



UAA College of Engineering
UNIVERSITY of ALASKA ANCHORAGE



UAA Professional Development Seminar Series

Arctic-Capable Coastal Geomorphic Change Modeling

Presented by: Michael Ulmgren, Research Engineer, UAA,
and Euan-Angus MacLeod, Student, UAA



Coastal erosion threatens Native Alaskan villages, sensitive ecosystems and energy and defense-related infrastructure, and the remote northern Alaska coast has some of the greatest shoreline-erosion rates in the nation. As warmer temperatures melt the permafrost in the sub-surface layers, soils are losing their structural integrity.

To understand and adapt to this reality, erosion and flood modelling is crucial for conveying the risk and vulnerability faced by these communities. Process-based and semi-empirical coastal erosion models have been developed for Arctic Alaska which have been calibrated and validated with historic environmental data. The objective of this project is to develop methodologies to forecast environmental data in formats that can be used in forecasting for coastal erosion and coastal flooding models.

Michael Ulmgren is a research engineer at the University of Alaska Anchorage (UAA), and holds a Master of Science in Civil Engineering from UAA. He has more than 4 years of experience in water resources/coastal engineering. He is actively involved in a Coastal Erosion Modeling Study at Barter Island and Oliktok Point funded by USAF.

Euan-Angus MacLeod is a full-time graduate student at the University of Alaska Anchorage (UAA), working towards an M.Sc. in Civil Engineering, focusing on Water Resources. He received his Master of Engineering degree in Civil Engineering from the University of Glasgow in Scotland, and worked as a graduate water engineer for Sweco, working on flood alleviation, utilities and raw water source security.

Friday, February 2, 2018
11:45 am - 12:45 pm
UAA College of Engineering, EIB 211