

# **Report on North Slope Stakeholders Meeting of the The Alaska Ocean Observing System (AOOS)**

February 7 & 8, 2006 at Barrow

*Prepared by Mark Johnson and Molly McCammon*

Representatives from the Alaska Ocean Observing System (AOOS) met in Barrow with Arctic stakeholders from Point Hope to Kaktovik that included representatives from the Alaska Eskimo Whaling Commission, subsistence hunters, and others. They discussed what information AOOS could provide to improve sustainability of Alaska's marine resources, reduce impacts due to coastal erosion, enhance marine safety, and make subsistence hunting safer and easier. The meeting was informal and provided all participants with time to speak and share their views.

AOOS is a new program developing in Alaska to pull together current and past ocean monitoring data and develop new information products for stakeholders. AOOS is being developed along the 3 Large Marine Ecosystems, with the Arctic (Beaufort and Chukchi Seas) being one region. The AOOS website is located at [www.aos.org](http://www.aos.org). Richard Glenn represents the Barrow Arctic Science Consortium on the AOOS board. AOOS is one of 11 regional associations being developed along the U.S. coast as part of the national Integrated Ocean Observing System.

Participants included whalers and hunters Joseph Ahmaogak, Mayor of Wainwright; Rossman E. Peetook, Wainwright; Kenneth Toovak, Sr., Barrow; Eli Nukapigak, Nuiqsut; Archie Ahkiviana, Nuiqsut; Arnold Brower, Sr., Barrow; and Harry Brower, Jr., Barrow; Ray Koonuk, Sr., Point Hope (by phone); and Susie Akootchook, Kaktovik (by phone); Amos Agnasagga, Point Lay (by phone), Delbert Rexford, Barrow; Eugene Brower, Barrow; Martha Ipalook Falk, Barrow; Glenn Sheehan, BASC; Alice Brower, BASC; Richard Glenn, BASC, ASRC; Craig George, North Slope Borough Department of Wildlife Management (NSBDWM); Robert Suydam, NSBDWM; Allie Hunter, intern, Barrow; Brian Person, NSBDWM; NSB Mayor Edward Itta; and Mark Johnson, AOOS; and Molly McCammon, AOOS.

Richard Glenn opened the meeting and Kenneth Toovak gave the invocation. Opening remarks by North Slope Borough Mayor Edward Itta are included as Appendix 1.

A number of common themes emerged during the discussions including observed changes in sea ice, local weather, winds, animal behavior, and a changing way of life, including increasing oil industry activity. Some issues important to residents across Alaska and the circumpolar north are related to a warming Arctic under the influence of global change and are linked to global geopolitics. They are beyond the present scope of AOOS. AOOS is focusing on understanding and meeting specific stakeholder needs so that progress is measurable and achievable in the near term. Based on all the discussions during the stakeholder meeting, the following products are suggested as higher priority for AOOS in the next year.

## **Proposed Stakeholder Products**

- Real-time and historical sea ice data

Sea ice dominates the way of life along the Bering and Arctic coasts. Whaling and walrus hunting depend on the local sea ice thickness, size, quality, and location. One of the primary needs identified at this meeting is remotely sensed data in the coastal region between Point Hope and Kaktovik. To

meet this need, AOOS would acquire data on sea ice concentration, extent, and quality from satellites and from the historical record. Our goal would be to provide near real-time imagery for the coastal region identified above and put that data in context with the historical record. Such data would provide information on first-year vs. multi-year ice, and ice floe size and shape. A collated comparison of sea ice observations from local traditional knowledge and the archived scientific record would be useful to determine similarities and differences.

