ES12: Coastal sediment dynamics and morphological response: Advances in observation and prediction

Conveners: Bernie Bauer[1], Alex Hay[2], Chris Houser[3], Ryan Mulligan[4], Phil Osborne[5]

Co-chairs: Ryan Mulligan, Chris Houser

1Earth and Environmental Sciences, University of British Columbia (b.bauer@ubc.ca)
[2]Department of Oceanography, Dalhousie University (alex.hay@dal.ca)
[3]Earth and Environmental Science, University of Windsor (chouser@uwindsor.ca)
[4]Department of Civil Engineering, Queens University (ryan.mulligan@queensu.ca)
[5]Golder Associates Ltd (Phil_Osborne@golder.com)

Session Description

The dynamic response of mobile sediments in coastal environments can be observed, monitored and modeled across a range of spatial and temporal scales, from the transgression of barrier islands over the Holocene to salt marsh erosion and small-scale exchanges of sediment amongst the nearshore beach and dune. The varied coastlines of North America have the potential to undergo significant changes over the next century in response to natural and anthropogenic forcing including sea level rise, melting of the coastal permafrost and the Arctic ice pack, increased storm frequency and magnitude, impacts from tsunamis generated by earthquakes or landslides, emplacement of coastal protection structures and tidal power generation stations. The goal of the session is to draw together geophysical coastal scientists and engineers to share recent findings and advance our ability to observe and predict coastal response to natural and anthropogenic forcing. The session will include studies based on field observations, the application and development of models, investigations of sedimentary deposits, and physical experiments. Submissions based on results from interdisciplinary investigations are encouraged.

Primary Affiliation: Joint / CSAFM / Biogeosciences / Earth Surface Processes