

North Pacific Research Board -- Semiannual Progress Report

Project #: 615

Title: Habitat Mapping Technology Workshop for Alaska

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Project Summary:

In the marine science community, there is now broad recognition that a comprehensive ecosystem approach is necessary for effective management of marine resources. An important step in defining essential fish habitat and potential mitigative measures is to understand the relationship between habitat characteristics, fish distribution, and fishing effort and other human activities. We are conducting a workshop on the topic of marine habitat mapping technologies specifically for marine regions around Alaska, emphasizing (a) available tools and techniques, including potential applications and costs; (b) methodologies for classifying seafloor habitats; (c) a synthesis approach, to aid those who are not experts in the field; (d) a focus on needs specifically in the three large marine ecosystems around Alaska, i.e., Gulf of Alaska, Bering Sea/Aleutian Islands, and Arctic; and (e) a workshop format that includes and educates a wide range of interested groups such as local community leaders, commercial fishing organizations, and NGOs. The workshop format will serve both the wider community and the managers/researchers who need specific technical knowledge about marine habitat mapping.

Progress Summary:

Preparation: Online registration for the workshop opened in mid-January, with an advance registration fee of \$150. A contract negotiated by Alaska Sea Grant for facilities and workshop support at the Sheraton Anchorage Hotel was signed in late January. A second workshop announcement was distributed electronically on February 9. Workshop announcements that had been filed with ArcticInfo and with the Alaska Chapter of the American Fisheries Society were posted on February 13 and March 7, respectively.

Materials added to the web site <http://seagrant.uaf.edu/conferences/2007/benthic/> during this period included the online registration form, instructions for lodging at the Sheraton Anchorage Hotel, updates to the preliminary agenda, and a final agenda (with a pdf version for download). A Program containing the agenda, speaker abstracts, and poster abstracts was printed for distribution at the workshop.

The Steering Committee was somewhat concerned about the ability of federal employees to attend the workshop, due to travel constraints under the federal FY07 Continuing Resolution. For this reason, the deadlines for poster submission and advance registration were set as late as possible. In the end, the workshop drew 10 federal employees from outside the Anchorage area, not counting invited speakers.

Workshop: The Habitat Mapping Technology Workshop for Alaska was held on April 2-4, 2007 at the Sheraton Anchorage Hotel. A total of 88 participants attended, with 59 from Alaska, 20 from elsewhere in the U.S., seven from Canada, and one each from Australia and Ireland. Due to an unexpected schedule conflict with a meeting of the North Pacific Fisheries Management Council (also in Anchorage), several people who had expressed interest in the workshop were unable to attend, and others split their time between the two meetings. During registration, 49 people expressed interest in participating in one of the breakout groups on the third day, and approximately that number of people did participate.

Days 1 and 2 of the workshop were designed as a mini-short course on benthic habitat mapping. The first two presentations introduced the need for the workshop and the concept of marine habitat mapping. The topic then moved to technologies available for remote sensing, mainly methods for acoustic mapping of the seafloor. The speakers were hydrographers and geologists. During Day 2, the morning speakers focused on the technology available for *in situ* scale observations and sampling. These talks covered ROVs, the manned submersible Delta, the SeaBED AUV, and towed camera/video sleds. The speakers for this section were marine biologists. Three mid-day talks addressed different aspects of data analysis and habitat classification. The final talks in the workshop presented case histories from three major habitat studies: two decades of habitat research and mapping on Heceta Bank, Oregon; the Irish National Seabed Survey; and Australia's representative marine protected area program.

The speaker schedule for Days 1 and 2 was intended to allow for extensive discussion. Speakers were asked to plan on 30-minute talks, and 10 minutes were scheduled for questions and discussion. This worked very well on Day 1. Late changes to the agenda for Day 2 reduced discussion time somewhat.

Sixteen posters submitted by participants were displayed in a large room next to the meeting room. The formal poster session with refreshments was held at 5:30-8:00 pm on Day 1, immediately following the afternoon talks. Posters were displayed through the entire workshop, and the poster space was also used for coffee breaks to encourage people to view and discuss them.

