

Sea Grant Outreach/Extension Coastal Ocean Observing Workshop
August 8-9, 2006

Attendees:

Ivar Babb – Nat'l Undersea Research Center
Wendy Carey – DE Sea Grant
Jeffrey Dewey – PA DEP
Jennifer Dorton – Coastal Ocean Research and Monitoring Program
Beth Ebersole – NOAA – IOOS coordinator
John Ewert – SG Marine Advisory Program – DE
Ann Faulds – PA Sea Grant
Fredrika Moser – MD Sea Grant
Diana Payne – CT Sea Grant
Chris Petrone – VA Sea Grant
Peter Rowe – NJ Marine Sciences Consortium
Susannah Sheldon – SE Coastal Ocean Observing
Cynthia Suchman – VA Sea Grant
Jay Tanski – NY Sea Grant
Jack Thigpen – NC Sea Grant

Day 1

1. Dave Chapman – National and Regional perspectives of ocean observing

Goal of conference: Share about MACOORA and IOOS and what we can share together as outreach for ocean observing

Moving Forward NOAA and Earth Observation Systems

- Data collected to how it is interpreted and developed – big picture
- MACOORA looking to focus on coastal inundation – statistics could be helpful to frame outreach effort to get people's attention
- Benefits of Earth Observations
- A lot of observation work going on, and observing going on. One of big paths ahead is try to link together and get something meaningful and have data managed properly. Get right information, format and people to provide decision making capability.
- Coastal Zone key users of coastal inundation information
- Task – who needs it, wants it, best use of it and how it can best be provided
- Hardware isn't going to help if we don't have a way to get data and integrate it into a system of systems to make it useful for society
- Disaster response – key benefits of ocean observing, being able to respond and mitigate disasters

Where does MACOORA fit into this?

IOOS and MACOORA

- IOOS – national model that contributes to GEOSS and GOOS
- Seven societal goals – climate change and variability is a big one
- From outreach standpoint and trying to connect to people looking at list of societal goals, can't think of anyone alive who isn't impacted by the list
- Think about what you are doing and what program you are good at, what clientele do you work with in outreach that this might resonate?

IOOS – Global components and coastal components

- IOOS Coastal components – National backbone (NB) such as ports system and regional associations (RAs) that are looking at this on regional basis
- Standards and protocols – key thing, will need data protocols to effectively integrate data
- RAs that are looking to interface with state agencies and with private sector and NGOs as well. One task of RA is to look at gaps in NB, how can we supplement national system and integrate all together?
- NB provides common data most researches and decision makers need
- MACOORA is organized - has more states and than any other region and is organized around the estuaries

Situation – always looking for funding, most regional associations have received start up funding to get organized from NOAA. A lot have earmarks for some of the observing that is going on in their sub-region. Earmarks may or may not continue, idea is to get line item in federal budget that is going to support ocean observing..need something supplemental. Looking at \$138 million in earmarks – a lot of growth needed to reach the levels of meaningful budget amounts to get fully operating across the country.

- Partnering opportunities with National Estuarine Research Reserve (NERR) and with Sea Grant..looking to tie some of HF radar network together to get nation wide radar network
- MACOORA has been incorporated last December – initial 50 members, working on business plan, Board of Directors representative of sub-regions
- Transition from research to get into products, get into things people will need and use and academia may not be best operator, may see shift over to private

Question from the group: Are RAs working together to impress upon congress for line item?

Answer from Dave: It's not all on our own by any means, we have national federation of regional associations and we get together every month and share ideas. We meet twice a year and have promoted some lobbying activity to get message to Congress, but ultimately when you go to Congressman you go to your Senator...for example, you get a letter back from Pennsylvania saying you live in New Jersey and we're too busy to talk to you..message is same, to try to get some help. RAs do work together, particularly with neighboring associations.

