

NOAA IOOS Program Office Regional Status Assessment for Alaska Ocean Observing System

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Challenges of IOOS in Alaska

- Huge state: 43,000 miles of coastline, 4 Large Marine Ecosystems (Chukchi Sea, Beaufort Sea, Bering Sea/Aleutian Islands, and Gulf of Alaska)
- Harsh weather, remote, often cloudy
- Lack of infrastructure: few roads, airports, power systems
- Minimal existing national backbone assets (e.g., weather buoys, tide & river gages, etc.)
- Alaska IS the U.S. Arctic
- Sea ice is big issue in Arctic, Bering Sea and Cook Inlet
- Small population: about 675,000 people
- Stakeholder needs vary within the sub-regions
- ADVANTAGES: 1 state in region; many federal agencies have Alaska as a separate region

RA Structure and Governance

- RA leadership & roles
 - Governance Committee: Tylan Schrock, acting chair; provides overall guidance, sets funding priorities; forum for sharing planned & current observing activities & promoting collaborations
 - Executive Committee: Tylan Schrock, acting chair; includes NOAA lead, fiscal agent rep., landlord rep., and Gov. Com. Chair; oversees ED; acts between Gov. Com. Meetings & when time-sensitive
 - DMAC Committee: Allen Macklin & Bernard Megrey, co-chairs
 - Education Advisory Group, now will have COSEE advisory com.
- Organizational structure
 - Loose MOA, unlimited seats, commits to support AOOS mission & goals
 - More formal, structured MOA pending federal legislation
 - Fiscal agent is 501 (c) (3); AOOS possible, but not in immediate future

RA Structure and Governance

- Board membership
 - Structure: subject to loose MOA
 - Affiliations: any relevant entity (not individual) willing to sign onto MOA: state, private or local agency, non-profit, academic, private sector
 - User group representation: open, but many user groups have been reluctant to formally commit until IOOS legislation passes; currently have most federal and state agencies, university, all AK research institutions, 1 private NGO (Marine Exchange)
 - Meetings: twice a year; focus is informational and decision-making; decisions made by consensus

CHALLENGE: other federal/state entities with overlapping missions: North Slope Science Initiative, Climate Change Roundtable, Alaska Marine Ecosystem Forum

Stakeholder Engagement

- Stakeholder types: resource managers, commercial fishing, marine shipping (including ports & harbors), education, oil spill response, search & rescue, subsistence users, Super Users: NWS & USCG & research community, oil & gas industry
- Key stakeholder groups or individuals: PWS & CI Regional Citizen Advisory Councils; NPFMC; Shell, BP & Conoco-Phillips; NWS; USCG
- Types and frequency of engagement:
 - workshops & presentations & interaction at regional organization meetings
 - ongoing
 - opportunistic: take advantage of multiple user needs assessments from existing organizations & initiatives
- Level of involvement
 - Significant – compiled results of more than 100 presentations & workshops used to set priorities for FY 2008-2010 funding
 - PWS demo project – stakeholders will be actively involved in field experiment; review of results & future planning; beta testing website & web products

Stakeholder Engagement

- Key issues of importance to regional stakeholders, and how the RA addresses them?
 - Safety of marine operations & health of coastal communities: wind, wave, current, & sea ice obs; atmospheric, ocean circulation & wave models
 - Mitigation of natural hazards, especially coastal erosion: increased obs & models, better forecasts
 - Sustainability of fisheries & marine ecosystems: ocean circulation, NPZ models, integrate physical with biological data
 - Climate change and its impacts: integrated data
- Quantifiable, tangible expressions of support from stakeholders
 - Research community supportive of data center
 - Oil spill response teams, ports, search & rescue, shippers – all supportive of increased emphasis on winds, waves, & currents
 - Commercial fishermen & recreational fishermen – support increased physical data, plus integration with biological data
 - BIG QUESTION – WHAT ROLE SHOULD STAKEHOLDERS PLAY IN⁷ PROGRAM ASSESSMENT?

