MARCOOS Conference Call – Friday, June 6, 2008, 10-11 am Eastern.

Next conference call: Friday, June 24, 2008, 10-11 am east coast time.
Usual MACOORA number

Attending
Scott Glenn
Josh Kohut
Hugh Roarty
Andrew Voros
Nickitas Georgas
Tom Herrington
Harvey Seim
Art Allen
Bill Boicourt (from the boat)
Todd Fake
Eoin Howlett

Reports on IOOS meetings attended

MACOORA/MARCOOS Review - April 30, Rutgers
Full MARCOOS Powerpoint is on the MARCOOS website. Portions were included in the MACOORA powerpoint presented to IOOS, NFRA, NERA and MACOORA representatives. MACOORA/MARCOOS was well received. The main question from IOOS concerned the interaction of MACOORA and NERA in the new overlap region between Long Island Sound and Cape Cod. IOOS was assured that the working relationships between the two RAs is good. IOOS was less concerned with this and more concerned with the perceptions of users. Ron Rosa from Connecticut DEP stated it best. He is already being asked by IOOS to volunteer a lot of time for a program that still faces an uncertain future. Now he is being asked to attend twice as many meetings because of the overlap of MACOORA and NERA. Ron's question remains a major concern for IOOS.

MACOORA – NY Bight Subregional Meeting -
Lucy Ambrisino, Mike Bruno and Scott Glenn organized this meeting at the NY City Office of Emergency Management. IOOS/MACOORA/MARCOOS presentation was made by Scott, and the pending NY Bight subregional proposal for Water Quality and Inundation were presented. Mike Bruno introduced the new DHS Center of Excellence for Port Security. Following the successful MACOORA format, the two background talks were followed by a series of joint talks pairing data providers with data users. Powerpoints are on the MARCOOS website. An enthusiastic discussion followed, with several new partnering opportunities identified. Visits to the Coast Guard operations center were planned, and interest in the new MARCOOS nearshore was added to the strong offshore Coast Guard interest. FEMA and Coast Guard users reiterated the need for close collaboration between NOAA IOOS and the Department of Homeland Security. NWS was used as an example of a successful collaboration between NOAA and DHS.

U.S.- E.U Baltic Meeting – IOOS session. Estonia.
Zdenka Willis hosted the IOOS special session at the bi-annual IEEE conference. RA talks were given by Scott Glenn, Josh Kohut, Oscar Schofield, Harvey Seim, and the NFRA talk by Josie & Molly was given by Harvey. Talks are on the Rutgers website. Glider work with the Navy and IOOS was a significant MARCOOS discussion topic, in particular, the similar needs for visualization software and for personnel training.

National Water Quality Monitoring Network Meeting – Atlantic City.
MACOORA/MARCOOS hosted two back-to-back 1.5 hour special sesions, the first on the subregions, and the second on the regional effort. MARCOOS PIs also had talks scattered throughout the 5 day conference. MACOORA/MARCOOS presentations emphasized the linkages between IOOS and NWQMN. The most impressive part of the regional effort was the clear support of EPA and NJDEP for the MARCOOS glider efforts and the concept of putting Oxygen sensors on gliders. EPA had previously donated an Oxygen sensor for a glider, and the first results were presented. A new partnership with EPA & NJDEP supporting the use of oxygen gliders for nearshore runs that would compliment the MARCOOS fisheries offshore runs was initiated. This was seen as a great example of an IOOS collaboration extending to agencies beyond NOAA.

MARCOOS Review
The 6 month written progress report was submitted to NOAA CSC and is available on the MARCOOS website. Geno Olmi visited the Rutgers COOLroom to review progress. The report was accepted. Year 2 level funding that starts October 1, 2008 has been approved, and Rutgers has approval to start the year 2 subcontracting process several months in advance, an uncommon luxury in these times of tight budgets. Courtney will be in touch with you on the necessary paperwork for year 2 money.

Texas HF Radar Network
Hugh Roarty spent a week in Texas adding a MARCOOS touch to the Texas HF Radar network. The long term plan is to help get their systems into the National Network.

Spain's National HF Radar Network - Madrid
Scott Glenn and Josh Kohut attending a planning meeting for Spain's National HF Radar network at the Portos in Madrid. The meeting was hosted by Qualitas Remos, the industrial partner installing and operating the network for Portos. Two major areas of collaboration were defined and initiated, one in the visualization software for the display of satellite, HF Radar, glider and buoy data, the other in the QA/QC procedures for HF Radar. Qualitas Renos is joining the MARCOOS HF Radar validation group to share their results with the distributed MARCOOS validation team.

