

PhD Dissertation
Department of Environmental Science and Policy
College of Science
George Mason University

Candidate: Adam T. Carpenter

Defense Date and Time: March 7, 2019, 10:00am

Defense Location: Johnson Center Meeting Room D (3rd floor), Fairfax Campus

Title: A Framework for Locally Driven Sea Level Rise Policy and Action

Dissertation Director: Dr. Dann Sklarew

Committee: Dr. Sharon deMonsabert, Dr. Robert Jonas, Dr. Paul Schopf, Dr. Barry Liner

ABSTRACT

Sea level rise (SLR) is a potentially devastating process for coastal communities, and many are not adequately prepared. Lacking perfect SLR information, communities must plan and prepare using imperfect information, subject to the needs and preferences of the community. This study identified public and local officials' preferences for SLR planning in coastal communities on the East Coast of the United States. A survey of over 500 individuals who live in, work in, or regularly visit coastal communities on the East Coast of the United States identified preferred components needed for planning, funding, and conflict resolution methods around SLR plans. Interviews with public officials on Long Beach Island, New Jersey addressed the utility of the survey results to address community needs to reduce SLR risks, protect key assets, and identify local protection priorities. Six key findings describe public preferences on what to include in a plan (such as prioritizing critical infrastructure), methods to reduce conflict (such as discussions with scientists) funding methods, and other components of a community-based sea level rise plan. This work will help communities to build SLR plans to meet their needs while breaking down policymaking barriers.