Current Activities and Funding

- A summary of key activities in the region that are related to or support IOOS, including those not funded by NOAA IOOS
 - Integrated Data Management and Information Center
 - Planning for & development of 3 RCOOSs: GOA, Bering Sea/Aleutian Islands, Arctic
 - PWS demo project
 - COSEE Alaska
 - NFRA: board chair; ORRAP member, chair of ocean obs sub-panel; numerous activities at federal level, national DMAC activities
- Interaction/joint work with other federal agencies
 - Active participant in NOAA ARCTIC collaboration effort & RISA, Sea Grant
 - Sea Ice Working Group – co-lead w/Arctic Research Commission
 - Arctic Marine Shipping Assessment
 - AON & SAON with NOAA & NSF
- How can NOAA IOOS best support you in engaging other Federal agencies?
 - By encouraging IWGOO partners to encourage/require collaboration & coordination with AOOS efforts
 - By reminding agencies that Alaska IS the U.S. Arctic and a big player in climate change....

Current Activities and Funding

- Sources of funding
 - NOAA IOOS and other NOAA funds: \$400k a year for planning, stakeholder engagement & admin; \$1m in 08 for RCOOS (\$750k in 07; \$1.4m in 06; \$1.9m in 05)
 - Other Federal: from MMS, ARC, NOAA in 05 for startup; NSF funding for COSEE Alaska (\$500k a year for 5 years), Oil Spill Recovery Institute for PWS demo
 - Non-Federal: in-kind
- RA plans/efforts to match IOOS dollars with funding from other sources
 - What sources, and in what areas of work? Harboret, from ports & harbors; private: oil & gas industry, commercial fishing, foundations
 - How can the NOAA Program Office help? Support interactions with national stakeholder organizations (e.g., Shell, other)

RA Coordination: Cooperative Agreements

- As we reach the end of the first set of RA coordination grants, provide a summary of overall progress
 - State of Alaska has now signed on
 - Successful in obtaining COSEE award from NSF for education program
 - Developed first conceptual design using innovative process (user needs assessment, scientific & technical review, & economic assessment – paper pending)
 - Some activities still pending: final structure; overall design priorities, 3 RCOOSs
 - DMAC and Education plans complete, other pieces of final operations & implementation plans in draft
 - AOOS is recognized as active participant and partner in numerous collaborative activities; importance of efforts acknowledged

RA Coordination: Cooperative Agreements

- What will change with the new RA grant in FY08?
 - Depending on legislation passage, finalize governance structure
 - Finalize plans, depending on guidance
- New directions, partners, etc.?
 - Peer review of AOOS Data Management Program
 - Formalize stakeholder councils
 - Oil & gas industry collaborations in Arctic and in Bristol Bay (North Aleutian Basin) – e.g., Shell, Conoco-Phillips and BP
 - More active state participation – e.g., coastal management program, state water quality program

BIG ISSUE: DEPENDS ON LEVEL OF FUTURE FUNDING HOW THE OVERALL STRUCTURE DEVELOPS

RA Future Development

- RA views on function and performance metrics: How can we best measure outputs and outcomes?
 - 1 set of metrics: performance, e.g., how reliable are obs systems in producing data & data system in being accessible;
 - other metrics more difficult to measure: improvements to models, forecasts: by how much are they improved, who is using them
 - economic metrics even more difficult: what are precise benefits to commercial fisheries management, marine safety, lives saved, etc.
- Objectives of the RA and plans for the near-term FY08-12
 - Finalize the governance structure & operating procedures
 - Secure sustainable funding
 - Produce products that are identified as highest priorities
 - Continue to refine user needs

