

Workshop Announcement

Science and Education Objectives for a Seafloor Cabled Observatory on the Beaufort Shelf, Alaska

an NSF-Supported Community Meeting to be held at the UIC Science Center Barrow, Alaska, USA

7 - 8 February, 2005 (Monday and Tuesday)

Application deadline: Sunday, 12 December 2004

BACKGROUND

Study of the Arctic Ocean is limited by sea ice and harsh weather that restrict access through much of the year. These constraints limit data acquisition and distort understanding of events, processes and biology of most of the Arctic Ocean. Breaching this isolation can be achieved through new technologies and adaptation of existing instrumentation to monitor the shelf and basin independent of surface conditions.

Cabled seafloor observatories offer the means for continuous, real time access to the water column, underside of the ice and the sediment surface. Cabled observatories can provide continuous, high bandwidth (gigabits per second) and high power (tens of kilowatts) observations, as well as docking functionality for Autonomous Underwater Vehicles (AUVs).

The planned Barrow Global Climate Change Research Facility (BGCCRF) will include a slant-drilled seawater intake, extending from on shore to beyond the ice gouge zone on the Beaufort Shelf. A cable could be routed through this intake or a parallel conduit could be drilled during construction in order to connect seafloor instrumentation to a power source and to science support facilities in Barrow. The resulting observations would permit study of the coupling between atmospheric and oceanographic processes and offer unique opportunities for research, environmental monitoring, education and the Barrow community.

The proposed observatory could substantially augment SEARCH by collecting time series data on many processes and variables encompassing both regional and basin-wide length scales. For example, the larger spatial scales might be sampled using acoustic tomography and AUVs, while the highly variable shelf environment could be sampled from cabled moorings containing a variety of sensor systems. These measurements, combined with surface observations from Barrow, would open a window on the shelf, its biology, oceanography and geology.

OBJECTIVES

Participants in this meeting will contribute to a report that will define science and education objectives for a Beaufort Shelf Cabled Observatory. This report will form the basis for an engineering workshop to be held in Summer of 2005 at the Monterey Bay Aquarium Research Institute.

CONVENERS

Dale Chayes (Lamont-Doherty Earth Observatory of Columbia University)
Bernard Coakley (University of Alaska Fairbanks - Geophysical Institute) Andre Proshutinsky (Woods Hole Oceanographic Institute) Tom Weingartner (University of Alaska Fairbanks - Institute of Marine Sciences)

WORKSHOP SPECIFICS

This meeting is being held in Barrow, Alaska, to facilitate participation of community members and to make it possible to view the site and plans for the Barrow Global Climate Change Research Facility, which will begin construction next year.

Participants from Barrow and elsewhere in Alaska, academic institutions, US Federal agencies and Corporations with an interest in the North Slope and its' environment are welcome.

Due to venue size, space is limited to 40 participants.

Accommodations and meals will be provided by the Barrow Arctic Science Consortium, reducing per diem expenses for all participants.

Limited NSF-funded travel support is available for US participants from academic institutions.

To apply, please send a one paragraph detailing your scientific interest to:
Bernard.Coakley@gi.alaska.edu

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