

Enhancing Alaskan coastal community resilience and adaptation to a changing environment

Coastal Community Resilience Program

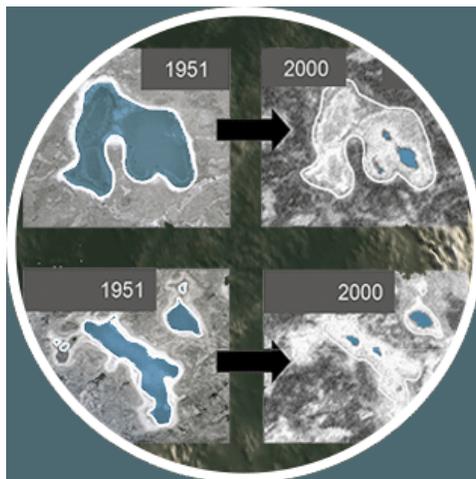
The National Oceanic and Atmospheric Administration (NOAA), NOAA Sea Grant, and Alaska Sea Grant created the Coastal Community Resilience Specialist liaison position in cooperation with the National Weather Service, the NOAA Climate Program, NOAA Alaska RISA and the University of Alaska Fairbanks to prepare communities for adaptation to rapidly changing oceanic and terrestrial conditions in Alaska and the Arctic.

Meet Davin Holen, Alaska Sea Grant Coastal Community Resilience Specialist



As the Alaska Sea Grant Coastal Community Resilience Specialist, Davin

Holen is dedicated to providing expertise, research, and extension services that enhance the culture and well-being of coastal communities across Alaska. Davin works collaboratively with the Alaska Center for Climate Assessment and Policy at University of Alaska-Fairbanks's International Arctic Research Center, and as a Sea Grant liaison is supported by and draws on resources from NOAA and the National Sea Grant program.



Over the past 60 years, Alaska has warmed more than twice as rapidly as the rest of the United States, with statewide average annual air temperature increasing by 3°F and average winter temperature by 6°F. Key drivers of change include lack of an ice pack during storm seasons to buffer the coastline, reduced snowpack, permafrost thaw, increasing fire activity and rapid ecosystem changes in the marine environment.

There are at least 30 known rural Alaska coastal communities that are either in the process of or in need of relocating their entire village due to the impacts of changing climate conditions. Many others are migrating away from the coast, or choosing to stay in place while replacing critical infrastructure that can withstand the extreme weather of coastal Alaska and adapt to change.



Developing Partnerships

As the Alaska Sea Grant Coastal Community Resilience Specialist, Davin Holen works with partners from federal and state agencies, nonprofits and tribes to hold coastal resilience workshops in Alaskan coastal hub communities. The goal is to bring the latest science for each region to communities, then create a dialogue between agencies, researchers, and community members on how changes are impacting traditional ways of life. Partners formed Adapt Alaska to enable communities to adapt to rapidly changing ocean and climatic conditions and the changing terrestrial landscape. Alaska Sea Grant hosts the Adapt Alaska website and continues to conduct additional workshops and activities including Adapt Y-K and the upcoming Adapt Kodiak.

Adapt Y-K

The Yukon-Kuskokwim (Y-K) Delta has one of the highest densities of rural predominately Alaska Native communities in Alaska with 56 communities, while also displaying one of the highest diversity of wild resource harvest and use patterns in Alaska. Climate change is affecting the Y-K Delta, from fish and wildlife habitats, to access to subsistence foods, to the stability of the ground under roads, runways and buildings. An effort called Adapt Y-K, a spinoff of Adapt Alaska, will bring together federal, state, and tribal stakeholders from across this diverse region working collaboratively to discuss large, complex topics where the team felt actual challenges could be addressed. The topics to be covered are 1) infrastructure needs in a changing climate due to coastal inundation, erosion, and permafrost thaw, 2) fish drying practices in a changing climate, and 3) improvements that could be made to trails to mitigate the impact to fragile ecosystems.



An abandoned building sits near a bluff in Utqiagvik. Photo: Paula Dobbyn.

Bering Sea Fishery Ecosystem Plan

The Bering Sea Fishery Ecosystem Plan (BS FEP) was initiated by the North Pacific Fisheries Management Council as a tool that can serve as a framework for continued incorporation of ecosystem goals and actions in regional management. An FEP for the Bering Sea could be used to guide policy options and associated opportunities, risks, and tradeoffs affecting FMP species and the broader Bering Sea ecosystem in a systematic manner. As an anthropologist with a long history of working in rural communities in Alaska, Davin contributed the subsistence economy section to the FEP as well as assisting in integrating local and traditional knowledge into the document. Through his work in the Bering Sea Region, Davin will assist with outreach of the FEP so stakeholder concerns can be incorporated.

Work with the NOAA Climate Program Office

Coastal Alaska and Louisiana share many similarities in how coastal inundation and extreme weather events are impacting water systems. Through collaborative work with the Alaska Center for Climate Assessment and Policy, part of the NOAA Regional Integrated Sciences and Assessments (RISA) program, researchers are working in rural communities in both states to understand how extreme events impact rural community water systems including coastal erosion, infrastructure damage, and health threats when storm surge inundates freshwater sources and sewage lagoons. This project being conducted in western Alaska and southern Louisiana compares water and wastewater information needs for extreme events and identifies strategies to reduce risk and increase resilience in Alaska, Louisiana, and other rural coastal communities in the U.S.



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