RA Future Development

- Summary of top five priorities for development of RCOOS capabilities with cost estimates
 1. Data Management System: \$1million
 2. Operational observing system in GOA (PWS: \$600k, Cook Inlet: \$800k, Southeast Alaska: \$1 million, Kodiak: \$600k)
 3. Expand observing capacity in Arctic (Ice radars: \$800k, moorings & wave sensors: \$1m, sea ice forecasts: \$600k, passive acoustic sound monitoring: \$400k, HF radar in hotspots: \$800k)
 3. Develop Statewide Harbournet: CMAN-like station plus wave buoys for harbors (about \$100k each to build, \$20k to operate)
 4. Modeling and Analysis Center: \$800k
 5. Develop ocean circulation model for Bering Sea (Bering Strait, Aleutian Passes, & central BS moorings: \$2m but lots of partnership funding)

RA Views on Regional and National IOOS

- RA needs with regard to the integration of regional and national planning efforts
 - Since we depend on federal base funding, need to show how regional needs intersect w/national needs
 - Continue to reinvent the wheel – need more sharing of models, products, etc.
- RA expectations for development of the “national backbone” of observations
 - In situ: Since AK is observing platform sparse, critical that we expand #s of moorings, weather stations, tide & river gauges,
 - Remote sensing: need higher resolution & see thru clouds
 - Data management and communications (DMAC) capabilities: need to ID AOOS as a regional data node and provide additional funding for that in conjunction with Alaska Regional Climate Center
 - Modeling: need national support for larger basin domains for atmospheric & ocean circulation models

Cross-regional Coordination

- Discuss existing and potential coordination with other IOOS RAs
 - On regional efforts/issues?
 1. Collaboration with west coast RAs on how to add value to IEAs for Pacific current (California Coastal Current and Alaska Coastal Current)
 2. Collaboration with Pacific RA on Pacific basin climate: winds, waves, storms,
 - On a national scale?
 1. Assemble and assess all the coastal inundation models & products
 2. Should ensure that regions are not competing against each other, but promote collaboration among them: IOOS should set cross-regional goals to encourage sharing technology and products

Best Practices and Lessons Learned

- Describe problems encountered to date and their resolutions
 - Funding uncertainty; resulted in expectation management ; difficult to retain experienced staff
 - Criteria & process used in reviewing proposals; not realistic for sustainable operational systems with nationwide geographic coverage
 - Reliability of HF radar in Alaska remote areas: funding from Homeland Security to develop robust power system
 - Lack of participation by state – changed with new governor, but still need to be more actively engaged
 - Difficulty in producing products w/diminishing funds
 - Lack of observing capacity in state results in products that may not be very accurate or reliable
 - Balance of identifying implementing partners upfront vs. competition
- What are some “good ideas” or best practices that you can share with other RAs?
 - Use of economic review as filter for prioritizing user needs
 - Use of existing regional efforts w/stakeholder outreach to help develop user priorities
 - Development of integrated data center to foster integrated data products

Parting Thoughts

- What support or information do you need from NOAA that you are not currently receiving?
 - Initiatives in NOAA that we are not always aware of; should routinely be included on notification & comment lists
- Is there input you would like to give to us, but don't have a venue?
 - The NOAA IOOS office has made a huge difference
 - Still need an office/voice (ocean.us) for federal interagency coordination
 - Still need to educate agencies about role of oceans and high latitudes in global warming/climate change
 - International connections (SAON, GOOS, PICES) are important to Alaska

Parting Thoughts

- How can NOAA IOOS best receive regular updates or information from the RAs?
 - RA and partner achievements, news items, expressions of stakeholder support, engagement of new stakeholders: 1. mandatory short monthly reports in addition to biannual reports; 2. monthly conference calls
 - How can NOAA IOOS best understand (and articulate) how RAs support the national system? 1. Develop a consistent form for regional conceptual designs that allow for synthesis and summary of regional efforts. 2. Sponsor a session at Ocean Sciences conference or other to highlight RA programs and products
 - How can we help to support your RA? 1. Sustainable funding. 2. Provide more guidance on DMAC development. 3. Provide insight into regional development in context with other NOAA efforts (NDBC buoys, NWS, NMFS, etc.
- Other parting thoughts?