- Real-time ice floe motion and position

The size, position, and trajectory of the largest ice floes are crucial to subsistence hunting. It can be the determining factor in “break out” events when big ice impacts nearshore ice, and doubtless plays a role in coastal erosion. Sea ice position throughout the season is important for hunting and marine safety. To address this, we propose tracking selected floes throughout the season using satellite “tagged” floes. First, specific floes need to be identified as being most likely to affect local conditions throughout the season. This would be done using satellite imagery and consultation with stakeholders. Floes would be selected depending on size and shape and other factors. Selected floes would be accessed in late winter and marked with satellite tracked beacons. The resulting data would provide position and trajectory information to residents. The number of floes marked will depend on the total amount of resources available for this project, the duration of satellite tracking, the number of beacons per floe, and logistics.

- Assessment of acoustical “noise” and the response of marine mammals

Marine mammals depend on acoustics to navigate and communicate, yet background levels of marine sound are poorly known. AOOS supports the development of a program to acquire baseline data on marine sound. Timing is urgent as the exploration for oil and gas increasingly makes assessment of true background difficult. Additionally, the marine mammal response threshold to sound is not clear in terms of distance or amplitude. A well designed field program to evaluate the marine mammal response to known acoustic signals (seismic exploration) is needed.

- Real-time status of nearshore currents

Both during open water season and during most of the year when the ocean is ice covered, knowledge of nearshore currents is important for day-to-day safety of hunters and travelers. Models often miss much of this information thanks to the large cell areas, so there is some potential that better tracking of fine detail on nearshore currents can “scale up” to aid in larger scale modeling efforts.

- Web based information

Web based data display was suggested for several different kinds of information. An “Arctic Ship Watch” web page that shows the location and direction of ships in the area was considered a useful priority by the stakeholders. This would help in planning for hunts and other marine uses. A “Historical Perspective” web page displaying historical pictures of coastlines, buildings and other information would be informative and provide a means to share a broad overview of graphics on present and past conditions. A page of “Traditional Knowledge” was suggested as well. There are already efforts to compile such information, but AOOS can provide the means to share it with a wide audience. In all these cases, the information exists, but AOOS can provide the technical expertise to bring the data to its stakeholders for display and easy access.

- Education

Participants agreed that AOOS could improve the value of proposed tools and data sets by providing local and/or web based education to stakeholders. In some cases, simple familiarization would suffice; in others more formal tutorials might be helpful.

- Independent Assessment

AOOS is in a unique position to provide an independent perspective of prior and/or proposed projects. For example, some stakeholders noted that the same or similar pools of consultants provide services to both the Minerals Management Service (MMS) and the oil and gas companies. One suggestion was that AOOS might provide alternate approaches to experimental design and encourage independent analysis of collected data. In most cases, all data should be made available to the public whenever possible, but particularly the results of environmental assessment. Again, the AOOS website can be a forum for sharing and displaying data and results from project that impact North Slope residents.

### **Follow-up**

The proposed AOOS activities identified during this workshop will be included in the draft AOOS Implementation Plan for the Arctic region and circulated for further review. If adopted by the AOOS board, they would be implemented as funding becomes available.

Thanks to all the participants for providing their time, energy, and input during these discussions, and to Glenn Sheehan, BASC, Arctic Ocean Coordinator for AOOS, for hosting the workshop and for arranging logistics. Mark Johnson was interviewed on KBRW both before and after the workshop to describe AOOS and the workshop findings. Workshop funding was provided by AOOS and BASC with travel funds provided by AOOS.

Appendix 1.

**Welcome remarks  
Mayor Edward Itta**

**North Slope Stakeholders Meeting  
of the  
Alaska Ocean Observing System (AOOS)**

Dr. Albert Conference Room, Ilisagvik College  
Tuesday, February 7, 2006

I want to welcome all of you to this gathering of Arctic stakeholders in the Alaska Ocean Observing System. We appreciate the visit from the AOOS representatives – Molly and Mike – and I hope this is the beginning of a very productive relationship. I’m also glad to see village participation here today. Your voices need to be heard on this important topic.

I believe that ocean science is an *essential* topic, and *now* is the time for the federal government, the scientific community and our local residents to extend our collective understanding of how this ocean works and how it is changing. We all know it’s changing.

