

# Arctic Coastal Risk Network

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## Project Website Urls & Social Media Accounts:

<https://www.arcticcoastalrisk.net/>



Community-engaged coastal research

**Project Objectives:** The overall project objective is to converge natural science, social science, and indigenous knowledge to define and communicate Arctic coastal risk. This objective is achieved with outreach activities at meetings and conferences, with the development of a project website where we communicate project activities, and with a demonstration project where we develop tools to define and communicate Arctic coastal risk. Broader impact activities include support of student research and direct engagement with coastal community members facing Arctic coastal hazards and risks.

**Keywords:** Arctic coastal risk, coastal hazards, community-engagement.

**Progress to Date/Future Plans:** Progress to date includes the following. (1) We have done outreach at conferences and meetings. (2) We have developed a project website ([arcticcoastalrisk.net](http://arcticcoastalrisk.net)). (3) We have established a demonstration project at Hooper Bay Alaska, where we are developing methods to define and communicate Arctic coastal risk. In particular, following engagement with the Hooper Bay community, we have identified four critical coastal hazards/risks: coastal flooding, coastal erosion, permafrost thaw, and salinity intrusion. We are currently working to define the coastal flooding hazard, the risk (cost) of flooding to the community, and the risk reduction achieved by implementing countermeasures (raising the road elevation). We have simulated historic storm surge and flooding events and we have projected future flooding, identifying transportation infrastructure (roads) vulnerable to flooding. In the future, we will continue to develop methods to define and communicate Arctic coastal risk, including risks due to erosion, permafrost thaw, and salinity intrusion. We will also deepen our engagement with the community of Hooper Bay (site of demonstration project) to better understand their perception of risk.

**Highlights or Expected Outcomes:** The ongoing research incorporates indigenous knowledge and converges physical science and social science to define/project the Arctic coastal hazards and risks (costs) born by Arctic communities under both current and future conditions. The research will generate tools to support risk management and decision-making, in this rapidly changing environment.

**NNA Community Collaboration and Research Coordination:** There are a number of active NNA projects with a coastal focus. We would like to understand the efforts of these projects to achieve better collaboration and coordination. The PI's of five NNA RCN's are planning a joint workshop in 2021 entitled: "2021 Workshop on Arctic Coastal Communities, Hazards Remediation, and Resilience (2021 Arctic Coastal Workshop)", which will help to achieve this goal.