

Bi-Weekly Z-GRAM - 16 October 2009

[www.ioos.gov](http://www.ioos.gov)

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 and view under 'program updates.'

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

### Programmatic:

- **Congressional Report:** No change.
- **FY10:** We remain on a continuing resolution (CR) through October 31, 2009.
- **FY09 Regional Fact Sheets:** Want to know the exciting things going on with the US IOOS Regional Coastal Component? Visit [www.ioos.gov](http://www.ioos.gov) and download the Fact Sheets!
- **Grants Training:** For the Regional Coastal Component: The IOOS office will provide a Grants training session via webinar scheduled for October 22, 2:00-4:30 PM. Please contact Regina Evans: [Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)

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

- **DMAC STEERING TEAM NEEDS YOUR PARTICIPATION:** Greetings from the Interagency Working Group on Ocean Observations! We need your help to fill out the following DMAC ST survey: URL: <http://tinyurl.com/y94mfsy>. Your input can be provided over multiple sessions, although you must complete the survey no later than **COB November 6th**. The survey enables you to provide input to the IWGOO regarding the future of the Data Management and Communications (DMAC) Steering Team and the development and implementation of the DMAC subsystem of the U.S. Integrated Ocean Observing System (IOOS). Please read on to understand our process and how you can participate. Background: The IWGOO has initiated a process to evaluate the appropriate future role for the DMAC Steering Team and consider alternatives from the current functions. Over the course of the next few months this process will include a survey of IOOS community experts, a workshop to discuss options, and the development of input for IWGOO consideration. You are invited to participate in this process. Your Participation: (1) Filling Out the Survey: As a first step we ask that you respond to a set of survey questions that are posted at the following web site: <http://tinyurl.com/y94mfsy>. You should be able to complete the survey in 30-45 minutes, (2) Inviting Others to Participate: The IWGOO, DMAC Steering Team, affiliated Expert Teams and Caucuses are receiving this e-mail message. If you know someone else with useful suggestions on this topic, please forward the survey information and invite them to respond and (3) Attending the workshop: A follow-up workshop to discuss survey results and possible next steps is scheduled for December 2-3, 2009 in Washington D.C. If you are interested in participating, please respond "yes" on the survey or contact us (please note there will be limited space). I have also attached information about the current DMAC Steering Team (i.e. the Terms of Reference) and a complete copy of the recent IOOS legislation

(Integrated Coastal and Ocean Observation Systems Act – P.L. 111-11), which includes several relevant DMAC provisions. If you are uncertain how to proceed or have any questions please contact the following: Josh Young, IWGOO Staff support, 202/787-1622 [jyoung@oceanleadership.org](mailto:jyoung@oceanleadership.org); Nick Rome, IWGOO Staff support, 202/787-1645 [nrome@oceanleadership.org](mailto:nrome@oceanleadership.org); Anne Ball, DMAC Steering Chair, NOAA Coastal Services Center 843/740-1229 [anne.ball@noaa.gov](mailto:anne.ball@noaa.gov).

- **What the DIF:** For all documents and information, please visit the [www.ioos.gov](http://www.ioos.gov) website.
- **CUSTOMER IMPLEMENTATION:**
  - **NEW CUSTOMER PROJECT:** IOOS Biological Data Project Conference Call (10/15): 17 participants (12 from NOAA Line Offices, 1 from USGS/OBIS, 1 CoML and 3 PacIOOS) attended. The major goal reached in this kick-off meeting was an agreement that this project will contribute greatly to the IOOS integration goals. A notable part of the discussion was whether the scope of this project is on the integration of biological data with physical data or should be contained to just standardization of biological data. Charley proposed the project scope should be driven by customer need and that it should involve the standards and conventions of biological data. The project should be scalable, feasible and non-proprietary. The next step is to organize a face to face meeting in Hawaii the first week of December 2009 to further discuss the objectives of this project and to agree upon a project plan by January 2010.
- **REGIONAL DIF IMPLEMENTATION: continues on track**
- **DIF ENHANCEMENTS:** We are in the process of assessing progress by NDBC and CO-OPS to determine what will be translated into the FY10 Statement of Work
- **INTERNATIONAL COOPERATION:** As agreed to during OCEANOBS09, Jeff DLB, NOAA IOOS, prepared summary spreadsheet of ocean data management standards in use or planned by IOOS. This was shared with IMOS (Australia) and MyOcean (Europe). The intent is to ascertain and maximize overlap with IMOS and MyOcean, and hopefully other projects like OOI/CI (which, however, is in some cases using different technology)

