



# Promoting Coastal Community Resilience through Alaska Fisheries Business Self-Assessments

## Overview

### Project Location

Kachemak Bay, Alaska

### Project Duration

July 1, 2017 to June 30, 2019

### Project Lead

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### Project Type

Science Transfer – promoting the use of science

### Project Partners

- Alaska Marine Conservation Council
- Alaska Sea Grant
- Kachemak Bay National Estuarine Research Reserve
- University of Alaska

Climate change impacts on Alaskan coasts are occurring at a rate that is challenging the ability of resource-dependent businesses to respond and adapt. Climate change-induced threats to Alaskan fishing communities include changing oceanographic conditions of circulation and temperature, ocean acidification, and harmful algal blooms, as well as changing stream temperatures, turbidity, and nutrient conditions. Adequate resilience tools for local fishery-related businesses in Alaska have not yet been designed and implemented, which is a barrier to effective community resilience. These issues were identified at a series of climate resilience workshops the Kachemak Bay National Estuarine Research Reserve hosted for decision-makers in 2016 and 2017.

The goal of this project is to strengthen local fishery-related businesses, which buoy coastal communities in the face of natural hazards and disasters. This project will transfer a Resilience Index business self-assessment developed by the Mississippi-Alabama Sea Grant Consortium. The project team and partners will collaboratively adapt the self-assessment for Alaska businesses using best available science and local issues. The project will convene a network of partners, including fishery industry leaders, resource managers, business owners, non-profits, and resilience experts, to identify and organize focus groups of target audiences. Multi-sector business resilience workshops will be developed using the updated Fisheries Resilience Index, and curriculum and publications will be distributed for additional trainings in other Alaskan communities. By generating resources and tools for businesses, the project will increase the effects of the Kachemak Bay reserve's resilience efforts and further demonstrate the applicability of business self-assessments on impacted estuarine ecosystems and economies.

## Anticipated Benefits

- Fishery industry leaders, fishery managers, business owners, non-profits, and resilience experts in Alaska will have increased awareness and understanding of climate change science and vulnerabilities.
- The Kachemak Bay community will have expanded capacity to prepare for climate change, as the best available science is integrated into business strategic planning.
- Alaskan fisheries businesses will have increased coastal resilience and a strengthened network around a changing climate.
- The Kachemak Bay reserve will have an increased capacity to effectively engage diverse sectors of the community on issues around climate impacts and hazards.

## Project Approach

With expert input from the Alaska Marine Conservation Council and Alaska Sea Grant, the project team will synthesize the best available climate science and current and historical fisheries resilience evaluations. Existing vulnerability assessments and climate change impacts will also be reviewed and considered as part of this synthesis. Using this information, the project team will then edit and refine the Fisheries Resilience Index developed by the Mississippi-Alabama Sea Grant Consortium for Alaskan fisheries.

Focus groups of Kachemak Bay fisheries businesses will offer the project team insight into cultural perceptions of resilience. Topics for exploration will include climate observations, risk perceptions, coastal hazards, and perceptions of success. Results from these focus groups will help to identify which primary indicators and metrics will be considered for inclusion in the self-assessment. Focus group findings will also ensure that the final self-assessment meets local business needs and allows room for consideration of both the biophysical and socioeconomic characteristics of the end users.

The Alaska Fisheries Resilience Index business self-assessment will be tested at a one-day workshop by a diverse group of fisheries businesses from the Kachemak Bay region. Finally, leveraging existing networks, and in partnership with Alaska Sea Grant and the Alaska Marine Conservation Center, the Kachemak Bay reserve will train and distribute the final project materials through publications and trainings in other Alaskan coastal communities.

## Targeted End Users and Anticipated Products

- Alaskan fisheries businesses will have access to a self-assessment tool for identifying opportunities and assessing risks from hazards of a changing climate.
- Alaskan coastal community partners will have training curricula to assist them in conducting self-assessment workshops.
- Community leaders, decision-makers, and researchers will have a set of identified specific research gaps and monitoring data needs to inform future decisions.

### About the Science Collaborative

*The National Estuarine Research Reserve System's Science Collaborative supports collaborative research that addresses coastal management problems important to the reserves. The Science Collaborative is managed by the University of Michigan's Water Center through a cooperative agreement with the National Oceanic and Atmospheric Administration (NOAA). Funding for the research reserves and this program comes from NOAA. Learn more at [coast.noaa.gov/nerrs](http://coast.noaa.gov/nerrs) or [graham.umich.edu/water/nerrs](http://graham.umich.edu/water/nerrs).*