

MACOORA Annual Meeting 2009
Break-Out Notes

Ecosystem Based Management Breakout Discussion Notes
Presented by Josh Kohut, Rutgers University

What are the gaps? The focus is on fisheries management; more involvement from fisheries managers.

Acknowledge the great work being done in the region on EBM and Marine Spatial Planning.

What are the data gaps but most importantly, what are the communications gaps?

- There is a lot of information available already but how do we get it OUT there?
- How to put the physical forecasters more in touch with the living systems folks?
- How to take the research results into the management process?

For instance, fishermen have a lot of experiential knowledge. How can that knowledge be fed back into the process of science? Flounder fishermen provided a lot of information about the distribution of flounder in Ocean City, MD. This is a good story of success and stakeholders working side-by-side the scientists.

Inventories are important on the data side. What applications already exist, are planned and what are the successes and failures

MACOORA could: convene a workshop with appropriate participation and focused on expected outcomes. Perhaps a demonstration of how MACOORA could impact MSP. Articulate the importance of monitoring and real-time observations to the MSP process. Start to identify the niches associated with MSP. Start small and build.

On the data side: observations that MACOORA folks are making in between the standard fisheries surveys. What are these and where are these? These data are complimentary and must be integrated.

Indundation, Stamey

Filling the Gaps:

Identifying opportunities and solutions

- **What is the user base**
 - To the WFO to the public
 - How to EMs
 - How to civil community
- **How to express confidence/uncertainty**
 - Credibility storm to storm
 - What is the probability of something happening
- **Which one – whose information – do planners believe**
 - The lay person needs to have confidence – assess validity
- **How does it impact me – localize the impact**
 - Observations are not dense enough to provide confidence and validate models
 - Need cheap sensors and affordable O&M
- **Disclose more information about model so that users know what they are getting**
 - Not just a simple validation
- **Standards for modeling and decision making – better to move or save?**

- **Roles and responsibilities – not just government**
 - Capabilities from all sectors
 - MACOORA is good opportunity to explore conops
 - And people still have to have confidence in the forecasts – social aspects
 - Heeding warnings comes with time – see it on the evening news
- **Ensemble approach**
- **Synergy between federal and commercial providers**
 - Pretty pictures versus state of the science
- **Robust standardized statistical approach**
 - USACE, NOAA
 - Model skill evaluation
- **What are we actually going to provide**
 - Who owns it and operates it

- What level of detail
- **Framework, conops**
- **Communication – visualization and engagement of users**
- **End to end –**
 - Data collection, metadata, data management
 - Atmospheric models for real time forcing
 - Real time forecast of total water including waves and runoff
 - Sea level rise and climate change
 - Mean water datum
 - Subsidence
- **Verification and validation**
 - **LIDAR**
 - **Enough gages to validate**
 - Variable changes in sea level
- **Modeling and metadata**
 - Temperature, flow, water quality – **ecological, ecosystem**

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Water Quality Breakout Discussion Notes

Presented by Tony MacDonald, Monmouth University

What are the gaps? What do we need most as a community of stakeholders in the Mid-Atlantic region concerned about water quality? What are the major problems?

We need improved or better integrated products for the following five primary issues:

1. Shellfish
 - a. Protect
 - b. Better risk assessment for vibrio
 - c. Specific management actions (what?)
 - d. Product idea: water temperature over time to guide remediation

2. Hypoxia and Dissolved Oxygen
 - a. Improved temperature and spatial observations
 - b. Target specific areas to monitor
3. Harmful Algal Blooms
 - a. Observations needed are primarily sub-surface
4. Beach Bathing
 - a. Improve public awareness
 - b. Better predictive models
 - c. Improved analytical methods
5. Sediment Loading
 - a. Cost is a major concern

Some cross-cutting issues MACOORA could focus on:

- Cost and maintenance of sensors
- Economic benefits of improved monitoring
- Better communication/articulation of how water quality relates to ecosystem health
- How to express water quality in terms of ecosystem management
- Need for nutrient criteria and an understanding of cause and effect
- Basic web services for some basic parameters (like which ones??)
- Better marketing; who are the beneficiaries of the products?
- Overall improvement needed in communication to the public.

