

Kachemak Bay Project Summary

The goal of this project is to assess habitat conditions that influence biodiversity and distribution of soft bottom benthic infaunal communities in Kachemak Bay, a relatively poorly studied habitat in the Bay. This project will characterize physicochemical sediment properties, benthic infaunal community distributions and condition, sediment contaminant concentrations, and toxicity. The Bay will be sub-divided into strata based on geophysical, chemical, and hydrodynamic properties. Strata will be synoptically sampled in a stratified random statistical design. Sediment subsamples will be collected for physical characterization, comprehensive chemical analyses, benthic macroinvertebrate analysis, and toxicity bioassays; in addition, basic water quality parameters will be measured. Data will be analyzed in the sediment quality triad framework for ecosystem assessment. Results will contribute to a broader understanding of the marine ecosystems off Alaska that will enable effective management and sustainable use of marine resources. This project will also provide important benthic community and sediment toxicity data that can be integrated into the AOOS and the National Status and Trends (NS&T) database.

Therefore, the value of this project stems not only from the importance of the locale, but also from the fact that it will begin to include Alaska in an expanding national database that is readily accessible to Alaskan coastal managers, scientists and local communities.