2. Jennifer Dorton – University of North Carolina at Wilmington

Coastal Ocean Research and Monitoring Program (CORMP)

- Part of SECOORA Region
- What is CORMP – NOAA funded, COTS funded also ONR funding
- Started in 2000, trying to address IOOS goals
- Missions – establishing real-time observation networks and non-real time moorings, have some seafloor mounting instruments, have buoys offshore, gliders, in addition to monthly ship based research cruises
- Following IOOS DMAC standards, making data accessible to the public, also work with SEACOOS
- Recording start – have some biological focus, Cape Fear River Plume
- Established partnerships – main one has been US Marine Corp, jointly funded buoy right off of marine corps base. Have worked with NC and SC sea grant to get website (Carolinas Coast Website)

CORMP Research

- Water Quality, ocean optics and remote sensing, physical oceanography, fisheries, sediment transport and modeling
- Primarily working with SEACOOS and NCCOOS to have coordinated NC and SC coastline. All data is pulled to fishing offshore, boating and beach websites, local newspaper pulls buoy data and pier data
- In-house QA QC, flag anything that looks out of source. Want to make sure those who are scientific and non-scientific get data
- Outreach – had 2 people working, one in schools and educating students, has worked with Watson school of education for assistance. Able to take data and go into classrooms and push to recreate core educational website

What do fisherman want? – graphs, pictures but some are more advanced than we think

IOOS – want data reliable, available 24/7 and to be free – has been little problematic, some say Rutgers has taken it too far with free information

3. Beth Ebersole – NOAA

National Estuarine Research Reserve System

- NERRs – 7 in Mid-Atlantic Region – set aside for long term research and monitoring, education and resource stewardship
- Federal state partnership – have 3 aspects to monitoring – biological, weather and water quality and land use and habitat change
- A lot of push for real-time data by IOOS – have started telemetry stations, will have all 27 telemetered by 2007
- SWMP – system-wide monitoring program – by end of 2008 will have 35 water quality stations telemetered
- Use GEOS satellites that come down to Wallops Island then go up to domestic satellite. Data is brought down by HADS and given to Weather Forecast Services, then sent to NERRS centralized data management office and then manually archived by NODC
- Compliance with DMAC – include having metadata FGDC compliant, opened up data access protocols, and archiving long time data, trying to make data interoperable, but more than one way to do so
- Data Products – have over half of stations up and running and available on web site, working on different data products...some future products are creating lesson plans that use data, email alerts of threshold violations

NERRS IOOS Emerging Partnerships

- NERRS – developing partnerships w/ co-ops and three of reserves are getting tide gauges
- Targeted NERRS SWMP users – fish and shellfish, search and rescue, K-12 education, oil spill response, fishers and boaters
- Also have connection with NWS – good for all of us
- SECOORA – trying to bring all sub regional associations under regional umbrella, want to learn about potential outreach techniques..

Question from Dave:

Where do you think Sea Grant can work with MACOORA to do some outreach, biggest opportunity is in non-formal education..?

Answer from Jennifer (CORMP):

- COSEE is really focused on real-time data and how to use it in the class room, have assisted with southeast COSEE to share some of the techniques and they have a great handle on K-12. Might be great way to get our information out to the public. Can't look to COSEE for non-traditional – not their area outside of K-12.

Answer from Jack (NC Sea Grant):

- Have had trouble designing pilot projects that are focused locally, have focused more on in reach than outreach and have had to educate internal scientists at same time.

Response from Dave:

- We have struggled with the uniting of sub-regions in MACOORA, and we need to get some pilot projects up and running. One idea is to look at DE estuary from the shelf into the watershed, can then apply with other estuaries, and would resonate with DE people but not with Long Island sound people.
- We are starting HF radar project this month that will cover the whole region. It has enabled us to put some money into some radar sites that have been shut down and it allows us to stick the plug in again...hopefully we can build on that.

Question from Dave:

What are some of the background of the extension people and what are the audiences?

Group Answer:

- Commercial guys, fish tagging, recreational fisherman, aquaculture specialists..etc

Response from Dave:

We're more interested in what resources are available to be tapped within Sea Grants, what are some of the strengths and contacts of the extension people, need to get a sense of community, who we are dealing with and try to come up with some type of strategy.