DMAC Meetings
Eoin Howlett and Josh Kohut attended a series of IOOS DMAC meetings. The summary statement is that there are a lot of capabilities, diverse opinions, and a lot of things that can be done. What DMAC needs is a concise start up project that fits into the grand scheme but is something that would provide a concise demonstration of the usefulness of

the DMAC effort. MARCOOS is poised to be an excellent test case. MARCOOS is also viewed as an excellent test case for the NSF Ocean Observing Initiative Cyber Infrastructure Implementing Organization, or, as those of us in the business like to call it, the NSF OOI CI IO.

Modeling meetings.
Just as we have DMAC meetings, we also have IOOS modeling meetings. MARCOOS is well represented by John Wilkin, Oscar Schofield and C.J. from ASA (formerly from NOAA HAZMAT). Their next meeting is being planned.

Reports on MARCOOS Progress.

Weather 1:
Andrew and Jay have been working with the regional WFOs and have begun an inventory of all WRF forecasts being run by NOAA in the region. Louis Bowers worked with Al Cope to get the PSE&G version of WRF running at Mount Holly at the 4 km resolution for the full region as suggested by the WFOs to improve the representation of convection. It was initially set up at 6 km as the minimum required for Seabreeze. Andrew and Jay have successfully coordinated an ensemble approach to WRF forecasting in the Mid Atlantic that also includes the existing SUNY models by Brian Colle and the new Rutgers models by Steve Decker. By sharing and coordinating the different parameters that are being used in the models, model runs can be distributed between the numerous partners and a much great ensemble created. Coordination will continue during the second 6 months of year 1 so that by the start of year 2, the ocean modelers will have a significant ensemble of weather products to choose from.

Weather 2
A second weather task was to get the extensive real-time Weatherflow mesonet winds into the Environmental Data Server (EDS) so they could be accessed by the Coast Guard in the Search And Rescue Optimal Planning System (SAROPS). Jay made the data available, and Eoin constructed the necessary interface. Art confirmed that the Weatherflow data is now appearing in his version of SAROPS. The development aspect of this task is now complete. Other wind observations can now be added in a similar fashion as they become available.

HF Radar Operations
18 of 25 sites were operating and reporting data to the national network on the day for the conference call. To be resolved issues are (a) Block Island (5 MHz) and Block Island Sound (25 MHz) have persistent utility problems at the shared site, and the difficulties with the Cheasapeake bay bridge site, and Assateage and Cedar Island are running but not producing good radials. New sites include Tuckerton is being moved to a new site in Brigantine to make up for a poor antenna pattern at Tuckerton, NOAA is setting up the Cape Henry Site, NASA is setting up the Back Bay site that will pair up with Harvey's in North Carolina to improve the resolution of the fast Gulf Stream and the slow shelf. Rutgers is installing a new ONR 13 MHz site at Fire Island to pair up with the site at

Sandy Hook for vessel tracking tests, adding to the current mapping network in the bight apex (good news for Alan's model). A fix for a bug discovered in the latest version of the software is being distributed to upgrade all sites in the region. Biweekly CODAR operators conference calls continue.

HF Radar QA/QC:
MARCOOS QA/QC plans have now been presented at a range of IOOS talks in the U.S. and abroad. Sarah and Harvey are working on better ways to define the first order Bragg region to help in regions with both large and small currents, a Gulf Stream application that will also help with the swift Hudson River and slow Raritan bay. Teresa continues with the baseline comparison studies in the Chesapeake and real time diagnostics. Bruce is working on antenna pattern sensitivities in Delaware Bay. Improved methodologies for defining the median radial velocity in each grid cell have been shown to reduce the size and number of outlier radials when compared to drifter data on the continental shelf.. Based on results presented at Ocean Sciences, new vector combination software that includes optimal interpolation as a method to bridge small gaps and remove outliers is being implemented and will be tested with Art Allen's drifter deployments, The new server has been installed to mirror NOAA's national server at Rutgers. It will soon contain all the same radial data as the national server. Just as Eoin Howlett maintains a test site for EDS separate from the operational EDS site used by the Coast Guard, Josh is developing the test national server site. Dan Halloway and Dave Ullman will use this site to install the new Opendap combiner. Dave Ullman is modifying the Opendap combiner software to include the geometric constraints on combining radial vectors. The advantage we expect with the Opendap combiner over the present Matlab combiner is speed for the real-time product, and flexibility to define new historical re reanalyses. Combined total vector products from the new server will be constructed on the national grids already defined by NOAA. At present, total vector data continues to be made available as ftp files or on John Wilkin's Opendap server in the existing Mid-Atlantic grid. Eoin and John have completed the work of getting the HF radar total vecot product into EDS. The QA/QC group continues to have approximately monthly phone calls. At the national level, the NOAA national server expects to provide netcdf output for all the data it receives starting on July 1. Just to be sure, NOAA has asked everyone supplying data to the national server to respond that they are ok with this. If you do not want your data distributed as part of the national product, you are free to remove your feed from the datastream. However, since IOOS requires free and open access to the data they help fund, you will also have to forego your MARCOOS site support if you withdraw from the national server. Rutgers and CIT have already agreed that it is ok to distribute data from the sites we own on the national server.

