

BAAMRGP: Bioeconomic analysis for Arctic Marine Resource Governance and Policy

Call: Arctic Observing and Research for Sustainability

Type of Project: Type 3 - Research Grant

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To provide insights for governance and marine resource management in order to prevent, contain, mitigate, and/or adapt to changes in Arctic marine resource productivity one must answer: (1) What are the bioeconomic features of Arctic marine resources at risk of change over space and time? (2) How do human behavior and policy incentives directly and indirectly impact these marine resources? (3) What are the best governance options for Arctic marine resources? The BAAMRGP collaborators develop, through innovative bioeconomic analyses and application of game theoretic tools, integrated marine resource management tools for decision-making designed for the unique Arctic environment, its complex geopolitical configuration, and the changing risks and uncertainties over space and time. The team will focus on the dynamics of existing and new commercial fisheries generated from introduced invasive species, the threat of marine invasive species, vessel strikes and noise from vectors accompanying increasing trade and marine infrastructure in the Northwest Passage and Northern Sea Route. This research offers predictive analysis of policy and governance options to sustain marine resources through an integrated framework that formally includes adaptive management through use of Arctic Observing Systems data. This integrated ecological and game theoretic behavioral framework contributes to Arctic stewardship by enabling policymakers to specify appropriate policies for sustainable harvest practices, abating invasive species and marine pollution, and optimal resource conservation. Through the policies, society and the economy linked to the Arctic are positively impacted.