At the end of Day 2, participants were invited to suggest discussion topics for breakout groups on the following morning. The breakout topics selected by the Steering Committee were: (1) Selection of appropriate technologies to facilitate multidisciplinary approaches: Integrating biology and geology; (2) Techniques and tools specific to environmental settings; and (3) What can we learn from Ireland-Australia-California. Moderators from each group presented the results at a plenary session at the end of the morning. Followup contributions were also received from several participants after the workshop.

A workshop evaluation survey was distributed to participants during the afternoon break of Day 2. Surveys were returned by the end of Day 3. The results have been compiled and sent to NPRB.

Post-workshop: A list of all workshop participants, with affiliations and contact information, was distributed electronically to the participants on April 18. An Executive Summary is in preparation and will be posted on the workshop's web site. Electronic notice of its availability will be sent to the same distribution lists as the original workshop announcement.

The next major step in this effort is publication of a peer-reviewed monograph presenting the outcome of the workshop. This monograph will be produced by Alaska Sea Grant, and will contain papers by the invited speakers (and their collaborators), based on presentations at the workshop and feedback from the workshop. Several manuscripts have been received; the others are due during the summer. Because the monograph will be published on CD (due to budget constraints), there will be no limits on manuscript length or the number of color plates and figures.



Marine Habitat Mapping Technology Workshop for Alaska

Program and Abstracts

**Anchorage, Alaska USA
April 2–4, 2007**



North Pacific Research Board

Marine Habitat Mapping Technology for Alaska
April 2-4, 2007

We received 27 responses to the survey. This is a 41% response rate, excluding participants from NPRB and the Steering Committee who were not expected to complete the survey.

QUESTIONS 1-3	Just right	Long	Short
The 2.5-day workshop was	22	0	4
Time for viewing posters was	20	1	5
Social time for meeting with colleagues was	16	0	10

QUESTION 4	Just right	High	Low
The number of oral presentations was	19	5	2

QUESTIONS 5-6	Yes	Sort of	No
Did the program content meet your expectations?	16	10	0
Were you a presenter at the workshop? (speaker or poster)	10	--	16

Short-Answer Questions

(number) = ID for survey responder

The workshop's strengths were:

- (1) Great job bringing in experts in technology. Also nice to see applications.
- (2) Diversity of presentations and participants. Good venue. Schedule well kept.
- (3) Gathering of experts active in the field.
- (4) Highly varied topics, methods. Excellent presenters.
- (5) Invited, directed topic presentations.
- (6) The 2nd day was much better than the 1st. Synthesis was excellent.
- (7) Breadth of presenters & their backgrounds. Depth of presenters & their backgrounds. Very well organized!
- (8) Nice selection of topics & speakers. Discussions encouraged.

- (9) Multidisciplinary. Great to hear from biologist, geologist, & techies.
- (10) Tooly.
- (11) Great combination of people with different areas of expertise.
- (12) Diversity of professional expertise represented.
- (13) Good diversity of presentations and topics.
- (14) Good mixture of topics/speakers.
- (15) Well organized, outstanding speakers, exciting and inspiring issues.
- (16) Excellent group of habitat mapping experts. Interesting & relevant presentations. Great opportunity for networking.
- (17) The range of disciplines presented.
- (18) High tech gear mostly worked. Fabulous spread at poster session.
- (20) Diversity of expertise present.
- (21) Foreign participants.
- (22) The workshop is timely and really the writing is on our wall. AK will be inundated with the data we need. The workshop highlighted to me that NOAA, academics, and stakeholders in AK need a plan. Not tomorrow, but soon. If we wait too long, many different groups will define our habitats for us.
- (23) Fairly diverse group.
- (24) Bringing mappers together with biologists.
- (25) Experts from different fields. Real issues from other regions.
- (26) Especially enjoyed the last 3 folks on case studies.

