR 60-1.35(c)