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## **SCICEX 2000: A Workshop to Plan for Submarine-based Arctic Science after the Year 2000**

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### **LONG-TERM GOAL**

The goal was to hold a workshop entitled "SCICEX 2000" and to prepare a report to provide the framework for a well-conceived scientific program that makes unique use of U.S. Navy submarines in the next decade.

### **OBJECTIVES**

The overall objective of the workshop, held on 6-8 October 1998, was to bring together scientists, program managers, and Navy representatives to outline the scientific objectives for submarine cruises beyond 1999. The workshop provided a forum for summarizing the results of past SCICEX. Participants suggested desirable new sensors to enhance the capabilities of future cruises. A Workshop Report is being prepared that outlines sound scientific goals and describes a well reasoned approach to make use of the submarine as a unique observing platform.

### **APPROACH**

An organizing committee was formed that consisted of two individuals to jointly head each of the five topical working groups. One of each pair is a past or present SCICEX investigator; the other is from outside the program, to provide a balanced set of ideas for the future program. The tasks of the Organizing Committee are:

- agree on the workshop format and speakers,
- personally invite people critical to their Working Groups,
- head their respective Working Groups at the Workshop,
- report the recommendations of their Working Group to the plenary group, and
- write the section of the Workshop Report pertaining to their topic.

### **WORK COMPLETED**

The workshop was held 6-8 October 1998. The Workshop Report is being prepared.

## **RESULTS**

It was successful in accomplishing its goals. We heard of numerous results from SCICEX data that have made major contributions to our understanding of the arctic marine system (ocean, ice, and biogeochemistry) and of arctic geological history.

We heard from Dr. Joseph Bordogna, the Acting Deputy Director of the National Science Foundation that it seeks the correct mode for continuing this program. We heard from RADM Paul Gaffney, the Chief of Naval Research, that the Navy's primary scientific objective is a knowledge of Arctic Ocean dynamics and hydrography. We heard from RADM W. G. Ellis, the Oceanographer of the Navy, the conditions under which the Submarine Force can foresee allowing continued use of submarines for arctic marine science. These were crucial inputs for considerations of the program's future.

In working groups, we were able to outline three types of mission scenarios, with differing amounts of control by the science community, under which various science objectives could be tackled.

It remains to write a report that articulates clear science goals attainable in the mission scenarios, and that shows a blueprint for how the science community should be organized to take advantage of these scenarios and for how agencies can support the envisaged work.

## **IMPACT / APPLICATION**

SCICEX has had a major impact on the way we view both the arctic ocean and its geology. The submarine as an observational platform is unparalleled in a survey mode and for process studies that need a large area sampled in a relatively short time. Submarines should be a major logistical factor in a future Arctic Marine Science program.

## **PUBLICATIONS**

See a list of SCICEX publications at

<http://www.ldeo.columbia.edu/SCICEX/pubs/Bib.html>

and a version grouped as reviewed and unreviewed at

<http://www.ldeo.columbia.edu/SCICEX/pubs/SCICEXPublications.html>