**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 they all have project leads.

- **IOOS and Links to the National Water Quality Monitoring Network:** No updates
- **IOOS and National Science Foundation (NSF) - Ocean Observatories Initiative (OOI):** We continue to work with OOI to see where the two programs can intersect.
- **Interagency Working Group on Ocean Observations Next Industry Workshop:** The IWGOO is sponsoring the upcoming workshop entitled "Small Sea Changes: Big Infrastructure Impacts" being held in Houston, TX on November 13, 2009. Confirmed speakers for this event include: Dr. Virginia Burkett, the Chief Scientist of Global Change Research at United States Geological Survey; Michael Savonis of the Federal Highway Administration; Dr. Quenton Dokken, Executive Director of the Gulf of Mexico Foundation; Randall Freed, Senior Vice President of ICF International; Gene Berek of Exxon Mobil Corp.; Randy Helmick, Vice President of Transmission at Entergy Corp.; and Zdenka Willis, Director of the Integrated Ocean Observing System at the

National Oceanic and Atmospheric Administration. The broad focus of this workshop is the effect of uncertainty on infrastructure decision-making within the Gulf of Mexico region. Specifically, this event will highlight the traditional means of addressing uncertainty and provide new strategies for coping with uncertainty during changing environmental conditions through leveraging ocean observing systems. More information, including registration for the workshop, can be found online at: [www.oceanleadership.org/iwgoo/houston](http://www.oceanleadership.org/iwgoo/houston).

- **Interagency modeling activity:** Unidata visit – Boulder, CO: Rich Signell was at Unidata in Boulder much of last week (10/12-16) participating in 25th Anniversary activities and visiting with staff about new collaboration opportunities. Unidata, funded primarily by the National Science Foundation, is one of eight programs in the University Corporation for Atmospheric Research (UCAR) Office of Programs (UOP). UOP units create, conduct, and coordinate projects that strengthen education and research in the atmospheric, oceanic and earth sciences. Their mission is to provide the data services, tools, and cyber-infrastructure leadership that advance Earth system science, enhance educational opportunities, and broaden participation. For more information visit: [www.unidata.ucar.edu/publications/directorspage/UnidataOverview.html](http://www.unidata.ucar.edu/publications/directorspage/UnidataOverview.html)

#### Other:

- **The Scarlet Knight (RU27) and the Remainder of the Atlantic Fleet:** Taken directly from Scott's latest blog: The deployed glider fleet is currently concentrated in the North Atlantic. RU15, RU22 and RU23 are just visible through a break in the storm clouds off the U.S. east coast. Drake is heading away from the Virgin Islands and RU27 is heading towards Spain. Gliders are being prepped in Antarctica by Tina and Alex. Back at Rutgers in the glider lab, vehicles are being readied for California in November, and are being lined up for the big NSF Ocean Observing Initiative Experiment in the Middle Atlantic Bight starting at the end of October. Starting with the Middle Atlantic Bight, we have three gliders deployed on the continental shelf. RU22 is the Integrated Ocean Observing System (IOOS) glider which is on a water mass mapping mission that fisheries scientists will use to relate to their fish distribution data. It will be picked up by the IOOS regional glider port at University of Maryland after the storm. RU23 is on a mission for the Navy. It is the first Slocum glider equipped with the rechargeable lithium batteries and it carries the new Seabird pumped CTD. The results of this mission will be presented at the European Glider Organization meeting in Cypress next month. To the north, our IOOS partners at University Massachusetts just deployed RU15 for an Office of Naval Research mission. It has a full up optics package - they most advanced I've ever had a chance to see. It has 2 Eco-pucks and the Navy's new Beam Attenuation Meter, or BAM sensor as we like to call it. All are providing temperature and salinity data for assimilation by the IOOS ocean modelers at UMass, Stevens and Rutgers. All three IOOS modelers are getting spun up with this dataset in preparation for the NSF experiment beginning at the end of this month. It's going to be quite a party. Lastly, we head east to the west coasts of Spain and Portugal, and RU27, also known as The Scarlet Knight. Scarlet was encountering some strong currents to the west that had halted our progress until we turned north to get out of them. We were not sure of the cause, until we just got a gap in the cloud cover and some new satellite Sea surface temperature data.

