

Bi-Weekly Z-GRAM 17 April 2009

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The Z-gram is an informal way of keeping you up-to-date on IOOS® activities. Please advise of additional addressees, or if you are receiving and no longer want to receive. If you think others could benefit from the Z-gram please pass it on. To see previous Z-grams go the IOOS Website under program updates

IOOS® - Our Eyes On Our Oceans, Coasts and Great Lakes.

### Programmatic:

- Farewell: We bid Kim Cohen farewell on 10 April. She now joins NOAA's Coastal Services Center, located in Silver Spring. Our great loss is CSC's great gain - be we are very pleased that Kim remains in the NOAA family. She will be working on NOAA's Climate Services and focusing on the coastal element.
- Congressional Report: Back in the review chain
- FY09: Work continues on inputs of the recommended awards for FY09.
- FY10: **No change**
- FY11-15: Budgeting phase continues.
- FY12-16: **No change.**

### Initial Operating Capability - Data Management and Communications (DMAC) subsystem of IOOS®

In FY09 we are focused on 6 areas for this subsystem: (1) Data Integration Framework (DIF) support to Customer Applications: Harmful Algal Blooms forecast system (HAB-FS); Integrated Ecosystem Assessments (IEAs); Coastal Inundation; Hurricane Intensity; (2) DIF Regional Implementation; (3) DIF Evolution & Enhancements; (4) Development of the best approach to DMAC (5) High Frequency Radar (HFR) – A National Network; and (6) Continue strong support, with the Inter Agency Working Group on Ocean Observations (IWGOO), to the IOOS DMAC Standards Process and working with the DMAC Steering team and the first 5 areas

- IOOS DMAC Standards Process: DMAC Steering Team meeting will be held in May 2009: Get Involved: <http://ioosdmac.fedworx.org/ioos/dmac.nsf/WhatsNew?OpenForm>
- What the DIF: For all documents and information, please visit the [www.ioos.noaa.gov](http://www.ioos.noaa.gov) website and hit the button that says IOOS Data.
  - **Ocean Color:** Testing has begun of CoastWatch Gulf of Mexico region ocean color product conformance with DIF standards, along with THREDDS server v3 performance testing. Testing of THREDDS server v3 implementation is expected to be completed by May 15. THREDDS Server v4 software has been installed on a development machine and was tested with existing ocean color datasets/metadata with no problems. Full implementation is targeted for Sep. 22. Implementation of THREDDS Server v4 will allow CoastWatch to provide

MODIS ocean color products for all CoastWatch regions, not just the Gulf of Mexico.

- **REGIONAL DIF IMPLEMENTATION:** The Workshop Report: Based on the March 10-11 meeting, report completed/distributed April 7th and includes a detailed plan of action. The report is available at the NOAA IOOS Program web site.
- **DIF ENHANCEMENTS:**
  - Google Earth collaboration: Jeff and other IPT and Regional DMAC personnel continue to meet weekly with technical staff at Google Earth to discuss using “KML” data formatting within the IOOS services being stood up by the DIF team. KML is a file format used to display geographic data in an Earth browser such as Google Earth and other geospatial data displays. The discussions on focusing on converting DIF data files to an additional “standard” format such as KML on Google Earth machines using a conversion template we define together.
  - SensorML Work: The WSDE working group is converging on a final “template” for station metadata using SensorML which provides standard models and an XML coding for describing any process including the process of measurement by sensors and instructions for deriving high level information from observations.
- **DIF-DMAC/NATIONAL DMAC:**
  - The RFI is posted on the Federal Business Opportunities (FEDBIZOPS) web site at: [https://www.fbo.gov/index?s=opportunity&mode=form&id=ceeb3dbd09e71a4f48e70ccdb3793daf&tab=core&\\_cview=0](https://www.fbo.gov/index?s=opportunity&mode=form&id=ceeb3dbd09e71a4f48e70ccdb3793daf&tab=core&_cview=0) - **The deadline for response is 30 April 2009**

**Interagency Project Collaboration:** The Z-grams are certainly focused on providing information on IOOS® connections to these projects and it is not intended to provide programmatic updates of these specific projects because all of them have project leads.