For decades and generations, our whaling captains and hunters have engaged in the most fundamental scientific practice – I’m talking about the practice of observation. Long-term observation has led to a unique body of knowledge about the Arctic. The scientific community refers to it as “traditional knowledge,” and it is the world’s only long-term, continuous understanding of this region.

The scientific community must continue to find meaningful ways of using this unique collection of historical knowledge, as many of our own local scientists have done in their work. For the benefit of our off-Slope visitors, I should mention that the North Slope Borough has been funding scientific research and partnering with other agencies through our Wildlife Department for a quarter of a century. We’ve got a handful of local scientists wandering around here who have been involved in the research long enough that they’re starting to look like fossils. Their work has gone a long way to educate the world about arctic science in general and some of our wildlife species in particular.

The average person on the street – anywhere in America – has trouble staying awake when you start talking about science research. But I think you'll find that in the North Slope, people are much more interested and more supportive. That's because we're worried. We're worried that ice conditions along our coast have changed significantly in recent years. We've heard a lot about global warming and industrial pollution and wind patterns that deposit this pollution in the Arctic. It's all pretty frightening for people who depend on the icepack as an ally in our whaling and hunting activities.

At the same time, we're faced with a much greater push by industry and the feds for offshore oil drilling. MMS was in Barrow last week because they're all excited about leasing the entire Chukchi Sea next year. If the price of oil stays as high as it's been, there's going to be a lot more interest in doing all kinds of seismic and exploration work out there, and nobody knows how all of that activity will affect the marine life.

So this is a good time to establish a serious research focus on the Arctic Ocean. The need is obvious, and we now have more capacity locally to cooperate through the Barrow Arctic Science Consortium. I think you'll find that our region will get behind this effort; we will be organized in our approach; and we'll approach it with a sense of mission because of our concerns for the future of our ocean ecosystem.

As I understand it, the mandate of AOOS is a practical one. You will be responding to all sorts of local needs for scientific information. I'd like to mention just a few ideas that we believe deserve attention. These include:

- Village-level access to real-time satellite imagery. This could make a big difference in safety and planning for our whalers and hunters, as well as for rescue operations.
- Also, more underwater acoustic information. This is important for understanding the effects of offshore activity and to help us learn more about the bowhead. We also need studies on the extent to which marine animals become habituated to noise, and what the effects of that habituation might be.
- We need to establish baseline data on all kinds of ocean conditions, including ice, currents and weather patterns. And we need to continuously collect this data over time so that we can discover patterns of change.
- It would be great to have a better understanding of how the currents behave and interact near our coastal villages. Real-time information about currents would be particularly useful in evaluating conditions for boating and whaling.
- It often surprises people to learn that MMS and the oil industry use the very same consultants for their offshore EIS studies. Maybe I'm just paranoid, but that doesn't seem like a very reliable way to get the most objective science. We need an independent review mechanism for industry studies and assertions.

- Coastal erosion is a more and more serious problem for all of our coastal communities and much of the Arctic Ocean coastline. Additional data and trend information would be very valuable.
- All of these subjects that I've mentioned would benefit by incorporating the traditional knowledge of our elders, whaling captains and hunters. Traditional knowledge should not be treated as a separate study or a separate chapter of a study. It should be integrated into the scientific research in order to get the best value from the generations of local expertise gathered by the Inupiat.
- Finally, I would hope that AOOS can help to advance the proposed Barrow Cabled Observatory project. This project could lead to tremendous data collection opportunities and advancement in our knowledge of ocean systems and impacts. It could also create a few ongoing jobs for our residents.

These are just a few of the ideas that you'll probably be discussing in the next couple of days. I know that AEWG and others have specific recommendations, and I look forward to hearing the results of your discussions. I want you to know that the borough is behind this effort 100%, and we will support the plan that this group of North Slope stakeholders settles on. If there's anything my office can do to assist in the process, please let me know.

Quyanqpaq and good luck.