John just readjusted to temperature range to cover 16C (blue) to 22C (red) because of the fall cooling, and out popped the answer. We have a pair of counter-rotating eddies lined up along Scarlets path. We are in the warm water filament being entrained along the western side of the eastern eddy. As soon as we hit the wall of this filament, we were stopped cold. We now know our route around is to stay with this water as we head northeast. We'll continue on this northeast path up to about 42 N, and then turn east. Reading the distance along the dogleg from our present position to the outer edge of the European Exclusive Economic Zone, I get a distance of 490 km. Our most recent estimates of Scarlet's speed were 19 km/day and 18 km/day. Keep in the loop by visiting <http://www.i-cool.org/?cat=38>

- **NOAA IOOS briefed the NOAA/Federal Aviation Administration (FAA) NextGen System of Systems workshop (10/07):** Jeff and Carmel delivered a technical briefing. The briefing was well-received and generated relevant questions. NextGen is considering some of the same service types (DAP, WCS, WMS) but also others we are not using at present (WFS, JMBL). The choice of WFS over SOS appears to have been the result of decisions made before SOS was issued, and we provided arguments in favor of SOS instead. NextGen WFS output format is GML schema known as WXXS, based on OGC O&M like our IOOS GML schema.
- **High Frequency Radar and Small Business Innovation Research (SBIR):** The FY 2010 NOAA SBIR Solicitation has been released and is posted on both [www.fedbizopps.gov](http://www.fedbizopps.gov) and the ORTA website ([www.oar.noaa.gov/orta](http://www.oar.noaa.gov/orta)) Proposals are due January 14, 2010. HFR is found under 8.4 TOPIC: COMMERCE AND TRANSPORTATION ;8.4.1N SUBTOPIC: Inexpensive calibration of High-Frequency (HF) Radars.
- **MTS/IEEE Oceans 09 - US IOOS and OOI - Ocean Observing for the Nation, October 26-29 :** US IOOS and OOI have a dedicated track for this meeting and I encourage you to attend this conference. This conference brings together the ocean scientists and industry and is a great chance for us to showcase what we have done across the nation to bring value. We have over 40 papers, including a session on international Ocean Observing sessions. **We are also holding a town hall on Wednesday morning to look at the roles of the Private/Public Partnership.** This session will focus on gathering industry feedback on the public/private partnership with regard to ocean observing and the requirement to publish a policy addressing these issues included in the ICOOS Act. We need your input.
- **Ocean Policy Field Meetings -next one is in New Orleans, 19 Oct:** Members of the public can access the meeting in three ways: by attending in person at one of the sites listed below; by calling into the listen-only phone line (800-369-1897; participant code: 2495142); or via live web stream at <http://www.whitehouse.gov/oceans>. This meeting will be chaired by Nancy Sutley, White House Council on Environmental Quality, Dr. Jane Lubchenco, Under Secretary of Commerce for Oceans and Atmosphere and Administrator of the National Oceanic and Atmospheric Administration; Peter Silva, Assistant Administrator for Water, Environmental Protection Agency, Associate Deputy Secretary Laura Davis, Department of Interior; Admiral Thad Allen, U.S. Coast Guard Commandant. The meeting will be held Monday, October 19, 3:30 to 6:30 p.m. (CDT) at the Audubon Aquarium of the Americas & Entergy IMAX Theater, 1 Canal Street, New Orleans, LA 70130. **Live webstream:** <http://oceanpolicy.disl.org/>. Live video-