Wind Energy, Atkinson

Goal – Summarize our thoughts on how MACOORA can facilitate good decision making by government, industry and the private citizen with regard to offshore renewable energy (wind). Before, during and after construction.

In federal waters the process will be state by state with each state dealing with MMS essentially independently.

Each state is setting up some kind of task force as specified by MMS to interact with MMS and the applicants.

Task forces are meeting now: De, RI, MA, VA

Virginia – two applications in, task force meets Dec 8, state research team VCERC reporting

Maryland - ???

Delaware – task force met – one tower request under interim

New Jersey – task force met – 3 met towers under interim,

New York - ??, collab with one utility and mun, lake erie and fed waters

Connecticut -

Rhode Island – task force met

Massachusetts –

North Carolina - research report out, Duke energy asked to fund 1 pilot turbines in sounds

The wind however does not recognize the state borders and we lack some very fundamental knowledge of the wind. There is a considerable amount of ‘non-competitive’ research that can be done to address the research needs.

What are the needs that can be addressed by ocean observing in the pre-development phase of development?

Resource assessment – regime not known well enough to make informed decisions. NREL maps out of date, not capturing air/sea interaction that affects wind speed.

Investment decisions being made on scant information.

Combine state gis/info on use conflict into one data set. (marine cadaester collab)

Marine Security, Herrington

Maritime Safety/ Search and Rescue Breakout

Needs/Issues of most concern:

- USCG ready to accept more robust data to address uncertainty in SAROPS when MARCOOS can provide
- Validity and reliability of data provided. Operators can use it but not in an official capacity due to liability.
 - Quality control needs to be standardized
 - Data needs to be in similar formats
 - As long as due diligence can be proven then data will likely hold up in court
 - Sustained funding is required to insure that data is maintained.

How can MACOORA address validity/liability standards?

- MACOORA certification that agency standards are being met.
- Working regionally is much easier for federal agencies vs. individual entities

Where and how do you receive data?

- Pushed to agency
- Through web site
- Cell phone or mobile device delivery is desired
 - 3rd party developer using federal data most likely source
 - iPhone applets

What spatial and time scale do you need the data in?

- Different for different applications
 - Capacity to receive data varies by user
 - Pilots/commercial capable of receiving data on bridge
 - Recreational users don't have sophisticated electronics to receive real-time data
 - Need outreach/education to let people know where to get data prior to leaving dock
 - Integrate data into single MACOORA portal

- General public does not know where to access data. Should reach out to marinas, marine services, etc. to let people know where to find data/info
- How can MACOORA address the lack of distribution
 - Find funding to create web portal and outreach
 - Leverage existing technical capacity of MACOORA's members
- Can SAROPS use short-range CODAR for bays?
 - Would like to for local response if it is available

Wrap up: Anything else that MACOORA can include in future plans:

- Does USCG have the resolution it requires to address SAROPS for small vessels in coastal waters? Currently don't have the resolution. New higher-resolution models generate too much data to handle on short-time scales. Issue that will need to be addressed
- Real value from the regional standpoint is the ability to have the face-to-face conversation with the users of MACOORA data that the federal agencies could never achieve.
- Rip current applications needed to enhance surf zone advisories for broader dissemination to response agencies including USCG.

DOE/MMS BAA on offshore renewable. MACOORA/team respond?

What are the over-riding ocean observing needs of operational wind installations?

Prediction – wind, waves, currents – short term wind prediction for operations/safety,

How can MACOORA interact with the offshore renewable industry?

Can MACOORA be a way advanced ocean observing technology be brought to bear on renewable industry needs?

Can a strategic partnership be created between MACOORA and the renewable industry? Or is it too dispersed and too competitive? What might it look like?

Section 238 research lease from MMS to get met tower out early. This could be a joint effort by the MAB states in collaboration with MACOORA and MARCO.

Can 3 hour wind forecast be done? Does the MACOORA knowledge base do this? Yes they can. Study to develop hi res 3 hour wind forecast. What are fewest number of sites for adequate model validation.

