

Topic:	Future Systems
Title:	Concept Design for a Cabled Seafloor Observatory at Barrow, Alaska
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<p>Abstract body:</p> <p>Study of the Arctic Ocean is limited by sea ice and harsh weather that restrict access using traditional methods for much of each year. This has limited data acquisition in the past and obscured understanding of events, processes and variability of the environment over most of the Arctic Ocean. Breaching this isolation can be achieved through the use of cabled observatory technology and instrumentation to monitor the shelf and basin independent of surface conditions.</p> <p>Located at the confluence of the Chukchi Sea, the Beaufort Sea and the Bering Strait, Barrow is an ideal location to both observe local phenomena and to address mixing issues having global significance. The Beaufort and Chukchi shelves are heterogeneous environments, characterized by complex oceanography that dramatically impacts the local ecosystem and, ultimately, the local human systems that depend on the ocean. Because this region is particularly sensitive to climatically driven environmental changes, understanding the variability and the linkages between and within the atmosphere and the ocean are necessary to constrain change, to predict how it will evolve over time, and to develop plans to mitigate the consequences to local communities</p> <p>A design effort to address the science needs and technical issues associated with a cabled observatory at Barrow, Alaska, is well underway. A science workshop was held in Barrow in February 2005 with the results reported in EOS (EOS, V86, N18, 2005.) A technical working group will convene in Monterey California in November 2005 to develop a conceptual design for a cabled seafloor observatory at Barrow.</p>	