connections will be used at the following locations: Texas State Aquarium, 2710 North Shoreline Boulevard., Corpus Christi, TX 78402, RSVP Contact: Rosanna Gossett, 361-881-1204, [rgossett@txstateaq.org](mailto:rgossett@txstateaq.org); Dauphin Island Sea Lab, Wiese Marine Science Hall, Room 102W, 101 Bienville Blvd, Dauphin Island, AL 36528, RSVP Contact: Ms Lori Angelo, 251-861-7507, [langelo@disl.org](mailto:langelo@disl.org); National Marine Fisheries Service (4:30-7:30 p.m. EDT), Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701, RSVP Contact: Michael Henderson, 727-824-5396, [Michael.Henderson@noaa.gov](mailto:Michael.Henderson@noaa.gov); J. L. Scott Marine Education Center, 703 East Beach Drive, Ocean Springs, MS 39564, RSVP Contact: Johnette Bosarge, 228-818-8893, [johnette.bosarge@usm.edu](mailto:johnette.bosarge@usm.edu). For more information please see: <http://www.whitehouse.gov/administration/eop/ceq/initiatives/oceans/>

- **Ocean Observing to meet with members of the Council on Environmental Quality (CEQ) and members of the Interagency Ocean Policy Task Force:** On October 15, Josie Quintrell, Dr. Bob Gagosian, Dr. Tony Haymet and others met with the Task Force to offer their perspectives on Coastal and Marine Spatial Planning (CMSP). All did an outstanding job and what I took away from the discussion is as follows: (1) integration of data remains the number 1 need; (2) we should start with existing structures (e.g. IOOS); (3) biological data collection remains a gap; (4) we need to concentrate on execution and not just planning (5) all stakeholders need to be at the table from the very start and (6) there needs to be a vigorous education and outreach campaign and the process cannot get bogged down in bureaucracy.
- **Meeting between NOAA/NOS, the U.S. Army Corps of Engineers, and the U.S. Geological Survey (USGS).** Taken with Jack Dunnigan's NOS weekly. "We have had our collaboration being built with the Corps for a few years. For example, we now have an agreement that the Corps will be using official geodetic datum from NOS/National Geodetic Survey. This is especially critical as they plan for the resiliency that is needed along the Gulf Coast to focus on storms and other hazards. One of the new features of the meeting last week was that we met immediately after a regular meeting between the Corps and USGS senior leadership. Once again, we shared and learned about many areas where their programs and our programs have a lot in common. This means that if we can understand each other better, we may be able to get more done together than separately. We had a very successful first meeting, and plan to get back together and try to build some bridges!" I participated for NOAA IOOS.
- **Fifth Meeting of the Quality Assurance of Real-Time Ocean Data (QARTOD) Working Group will be held November 17-19, 2009 at the Omni Hotel in Atlanta, Georgia:** QARTOD is composed of oceanographers, data managers, and data providers from agencies interested in addressing the quality assurance and quality control issues of evolving ocean observing systems, such as the Integrated Ocean Observing System (IOOS) community. The QARTOD V meeting will focus on the quality control of some different physical ocean parameters from past QARTOD meetings (e.g. conductivity, dissolved oxygen, turbidity, and pH) as well as provide additional input for parameters such as waves and ocean currents to complete the QARTOD To Open Geospatial Consortium (OGC) or Q2O effort. More information on Q2O can be found at <http://q2o.who.edu>. Please register at <http://qartod.org> and forward this announcement to others who share in our goals and interests. This meeting is sponsored by NOAA's National Data Buoy Center.

**Congressional:** No update.

**Communications:** No update

**Upcoming Meetings:**

- October 20: SCCOOS/CeNCOOS Joint Strategic Advisory Committee - Oakland, CA.
- NOAA Library sponsors a Brown Bag Series: IOOS will be featured October 20 at 12:00. Call-in numbers will be available.
  - 1. Join the meeting:  
<http://www.mymeetings.com/nc/join.php?sigKey=mymeetings&i=742656968&=brownbag&t=c>
  - 2. Enter the required fields.
  - 3. Indicate that you have read the Privacy Policy.
  - 4. Click on Proceed.
  - Audio: 866-833-7307; passcode 8986360
- October 26-29: MTS/IEEE Oceans 09 - US IOOS and OOI - Ocean Observing for the Nation.
- November 10: AOOS board meeting.
- November 17-18: MACOORA annual conference, "Understanding the Coastal Ocean: Partnerships for a Changing World" [www.macoora.org](http://www.macoora.org) (Jack Dunnigan participating as will the NOAA IOOS office)
- November 17-18: ORRAP meeting, Charly Alexander, NOAA IOOS will participate
- 2-3 December: DMAC ST Review Meeting - Washington, DC