Answer from Jennifer (CORMP):

- Send people down and start asking the fishing community

Answer from Peter (NJ Sea Grant):

- Rutgers, NERRS and COSEE, are concerned about guarding of turf in NJ...we talk about collaborating but it ends up rather hard..people are concerned about the coast and quality of life issue, and sea level rise and storm warnings.
- We need to educate people of what we have already, non-traditional education system. Have program called FISH, family investigation in Sandy Hook.

Answer from Ann (PA Sea Grant):

- Exert a lot of influence on coastal water quality – look at things from water quality approach, coastal inundation is not being addressed in the way that it needs to be in terms of historical sights, etc. Anything we can do in the monitoring realm to raise awareness. Is a need for information to connect watershed with estuarine systems, not a lot of integration done, anything MACOORA can do will help.

Response from Dave:

PA project on safety of recreational fishing – if we could better map the sediment contamination, we could use better information about where it is coming from..

Answer from Jay (NY Sea Grant):

- Observing systems are going to have to be local, not sure what we can extend right now or what MACOORA has to offer...do have \$9 billion of housing in flood zone, dealing with coastal hazard issues. Number of websites trying to do predictions by using NOS gauges, but it doesn't really help. Information is needed in bays and estuaries in terms of storm surges. Can we do lower tech but higher resolution and get communities involved?...helps to build historic data...

Answer from Diana (CT Sea Grant):

- Overview of strengths – small program, aquaculture – recently done needs assessment of her stakeholders but not for ocean observing, resource economics, fisheries, land use in CT, and benefits of preserving open space. COSEE network does a lot with K-12 to get scientists and educators to work together as well. Possible partnership with aquariums.

Response from Dave:

Lacking in IOOS community – A wealth of cost benefit analysis is missing, and we need to be able to take to Congress. There have been a number of studies, but emphasis is on search and rescue, oil spill mitigation, but prediction for inundation probably one of the higher ones.

Response from Ivar (CT Sea Grant):

- What we are trying to do with education outreach for observing is network of buoys providing real-time data to broaden user base and awareness. Prediction of currents available.

Wrap up Day 1 (Dave):

Expectation of day was to hear what each Sea Grant can do for MACOORA, what can Sea Grant Mid-Atlantic do to further extend outreach in coastal ocean observing?

- Sea Grant communications staff can reach media but need to know what is message trying to convey
- CT main focus is K-12 formal education
- NC identified user client groups and talked to them through formal survey groups or informal conversation

Day 2

1. Jack Thigpen - NC Sea Grant

MACORA Sea Grant – Lessons from SEACOOS/SECOORA

- SEACOOS funded by office of naval research, first attempt to regionalize observing efforts in southeast
- Broken down into 4 working groups – Sea Grant fit into outreach and education
- Determine best methods of providing useful information: Web based, diversity of information, diversity of end users, traditional and innovative
- Most people in Sea Grant didn't know about ocean observing – conducted a survey to find out what needs were
- Ended up with 11 groups of users and asked them to identify the data needs they had: water temp, salinity, currents, zooplankton, weather (commercial fisherman and recreational) – wave, current and wind information most often mentioned

Examples of User Groups:

- Coastal communities – weather levels, storm flooding, sea level rise
- Search and Rescue – HF Radars for surface currents, same for hazardous waste spills
- Paddlers – waves, winds, tides, currents
- Beach goers – waves, rip currents, tides
- Commercial shipping – winds, waves, currents, tides
- Beach communities – waves, rip currents, sand for beach nourishment
- Military – coastal navigation, search and rescue, envt'l hazards, CZM, logistics and training

- Sea Grant advantage – established relationship with coastal clientele, track record of listening to people in order to help meet their needs and to have infrastructure in coastal states
- Challenges – most specialists and agents need to come up to speed on ocean observations, science and potential, in reach as well as outreach, and to partner with other outreach providers.

