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GeoDay Abstract

Mapping the seafloor for habitat characterization at Nuka Island and the Pye Islands, northern Gulf of Alaska

The physical character of the seafloor is an important factor in understanding the distribution of groundfish and shellfish resources vital to the economies and identities of coastal communities. Remotely operated vehicle-based video survey techniques, used for estimates of fish distribution and abundance in high relief, rely on accurate and detailed seafloor mapping for efficient sampling design and operations safety.

The Alaska Department of Fish and Game contracted to collect multibeam bathymetry and backscatter data in a 250 square kilometer region of seafloor along the North coast of the Gulf of Alaska. Analysis of the seafloor topography and backscatter strength provides the basis for characterizing the seafloor and creating maps of geological and biological interest. Seabed samples were acquired for use as initial groundtruthing data for soft substrate classification. The mapped area consists of two adjacent island groups with distinct geologic compositions and morphologies that are reflected in the nearshore seafloor topography. The initial maps will provide a starting point for future fish distribution and abundance surveys and additional substrate groundtruthing investigations. An overview of the project and examples of various map layers are presented. Difficulties encountered during data acquisition and processing will also be discussed.