

Environmental Studies Program: Ongoing Study

Field	Study Information
Title	From Beaufort to Bering Seas: Analyzing Relationships of Communication and Risk-sharing in Anticipation of Increased Hydrocarbon Traffic off Alaska's Northern Coasts (AK-19-02-18)
Administered by	Alaska Regional Office
BOEM Contact(s)	Dr. Jeffrey Brooks (jeffrey.brooks@boem.gov)
Procurement Type(s)	Cooperative Agreement
Conducting Organization(s)	University of Alaska Coastal Marine Institute
Total BOEM Cost	\$115,143, plus Joint Funding (\$110,276)
Performance Period	FY 2023–2025
Final Report Due	September 2024
Date Revised	October 17, 2022
Problem	Coastal communities; federal, state, borough, tribal, and city governments; Alaska Native organizations; and other economic sectors such as subsistence harvest may be exposed to risks from and adversely affected by increased shipping in Arctic waters.
Intervention	Researchers will study risks from, potential impacts of, and capacity to respond to shipping traffic in the region through a multi-site, communication network analysis of key regulatory, legal, and managerial individuals and entities.
Comparison	Key entities, actors, sectors, and places will be compared based on similarities and differences in communication networks, shared perceptions of risks, risk preparedness, and capacity to effectively cooperate to mitigate impacts.
Outcome	Results will provide a better understanding of intraregional communication, relationships, and risk perceptions among actors. This understanding will enable actors to prepare for and mitigate impacts from current and future shipping.
Context	The United States Arctic from the North Slope coastal region to the Bering Strait (i.e., Prudhoe Bay to Nome). Chukchi Sea, Beaufort Sea, and Hope Basin planning areas.

BOEM Information Need(s): This study will generate knowledge on the structure and informational flows of the governance network for the United States Arctic marine and coastal environments. It will serve as a meta-analysis of how information flow and social learning take place in the formal and informal monitoring of environmental and social impacts of BOEM-related marine activities. It will address the issue of existing and emerging technology, providing streamlined and effective delivery of critical environmental information to all relevant parties. Products from this research can be used to promote intraregional coordination and communication among Tribal governments, Alaska Native regional corporations, nonprofit organizations, the U.S. Coast Guard, NOAA, and BOEM, who each have a shared interest in responsible and safe marine development and shipping. It will provide guidelines

and evidence for enhancing regional well-being through improved levels and modes of communication among diverse stakeholders and partners.

Background: Maritime operations in the United States Arctic are governed and managed by a suite of governmental institutions and agencies. A variety of stakeholders and agency partners hold diverse perceptions and views on marine safety and risks to the marine, coastal, and human environments from maritime operations such as shipping. There are many different regulations that direct the offshore and coastal activities of many key actors in state and federal waters.

In Alaska, offshore activities in federal waters, beyond the 3-nautical mile state zone, are monitored and regulated by multiple bodies, including the National Oceanic and Atmospheric Administration, the US Coast Guard, and the Bureau of Ocean Energy Management. Since Alaska's withdrawal from the US Coastal Zone Management Act Program in 2011, only a handful of regional entities such as Alaska Eskimo Whaling Commission, the Marine Exchange of Alaska, and port authorities have clear roles in how Alaska's expansive offshore zone is to be managed (Blair et al. 2014). Before 2011, the Alaska Coastal Zone Program coordinated a comprehensive planning and permitting process that brought interests to a central location to debate management and development costs and benefits. Now coastal development and related activities are governed in networked, but separate jurisdictional and policy forums, which involves transaction costs for coastal residents, including meeting fatigue, overburden, and confusion for residents of coastal communities. Coastal lands are further divided among numerous proprietors including federal and state government agencies and Alaska Native Corporations under a variety of statutes (DNR 2021).