Response from Dave for Group to discuss:

Let's get back into discussion about what Sea Grant can do in this arena and what MACOORA can do for Sea Grant. Need to give Sea Grant some tools...need too sell MACOORA!!

**Not all Sea Grants have communications people, need to figure out how to better utilize communications..how do we pull this together?

Answer from Ann (PA Sea Grant):

- PA Sea Grant to promote IOOS and engage outreach – work as liaison to stakeholders, could tie into existing program, and could assist leaders in other areas. Fish consumption, need to understand what populations are affected, more GIS analysis of fishing demographics

Answer from Cynthia (VA Sea Grant):

- Try and engage research community who are developing whatever ocean observing is going to be and have them talk to outreach personnel who are in touch with the users...outreach people need to know what is possible from the data that is being generated. Money is a factor because physical oceanographers don't want to write proposal for \$75,000 because it isn't enough money. Research community doesn't see Sea Grant as a place to go to for ocean observing work...

Response from Dave:

We have talked about pathogens in MACOORA and looked at ways to measure and detect. There were a lot of request in the Long Island sound, mainly lobster fisherman. We need to look at how to prevent mercury or PCBs...

Answer from Diana (CT Sea Grant):

- Having hard time coming up with ideas because we don't know what works and what doesn't work

Response from Dave:

We have had sub-regional meetings and have asked about needs, a lot of observing systems are up and running but have not been integrated, so has not really been a MACOORA function and has been run by private sub-regions. We're not looking to create something new or replace anything that the sub-regions are doing, it is more of an umbrella and attempt to build on what is there now..we need to look at Federal Backbone and do gap analysis, what is it that we need to do to tie these all together and identify areas that can be linked so the whole region is linked to other regions. We'll be integrated with GMOOS and SECOORA...

Question from Dave:

What resources are there within Mid-Atlantic Sea Grant programs? I could ask each of you to say here are the societal goals of IOOS and what extension people do you have that have experience in these areas? But instead, I believe we should look at who do those goals affect?...We need to look at the people and clientele and not the goal..and maybe Sea Grant already works well with those people..

Answer from Jennifer (CORMP):

- GMOOS advice – don't be afraid to try something, when we spoke to stakeholders we brought scientist with the outreach program and had informal conversations with them, made a nice connection, and attributed success to having informal conversation and not a formal survey

- Can't be all things to all people, and can't force website to meet everyone's needs, maybe start with face user group and have real good understanding of their needs in the region..comes back to what is clientele that you are servicing now and focus on that..

Answer from Peter (NJ Sea Grant):

- Everyone's been saying all good ideas, but I keep going back to question what can MACOORA do for Sea Grant...what we need is clearer product or what the product is going to be from MACOORA, and what Sea Grant can do in context with what they are already doing and what does that cost. How is NFRA making progress to make more funds secure?..Can MACOORA dedicate funds to Sea Grant in hopes to help bring stakeholder needs and input back to MACOORA?

Response from Dave: –

We would expect to get funding, we know it is not free, and we are looking at 10-15% of our budget for outreach. We are still in organizing mode with the grant we have with NOAA.

Answer from Susannah (SC Sea Grant):

- Have done needs assessment, can't go to users and give broad overview of IOOS and say what do you need, need to take them examples and say does this work for you?

Answer from Wendy (DE Sea Grant):

- Coastal communities don't understand that clicking on a buoy gives them certain information, at what level does education and training for those stakeholders fit in? Clear need for education of what things mean...

Wrap up Day 2 (Dave)

Cover Sea Grants Outreach/Extension Strategy and elements of Ocean Observing Outreach Network

- Need to ensure that data and information from these systems are in accessible formats and distributed appropriately, everybody needs to know what is going on...super users include researchers....
- Currently working with Coast Guard at Avery Point for search and rescue
- More beneficial to have sub-working groups within outreach, but it also doesn't sound like there has been a lot of evaluation assessment of what has been put into place..suggestion was seconded, could get some best demonstrated practices from each group and share ideas among one another