The workshop's weaknesses were:

- (2) A field trip would have been nice. Conference room too warm. Internet access would have been helpful.
- (3) Talks could be a bit shorter, ~10-15 minutes shorter.
- (4) No contact list in the program & abstract booklet. Too heavy on acoustic physics.
- (7) 40 minutes might have been a little too long for some talks.
- (8) Hard to see screen from back of room (cut off lower 1/3 by audience).
- (9) Would have been great to start w/basics of technie stuff for biologist. Workshop on multibeam, sidescan, taught on basics.
- (11) Some talks a little long & more technical (= nitty-gritty "how to") than I needed. Could have had more questions and discussion between talks.
- (12) Follow-on questions to presenters lead to good group discussions...but time was limited.
- (13) No input from resource managers -- what do they really need?
- (14) None.

- (15) Linkage between oceanography/phyto/zoo and “habitat.” Linkage between fishery acoustics and benthic acoustics.
- (16) Could have used more framing of the overall picture -- what’s wanted from the workshop participants and how the talks are linked. (Did it in the summary, but would have been useful along the way, too.)
- (17) Poor lighting for taking notes (Tues am especially). Lack of floor microphones.
- (20) Physical and chemical oceanographers could contribute a lot to ecosystem management. More central location in Anchorage.
- (21) Ignored Bering Sea projects.
- (23) 1) Too many talks -- need more discussion in first days of meeting. 2) STRONG evident bias in selection of speakers. SOME opportunities should have been given to other views in oral presentations! 3) Too great emphasis on fisheries issues. 4) Program reflected a FAR too narrow view of what constitutes marine benthic HABITATS, and what controls them. 5) Strong bias toward deep water (>30m), yet (<30m) a CRITICAL area.
- (24) Not enough time. It was difficult to get an understanding of the needs of the biologists to map the habitats.
- (25) Would have been nice to have some oceanographers.
- (26) Some of the talks were a little long and drawn out for the material covered. Maybe 30 minutes would have been better for some talks.

General comments on the workshop:

- (2) Very good workshop. Productive and beneficial. Give recommendations to cafes, etc.
- (3) Host or link posters to workshop website. List of participants & contact info.
- (4) Thanks!
- (6) Excellent -- could have been 3 days. Geology was excellent!
- (8) Would have been nice to have an optional (pre-workshop?) primer on technology. Very worthwhile! Thank you.
- (9) A little lost on Day 1 without basics. Could use printout with diagrams.
- (11) Excellent.
- (12) Outstanding -- exceeded my expectation.
- (13) Excellent progression of speaker topics and division of sessions.
- (15) This is a huge subject area, but underfunded.
- (16) Very good workshop, from a technical and strategic perspective. Exceeded my expectations!
- (18) Ask people to turn off cellphones. Get speakers and people with questions to use microphones.
- (19) As a newcomer to BHM, I was looking for a more general overview. I imagine the depth of most presentations was very useful to most of the attendees, but a little too much for me.
- (20) Very well organized & run!
- (21) Geology overemphasized.

- (22) Excellent -- thank you!
- (23) I fear that it will result in the same-old/same-old from the same-old cadre of workers who are trying to achieve acceptance of their narrow-minded view of what "habitat mapping" is all about.
- (24) It was well organized. The venue worked very well & the food was quite tasty.
- (25) Good place to meet experts. Well organized.

Suggested topics for future workshops:

- (2) Progress of Alaska habitat mapping. Presentation of habitat map types.
- (6) Funding -- more synthesis -- industry products for industry support -- more project development/small project & how they can be the foundation for larger projects.
- (9) Fisheries oceanographies intertwined.
- (11) Integrating benthic studies with the oceanography work...
- (13) Statistical and GIS methods for analyzing fish/habitat relationships.
- (15) Nutrient flux (advection) + Energy flux (production) + Habitat (substrate) >> Ecosystems
- (16) Integrated Ecosystem Assessments. How to pull together multidisciplinary information in a way that is relevant for management needs. (AK specific.)
- (18) Habitat Mapping and Classification Standards.
- (20) Session on benthic ecology.
- (24) Arctic Habitat needs.