- **GODAE Server MOA:** Awaiting signature from the Naval Research Laboratory
- **Interagency Working Group on Ocean Observations (IWGOO) Sponsoring "Small Sea Changes: Big Business Impacts" Workshop:** The purpose of this event was to engage private industry and to communicate the value of ocean science and ocean observations to business decision-making. The agenda included presentations that informed on the benefits of IOOS, presented risks and uncertainties through an understanding of the limits of predictability and offered National and Global views followed by breakout discussions on how to improve delivery of sectoral benefits of IOOS. Jack Dunnigan, Chair of the IWGOO was our emcee. A big thanks to all our speakers: Dr. Jim Baker, former NOAA Administrator and current Director of the Global Carbon Measurement Program at the William J. Clinton Foundation provided the key note speech setting the stage; Ralph Rayner, aptly substituted for Dr. Corell - who was stranded in Greenland, on examples of ocean observing's role in prediction; Mary Glackin, Deputy Undersecretary for Oceans and Atmosphere/NOAA on a look towards the importance of a Climate Service in NOAA's role; Dr Pai-Yei Whung, Chief Scientist, Office of the Science Advisor, Environmental Protection Agency - on direct ties of the ocean on many societal benefit areas; Dr. Tony Knap, President and Director, Bermuda Institute of Ocean Sciences; who enlightened us on the business of insurance and Professor Leonard Smith, Director, Grantham Institute for Climate and the Environment,

London School of Economics and Political Science provided us a great talk on the Risks and Uncertainty. I provided a talk on IOOS Delivering Benefits to Industry. A paper based on the conference will be written and posted. We are in the process of getting permission to post all the briefings. This was first in a series and we will work to refine the agenda and layout of the meetings and continue to seek ways to connect with the industries who do rely on IOOS for many decisions they make but might not know this! Thank you to Ralph Rayner, Nick Rome and Josh Young who did the heavy lifting to make this event happen.

- **Interagency Modeling Activities:**

- **Australia Meetings:** Rich Signell presented his NOAA IOOS work plan on model data interoperability at the First Pan-Asian ROMS (Regional Ocean Model System – a free-surface, terrain-following, primitive equations ocean model widely used by the scientific community for a diverse range of applications) Conference in Sydney, Australia and at CSIRO in Hobart. His meetings included a visit with Roger Proctor, Director of e-Marine Information Infrastructure at Australia's Australian Integrated Marine Observing System (IMOS). IMOS is pursuing the same strategy as IOOS, using NcML with the THREDDS Data Server to standardize and aggregate model data for delivery through OPeNDAP, WCS and WMS. IMOS personnel and colleagues at CSIRO and the University of Tasmania are also developing innovative tools for harvesting and populating metadata in NetCDF files and THREDDS Catalogs.
- **Regional IOOS Collaboration:** Rich has facilitated the installation of THREDDS Data Server version 4 in the SECOORA, PACIOOS, SCCOOS and NERACOOS regions and we are actively working through issues with the Forecast Modeling Run Collection feature, that allows automatic generation of "best time series" datasets that combine recent results with the current forecast to facilitate comparison with data.
- **NOAA Ocean Modeling Collaboration:** Rich met with NOS/Coast Survey Development Lab's Ed Myers, Rich Patchen and Frank Aikman to discuss standards for unstructured grid model results and tidal data bases from models.
- **High Frequency Radar:** Next draft will be sent for comment in mid-May.
- **IOOS and Links to the National Water Quality Monitoring Network:** Conference call with David Valentine (CUAHSI) (4/13): Focus of this call was on the OGC Hydrology working group and potential for incorporating the NOAA/EPA/USGS water quality group discussion into this forum. A goal of the Hydrology WG is to use it as a central forum for the multitude of ad hoc discussions taking place in the water quality data community. At the conclusion of this call, there was agreement that the water quality WG would benefit from being inside the OGC Hydrology WG and brings more visibility to the discussion.
- **US GEO:** The United States will host the GEO IV Plenary in Washington DC - November 2009. Planning is underway.