STPS – Statistical Forecasts
UConn is completing the reanalysis of the full Mid-Atlantic data to provide the tides and predictive correlations for the full Mid Atlantic versions of STPS. They are working with Eoin and John Wilkin to get the Opendap servers installed using the existing New Jersey shelf STPS runs so that STPS can be integrated into EDS when it is ready.

Gliders – The NOAA IOOS glider was delivered. RU21 will be first tested on a short run offshore Tuckerton. It will then be readied for the trip to the south, leaving the northern half covered by the ONR MURI gliders for now. Bill Boicourt has developed and now distributed a glider resource manual to aide in the deployment and recovery of gliders, with specific emphasis on the recoveries in the southern half of the Mid Atlantic. Planning for the first IOOS flight will take place over the summer to hit the transitions as defined by the glider working group developed at the 5 Month MARCOOS review at UMass Dartmouth.

Satellite's.
First the good news. ONR has funded an upgrade of the Rutgers satellite receivers to include the new European satellites that are now starting to carry NOAA's operational AVHRR sensors. This will keep the MARCOOS satellite data stream current. Now the bad news. NERA is reevaluating its observing system priorities and support for the University of Maine's satellite receiving station is scheduled to be cancelled this fall in favor of other observing system assets in our neighboring/overlapping region. UMaine has asked for support letters to be sent to NERA to keep their satellite receiver running. The Universities distributed around the country that are running satellite downlinks perform an important service for the nation, which through NOAA's Open Skies Policy, provide real-time access to the full 1 km resolution direct broadcast data. Multiple University sites provide the redundancy necessary to maintain a continuous data stream. When the Rutgers systems are down or are being repaired, UMaine provides an automatic backup data feed so that vast number of the downstream customers continue to receive their data products. Rutgers similarly provides automatic back up of the UMaine system when it goes down. Perhaps the most dramatic example of the collaboration was during Hurricane Katrina when the LSU dish was destroyed, and Rutgers provided LSU a data feed so their standard products could be used for emergency management. If the UMaine system goes down because of a lack of support, MARCOOS will have to purchase expensive spares for the Rutgers satellite dish to ensure we can maintain a continuous product.

Dynamical Models – Recent data assimilation test results are being presented at conferences. An excellent example are Alan's modeling results presented at the NY Bight subregional meeting and at the NWQM Conference showing the assimilation of CODAR data and the resulting improvement in the forecast of the subsurface fields observed by the gliders.

Planning projects.
Janice McDonnell and Jeff Yaplater have set up a series of dates with the Long Island Tuna Club as test subjects for the web-based visualization of 3-D temperature data. Scientists working with the NOAA regulators in the MAB have asked that the next most simple product beyond surface SST maps is bottom temperature maps from gliders. Over the summer and fall we will be working with both groups to define the next temperature products for MARCOOS theme 2.

Tom Herrington and Josh Kohut have meetings set up with lifeguard organizations to inform them of the new nearshore HF Radar product MARCOOS is producing. The nearshore product is already being used by coastal managers to help with beach water quality sampling. The Coast Guard has also expressed interest in the nearshore product for instances in which they get calls for people being pulled off the beach.

Dennis King produced the most requested MARCOOS figure of the April 30 review. It shows the relative amount of money spent on recreational and commercial fishing by state in the northeast. Maine is heavy into commercial. As you head south, the balance shifts, and recreational takes over. The Mid Atlantic is dominated by recreational fishing. As a result, Janice's new product tests are focusing on the recreational fishing community first.

Tony is working with Dennis and is organizing the fishing users group in time to define the initial routes for the MARCOOS gliders during the fall transition.

Priorities for the next 6 month increment:

These priorities for the next 6 months were so succinctly summarized by Art, they should be repeated here.

1) Keep the Radars running,
2) Remove the outliers and fill the gaps in the total vector fields, and
3) Get STPS into EDS.

Art also brought up the excellent point that we can start soliciting letters of support now from every user of our data, especially the new ones, and ask each of them if its possible to estimate the economic impact. This feedback could then be provided to Dennis King.

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