BOEM is part of the governance of the Alaskan coastal complex, which is the combined geographic space of the state's coasts, state waters, and federal waters. This coastal-maritime complex falls under the jurisdiction of federal, state, and co-management body governance for marine operations and activities. The growth of industrial development and its related vessel traffic in the Arctic represents a unique challenge for monitoring and governance institutions alike because its impacts on human-environmental systems span multiple scales and boundaries, both natural (e.g., the liquid, mobile ocean and its contents) and built (e.g., sea walls, drilling platforms, port infrastructure). Considering recent development plans for the Liberty prospect in federal waters, the Nome Port expansion in state waters, and the U.S. Coast Guard's ongoing Arctic Port Access Route Study, there is a critical need to examine how governance of industrial projects and related shipping are being understood, coordinated, and communicated among the different jurisdictions and socially and ecologically interrelated localities.

Objectives: The purpose is to analyze governance of the coastal-marine complex for key regulatory, legal, and managerial authorities and stakeholders from the North Slope to the Bering Strait. Specific objectives include:

- Determine what stakeholders identify as essential for coherent maritime network governance and effective cooperation in a dynamic maritime system now and into the future.
- Identify current levels of institutional capacity to anticipate, monitor, and regulate changes in the coastal and offshore environments related to increasing amounts of larger vessels and vessels with hazardous cargo.
- Determine the current structure and strength of present communication networks and flows of information.
- Compare risk perception and risk preparedness across authorities and stakeholders.

- Provide guidelines and evidence for enhancing regional well-being through improved levels and modes of communication and risk preparedness among key stakeholders and partners.

Methods: This is a two-year pilot study designed to inform and expand similar research in the future. Using a node-based, spatial network approach at a city-regional scale (Ducruet et al. 2018), the project will map the present and past institutional linkages between key actors (i.e., authorities and stakeholders) who are based in or operating through Prudhoe Bay, Utqiagvik, Kotzebue, and Nome. Actors and locations will be characterized based on number and robustness of communication linkages across organizations; their capacities, both infrastructural and relational, for monitoring and responding to maritime shipping activity; and the degree to which local participation and Indigenous Knowledge contribute to that capacity. The research team will produce preliminary network maps to serve as a guide to better understand the relationships and communication linkages among key actors, improve relationship-building, and streamline planning, management, and regulation of shipping traffic between the North Slope and Bering Sea. Specific methods will include stakeholder meetings and discussions, focus groups, in-depth literature review, compilation and synthesis of existing data, and creation of spreadsheets and maps.

Specific Research Questions:

1. Through what channels and structures are individuals, state agencies, Tribal governments, Alaska Native organizations, and other actors communicating, coordinating, and collaborating on management and regulation of the Arctic coastal and near-shore region in relation to an increase in industrial and commercial shipping traffic?
2. Given the environmental and legal uncertainty in this transportation corridor, what do intraregional actors identify as essential for maritime safety, coherent maritime network governance, and effective cooperation in a dynamic system now and into the future?

Current Status: Ongoing, fieldwork completed and data analyses underway.

Publications Completed:

Lovecraft, A., Parlato, N., Payenna, H., and Meek, C. 2023. Networked Institutions, Interests, and Legacies on Arctic Alaska Shores (NILAAS): Research preparations and preliminary work. Presentation for the Annual CMI Research Update. 11 p. Fairbanks, (AK): University of Alaska, International Arctic Research Center.

Affiliated WWW Sites:

<http://www.boem.gov/akstudies/> and <https://www.uaf.edu/cfos/research/cmi/>

Reference:

Blair B, Lovecraft AL, Kofinas GP. 2014. Meeting institutional criteria for social resilience: A nested risk system model. *Ecology and Society*, 19(4).

Department of Natural Resources (DNR). 2021. Map of General Land Status. Juneau, AK: State of Alaska.

Ducruet, C., Cuyala, S., and El Hosni, A. 2018. Maritime Networks as Systems of Cities: The Long-term Interdependencies Between Global Shipping Flows and Urban Development (1890–2010). *Journal of Transport Geography*, 66, 340-355.