### Other:

- **GLOS Annual Meeting:** A number of Federal Agencies were present during the GLOS annual meeting. GLOS has made great progress over the last year: I liked Bill Werick's comments on GLOS is more like a BOT than a Silo, providing information problem

solvers need but don't have. GLOS and SeaGrant have a very strong relationship which is providing a great outreach and connection between users and providers. GLOS has released new products in the Huron-Erie Corridor Nowcast/Forecast system that with a click calculates water level and water speeds on the fly and tools to track contaminants, important to drinking water, beach closures; Harborview is now operational. There was good discussion on expanded partnerships for GLOS to provide access to State of Lakes Ecosystem Conference (SOLEC) data that is not currently available, and potentially IJC data. GLOS is working with the Environmental Protection Agency (EPA) partnership to their GLENDATA data. Through SeaGrant – GLOS data is being used in classrooms and 4 lessons - dead zones, surviving great lakes storms, fish funders, doughnuts in the great lakes are being piloted. Also under SeaGrant funding we were briefed on the SARP (Sectoral Analysis Research Project) and the preliminary results on 2 focus groups - Climate Change – Ports and Marinas; Storm Water and Community planners. Great progress has been made by the Open Lakes Monitoring network which is funded outside of GLOS and represents a partnership with 7 Universities and Institutions. Attached is an article on local community providing support for an Ocean buoy. GLOS presented Dave Schwab a first ever GLOS award, for his support to GLOS. My highlights never do justice to the full briefings so I encourage you to visit the GLOS website for the presentations. NOAA's Great Lakes Environmental Research Laboratory (GLERL) hosted us for an evening reception and we got to tour the lab in their new spaces - VERY IMPRESSIVE.

- **Visit with Stakeholder in Duluth MN:** Thank you to Dale Bergeron – MN Sea Grant – who set up a stakeholders visit for me in Duluth, MN. On 7 April, I had a chance have a roundtable discussion with Sea Grant Representatives from Minnesota and Wisconsin and the University of Minnesota, Great Lakes Observatory. This was followed by me presenting IOOS at the EPA regional center. On 8 April I started with discussion and briefings at the Duluth Seaway Port Authority, toured the “Indiana Harbor” – a 1000ft coal hauler and the Midwest Energy Resources – where the coal is stored and loaded; and the Great Ships Initiative. My thanks to Jim Sharrow, our host for the day and the informative briefings on importance and breadth of the Great Lakes shipping sector. With weather and Lake conditions that change rapidly, there is a great need for localized in situ ocean observing and near term forecasting. Dr. Mary Balcer, Senior Scientist - Great Ships Initiative – Great Ships Initiative provided an overview of these R&D efforts to evaluate ballast water treatment options in order to stop invasive species. It is the only one of its kind in fresh water. Dr. Richard Stewart – Co-Director – Great Lakes Marine Research Institute provided an overview of efforts underway. This institute is considered a National Maritime Enhancement Institutes under 1989 Public Law and is one of few institutes doing research for the maritime sector. My final stop was the University of Minnesota - Large Lakes Observatory where I met with Dr. Steve Colman – Director and Jay Austin – Scientist. The LLO has been in existence since 1994; under the University of Duluth graduate program in Oceanography. LLO is mostly engaged in fresh water research which extends across the world. Jay will be launch a glider in freshwater – and yes changes were needed to make it work in the Lakes. These trips are very important for all of us to talk directly with our customers to understand the context under which IOOS data will be used.

- **NERACOOS and MACOORA announce new Executive Directors:** Dr. Ru Morrison is the new Executive Director for NERACOOS and Judy Krauthamer is the new executive director of MACOORA. We welcome them aboard and look forward to working with you both. My sincere thanks to Dan Chapman for his service as the MACOORA Executive Director.

