State of Alaska

Department of Natural Resources

Division of Geological & Geophysical Surveys

Progress Report: Systematic Approach to Assessing the Vulnerability of Alaska's Coastal Infrastructure to Erosion

Date: October 30, 2019

Period of Reporting: July 1-September 30, 2019

Submitted to: Denali Commission

Objectives and Milestones

	Year 1			
Objectives	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Project kickoff, account setup at State of Alaska, and staff hiring		X		
Establish data agreements for infrastructure file datasets			X	X
Provide initial assessment at pilot sites (Locations: TBA)				X

(2000) character limit

Progress during this period consisted of finalizing shoreline datasets for re-processing through the Digital Shoreline Analysis System (DSAS), development of a preliminary shoreline projection tool, and creation of an initial map product.

DSAS files were finalized for 27 communities in the western Alaska region. This project is associated with a project funded by the Bureau of Indian Affairs, which will expand the project to the Bristol Bay region. A graduate student was hired for that project and they have begun the shoreline change assessment for 11 Bristol Bay communities. In addition, the USGS has just finalized a shoreline change assessment for 4 northwest Alaska communities. Project manager, Overbeck, is working to get data transferred from USGS to DGGS for those and previously analyzed North Slope communities, adding 9 communities (including the 4) to the analysis. An undergraduate intern has also started work to assist in this project.

There are two potential tools for projecting shorelines which are being investigated. The first is an automated tool added to DSAS in the most recent version. This tool allows the user to project where the shoreline may be into the future, given the linear rate of shoreline change. The second projection tool is under development at DGGS, which computes the time to impact of a shoreline on specific infrastructure. The first tool may be run and used to create shoreline projection maps, while the second will be used to create the geodatabase described in the project proposal.

Since communities are actively making decisions in regard to erosion and agencies are making decisions on how to distribute resources to these communities, DGGS will publish shoreline change maps for the communities included in this project. These shoreline change maps are considered an initial map product and not the final deliverable. However, this will result in a DGGS publication of the shoreline change rates at each community.

Budget Summary

No changes. On track.

Expenditures:

Total this quarter $34,089.58

Den. Com. $31,470.37

Match $2,619.21