



Summary: Bristol Bay Erosion Training Workshop

August 15-16, 2016 Dillingham, AK



Workshop participants on Kakanak Beach, August 15, 2016 (Photo courtesy of Gabe Dunham)

The main goal of this project is to equip local residents with equipment and resources they can use to collect scientifically rigorous measurements and observations of shoreline retreat. Bristol Bay was selected as a pilot region to test local monitoring methods, as well as to determine the feasibility of expanding the project statewide. In order to prepare community members to monitor erosion with limited on-site technical assistance, a two-day workshop was held in Dillingham and hosted by project partners.

Workshop at Bristol Bay Campus

I lost a subsistence site that was over 100 feet back because of erosion. We had to pull our nets because of islands of land floating by.

-Workshop participant, Pilot Point

Project Overview

The majority of rural Alaskan communities are located near oceans, rivers, and lakes and some are particularly vulnerable to flooding and erosion. Currently, the effects of shoreline change in Alaska are under-monitored due in part to the expansive coastline and a lack of instrumentation in rural areas. In response to these issues, a partnership consisting of Bristol Bay Native Association (BBNA), University of Alaska Fairbanks (UAF), Alaska Sea Grant, the Alaska Division of Geological and Geophysical Surveys (DGGS), and the Alaska Native Tribal Health Consortium (ANTHC) launched a pilot project to establish a method for community-based monitoring of shoreline change. Funding for this project comes from Alaska Sea Grant and the Bureau of Indian Affairs.



On August 15th and 16th of 2016, a workshop held at UAF's Bristol Bay Campus trained participants on how shorelines change, how to monitor them, and how to interpret and submit monitoring data to online databases. Communities represented were Aleknagik, Chignik Lake, Dillingham, Ekuk, Goodnews Bay, Iliamna, Levelock, New Stuyahok, Nondalton, Pilot Point, Port Heiden, and Togiak. Representatives from UAF, BBNA, Alaska Sea Grant, and DGGS served as co-instructors for the workshop.

The workshop had three overarching objectives:

- 1) Learn how to use low-tech solutions for monitoring shoreline change, including how to place, maintain, and collect data;
- 2) Learn how to submit data and what is done to process the data; and
- 3) Create a venue for conversation about shoreline change.

Presentations on the morning of Day 1 provided an introduction to erosion and shoreline change, including

what it is, challenges to collecting baseline information, and why it is important to consistently monitor and measure it. Participants split into small groups and discussed causes and impacts of shoreline change in their communities.

In the afternoon, the participants were trained in three methods for using stakes to monitor erosion: emery boards, stake sites, and combining stake sites with time-lapse cameras. The step-by-step process for setup and monitoring, necessary materials, and considerations such as location and timeline were covered for each method. Later in the afternoon, participants were taken to Kakanak Beach to practice the emery board monitoring technique.

On Day 2, instructors began the morning with a review of all three erosion monitoring techniques. Afterwards, two speakers from Alaska Sea Grant and Western Alaska Landscape Conservation Cooperative presented work on shoreline change completed by their organizations and how their efforts could potentially intersect with community-based monitoring.



Participants setting up a camera monitoring site, August 16, 2016 (Photo courtesy of Jacquelyn Overbeck)

Participants then traveled to a second field site, where they were given the opportunity to set up a real stake and camera monitoring system that will be used to monitor shoreline change near Dillingham. Participants were broken up into groups, with an instructor guiding groups through each step of the process. The day was rounded out with presentations back at Bristol Bay Campus, where a speaker from ANTHC gave a presentation on how to apply observational data and knowledge using the Local Environmental Observer (LEO) Network. Workshop

instructors explained how to process and submit monitoring data once sites are established, and a final recap of the entire workshop concluded the event.

Key Outcomes

Observational and monitoring approaches work collaboratively and can complement each other to increase understanding about environmental change.

-Workshop participant, Anchorage

Fifteen attendees from twelve Bristol Bay communities participated in the erosion monitoring workshop and received training on shoreline change, monitoring methods, and data processing. Each participant was asked to fill out a workshop evaluation at the conclusion of the event. Suggestions for future workshops included: recording a video with instructions for all processes covered in the workshop; having participants generate a plan for who will help them in their villages and a timeline for setting up stakes and cameras; and distributing USB drives to participants to take home with all workshop presentations uploaded.

Overall, feedback for the workshop was overwhelmingly positive. Out of 14 participant surveys completed, 100% of respondents reported that the workshop increased their knowledge of erosion processes, monitoring, and data collection; that they would use erosion data for planning and mitigation in their home community; and that information from the workshop would help their community plan for, or respond to, erosion and other environmental hazards. 93% reported that information from the workshop would help their community make sustainable economic and environmental decisions.

Final comments included, “Well organized...[I] liked how we all got hands on experience with equipment/tools,” “Simple and easy to use,” and “Excellent presenters, teachers, and coordinators.” All participants, including presenters, considered the training to be highly successful.