### **Congressional: No update**

#### **Communications:**

- GOVERNMENT COMPUTER NEWS, by William Jackson: "NOAA becomes a principal member of Open Geospatial Consortium." - "In NOAA, the National Weather Service, National Ocean Service and National Marine Fisheries Service are developing GIS tools for using data being collected. The Integrated Ocean Observing System (IOOS), for example, makes data available to a variety of tools and applications. IOOS is the U.S component of the Global Ocean Observing System, which gathers data to improve weather forecasting and climate predictions. Tools used or developed by IOOS include intensity modeling, tracking harmful algae blooms, mapping ecosystems and modeling coastal inundation."
- Catch the latest episode of NOS' "Making Waves" podcast - I talk about The Scarlet Knight's upcoming attempt to cross the Atlantic: Check out <http://oceanservice.noaa.gov/podcast.html> - click on making waves
- AP filed a story on AP wire and AP radio on the upcoming launch of The Scarlet Knight across the Atlantic - as I write this it has already been picked up by many online news outlets:  
[http://hosted.ap.org/dynamic/stories/S/SCI\\_UNDERSEA\\_GLIDER?SITE=DCTMS&SECTION=HOME&TEMPLATE=DEFAULT](http://hosted.ap.org/dynamic/stories/S/SCI_UNDERSEA_GLIDER?SITE=DCTMS&SECTION=HOME&TEMPLATE=DEFAULT)

#### **Upcoming Meetings:**

- 5-6 May: University of Florida: Second Annual Workshop of the IOOS/SECOORA Regional Storm Surge and Inundation Model testbed - Marcia Weeks to attend from NOAA IOOS
- 11-12 May: The Marine Board of the Transportation Research Board will be holding its 2009 Spring Meeting at the Aquarium of the Pacific in Long Beach, California. Zdenka will provide an IOOS brief.
- 12-13 May: SECOORA board meeting - Zdenka attending/briefing
- 26-28 May: Visit to Humboldt State University
- 28-29 May: GODAE High Resolution Sea Surface Temperature Project meeting - CA: Zdenka will provide kick off the conference
- 27-29 May: 11th Annual Harbor Safety Committee Conference - Tampa, FL. Zdenka will join others from NOAA to participate in a panel on 29 May.

Cheers,  
Zdenka



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## New data buoy could be located at mouth of Little Traverse Bay

### City's Harbor Commission floats idea to area groups; would require funding partnership with U of M

By Charles O'Neill  
Harbor Light Newspaper

A proposal to locate a weather and data monitoring buoy at the mouth of Little Traverse Bay drew considerable interest at a special working session of the Harbor Springs Harbor Commission last Wednesday, March 18.

Proposed by scientists at the University of Michigan Marine Hydrodynamics Laboratories, a division of the Department of Naval Architecture and Marine Engineering, the buoy would be similar to one developed for, and which will be placed in, Grand Traverse Bay in April.

As described by University of Michigan professor Guy Meadows in an email to Harbor Commissioners, the buoy would become part of an established system of buoys on the Great Lakes, but would offer additional data, and more importantly to area boaters, data closer to home.

"The Integrated Ocean Observing System (IOOS) has the charge to provide for the oceans and Great Lakes, what exists for the weather service, permanent stations upon which to base forecasts and warnings," Meadows wrote. "The Great Lakes Node of IOOS is the Great Lakes Observing System (GLOS). Over the past few years, GLOS has concentrated the bulk of its efforts and funding on the St. Clair River, Lake St. Clair and the Detroit River. Although important, this region is not representative of the bulk of the Great Lakes. Last year the Marine Hydrodynamics Lab (MHL) of (the University of Michigan) received a \$30,000 grant from GLOS to develop and deploy a second buoy for Grand Traverse Bay. We expect a similar grant this year for an additional coastal buoy."

Meadows noted in a follow up email that funding was approved for a new buoy in 2009.

Due to intense funding competition among universities, federal dollars are limited forcing scientific projects to be concentrated in areas where there are already on-going projects, Meadows said.

"For us, that location is northern Lake Michigan," he wrote. "...Northern Lake Michigan is greatly underserved by GLOS and represents the physical and economic characteristics of the northern Lakes.

"In northern Lake Michigan, people care about the quality of water, safe navigation and the economy depends, in large part, upon access to the water. An expansion of our coastal buoy network into Little Traverse Bay makes a good deal of sense to us."

As background to the proposal, Harbor Commission members shared a summary sheet on the buoy project.

