

# Interdisciplinary Coastal MS Research Assistantship

Civil & Environmental Engineering/Earth & Climate Sciences/Communications & Journalism

This stakeholder driven, solutions focused, interdisciplinary project aims to advance the capacity to predict responses to contaminated freshwater runoff into coastal Maine estuaries (CoMEE) to advance shellfishery management. The project will use field campaigns and analytical modeling techniques to quantify estuary conditions in wet and dry seasons. Field measurements will guide development of idealized hydrodynamic simulations (CoMEE models) of the Jordan and Medomak Rivers on Maine's iconic and economically important coast. The measurements and simulations will be used to describe and parameterize land-sea connection dynamics and quantify uncertainty in prediction of freshwater flow exchange in varied estuary settings hosting shellfish harvesting activities. The outcomes of this work will provide new information and knowledge of interest to coastal stakeholder communities, expand the capacity to predict coastal pollution problems, and support the development of decision tools and mitigation strategies for problematic freshwater flows affecting estuaries and shellfishing industries in the region. The graduate student working on this project will be directly involved with the coastal hydraulic research activities, stakeholder engagement, and science communication to adapt research results into management solutions.

We seek a Master of Science student to work on this project in collaboration with the Civil and Environmental Engineering Department (Dr. Lauren Ross), the School of Earth and Climate Sciences (Dr. Sean Smith) and the Communications and Journalism Department (Dr. Bridie McGreavy) at UMaine. The student can either be housed in the Civil & Environmental Engineering Department or the School of Earth & Climate Sciences.

## **Requirements:**

- Experience in computer programming (e.g., MatLab),
- Strong mathematics and physics background,
- Strong interpersonal skills and ability to be a team player,
- The student must be able to start the position in the summer of 2019.

To apply, send a one page letter of motivation, CV and copy of transcripts to [lauren.ross1@maine.edu](mailto:lauren.ross1@maine.edu) by **May 1<sup>st</sup>, 2019**. Send any questions to the email listed.