"The program originally started in Lake St. Clair as an information gathering tool to help UM scientists determine how weather and water movement affect the flow of untreated sewage discharges into the lake. The program moved to Grand Traverse Bay for further study in a body of water that was not isolated and had a relatively open connection with Lake Michigan," the summary sheet noted.

"The ability to access real time weather information to recreational boaters is an additional bonus. Funding is no longer available to cover the total cost of expanding the number of buoys, only the buoy construction. UM is therefore seeking partnerships with interested local organizations to cover the annual operational costs."

The buoy proposed for Little Traverse Bay would likely be located on a line halfway between 7 Mile Point on the north shore and 9 Mile Point on the south shore, in about 90-feet of water, commissioners were told.

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The new buoy's information would be part of the existing National Oceanic and Atmospheric Association's (NOAA) internet web site, where buoy information can be accessed from around the world.

Commissioners noted one key improvement would be that this new buoy provides updates every 10 minutes versus every hour with existing NOAA buoys.

Information provided by these buoys includes standard meteorological data including wind speed, air temperature, wave height and more.

Information is accessible via computer over the internet, and NOAA even offers "Dial-A-Buoy" when you are away from a computer. Wind and wave measurements taken within the last hour at buoy and coastal weather stations operated by the National Data Buoy Center and other partners can be heard using a cell phone.

"I think it would be great to know what is going on at the mouth of the bay before setting off on a journey to Charlevoix, Northport or Beaver Island," Harbor Springs Mayor Al Dika, a member of the Harbor Commission, said in a related email.

The closest existing NOAA buoy to Little Traverse Bay is located halfway between North Manitou and Washington Islands.

Among those attending the Harbor Commission meeting last week were representatives from the city of Petoskey, Bay Harbor, Little Traverse Yacht Club and the local marinas. Representatives from Charlevoix were also invited.

All expressed interest in getting the buoy located here. Details on exactly what that would require in terms of dollars and in-kind contributions (Irish Boat Shop and Walstrom Marine both suggested they could place the buoy using their own equipment) were less clear.

Harbor Commission chairman Jim Bartlett said he first wanted to gauge a level of interest among the organizations around the bay before pressing the University of Michigan for specific budget amounts.

Conservatively, Bartlett suggested there would need to be a commitment to raising \$30,000 locally in the first year. That number may be lower, he said, if in-kind contributions can cover some of the additional costs.

"The University will construct the buoy, but does not have the funds to install and maintain the buoy and the related data and site connection," Bartlett said. "They are looking for a consortium willing to fund some kind of partnership with the University."

Bartlett said this would be a year-to-year agreement and either side could pull out if the funding was not there. He noted the buoy has a life expectancy of 20 years.

He also added that the University would assume liability for the buoy in case of any accidents.

"There is little risk, except financial," Bartlett said.

"The first thing I do when going out is pick up the buoy on Washington Island," said Walstrom Marine president David Lyle. "I would probably pick up this new buoy before heading out. I can see, in the interest of safety, this would be a wonderful thing to have, a great opportunity."

"It would be a wonder benefit," echoed Irish Boat Shop president Michael Esposito. "There is a huge distance between here and the existing buoy. The only real question is cost."

There was discussion among the group about possibilities for equitably sharing the cost among interested organizations.

The meeting concluded with general agreement that the buoy project was worth pursuing and more specifics on financial costs would be sought.

#### **For more information on the internet:**

**NOAA National Data Buoy Center:** [www.ndbc.noaa.gov](http://www.ndbc.noaa.gov)

**Integrated Ocean Observing System:** <http://ioos.noaa.gov>

**Great Lakes Observing System** <http://glos.us>

**Marine Hyrdodynamics Lab University of Michigan** [www.engin.umich.edu/dept/name/facilities/mhl](http://www.engin.umich.edu/dept/name/facilities/mhl)

**Dial-A-Buoy** [www.ndbc.noaa.gov/dial.shtml](http://www.ndbc.noaa.gov/dial.shtml) 888-701-8992

*(You can find the specific buoy identifier number online which is required to access information for a specific buoy. Alternatively, you can enter the latitude and longitude figures on the telephone.)*



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