Cheers,  
Zdenka

**Terms of Reference**  
**IOOS Data Management and Communications Steering Team**  
**(DMAC-ST)**  
**Version 6.0**  
**25 May 2006**

**Background**

Implementation of the Data Management and Communications (DMAC) Subsystem has been identified by the National Oceanographic Partnership Program (NOPP) agencies and Integrated Ocean Observing System (IOOS) Regional Associations as one of the highest priority activities within IOOS. The DMAC Steering Team (DMAC-ST) serves as the primary focus for the development and implementation of the DMAC Subsystem.

The DMAC-ST is an IOOS community resource sponsored by Ocean.US that is committed to the identification of appropriate standards-based, best available practices and technical solutions for interoperable interfaces within a service component architecture. As such, within-system specifications that do not impact external interoperability (i.e., internal syntax, transport, etc) are outside the scope of DMAC deliberations. This philosophy can be succinctly summarized by three overarching principles:

- Expand access to data and information;
- Increase the efficiency of data provider and user interactions through shared standards and protocols;
- Do not interfere with existing communications pathways or processes already in place between data providers and their users.

**Purpose**

The purpose of the DMAC-ST is to:

- Provide a community forum for relevant NOPP agencies and other stakeholder groups and organizations to discuss issues and develop recommendations regarding the development and implementation of the IOOS DMAC Subsystem;
- Provide technical expertise and leadership to help guide resolution of DMAC-related issues and challenges (e.g., via Expert Teams and Integrated Product Teams);
- Provide a mechanism for broad stakeholder involvement in DMAC activities (e.g., via Community Engagement Caucuses);
- Liaise with other IOOS elements and other organizations, as required, to ensure that DMAC development is internally consistent and proactively coordinated with the architectural principles espoused by the Global Earth Observation

Systems of Systems (GEOSS) and the US Integrated Earth Observation System (IEOS), initiatives such as the Future WMO Information System (FWIS), ORION, and others;

- Determine and document the interoperability infrastructure required to realize the seven IOOS societal goals:
  - Improve prediction of climate change and weather and their effects on coastal communities and the nation;
  - Improve the safety and efficiency of maritime operations;
  - More effectively mitigate the effects of natural hazards;
  - Improve national and homeland security;
  - Reduce public health risks;
  - More effectively protect and restore healthy coastal ecosystems; and
  - Enable the sustained use of ocean and coastal resources.

### **DMAC Steering Team Roles and Responsibilities**

The DMAC-ST is tasked with the following responsibilities:

- Facilitate the use and exploitation of open community processes to identify and evaluate interoperability-enabling data, metadata, and software standards; protocols; best practices; and data archiving processes.
- Adopt, develop and/or publish DMAC standards, protocols and best practices, and formulate guidelines on their use across IOOS.
- Promote the orderly evolution of applicable DMAC standards;
- Promote coordination and cooperation with data programs/systems managers within the NOPP agencies, across Regional Associations, and among relevant aspects of GEOSS/IEOS in order to build upon existing elements, avoid redundancy, increase efficiency, and foster greater interoperability and integration.
- Establish Community Engagement Caucuses (defined below) as needed for DMAC development.
- Foster the development of a private sector value-added marketplace for IOOS products and services.
- Participate in and proactively coordinate with relevant regional, national, and international data management activities.
- Convene Expert Teams and/or Integrated Product Teams (IPTs) as needed for DMAC development.
- Generate, publish, and periodically update applicable documents/plans that provide strategic direction for continued DMAC development/operation. These include, but are not limited to:
  - Annual Operating Plan that include annual goals and objectives.
  - A Communications Plan that will articulate the processes that will be employed to effectively engage stakeholders from a variety of sectors.



## **Steering Team Organization**

The DMAC-ST members shall have experience in data management, marine environmental sciences, and servicing the needs of targeted IOOS user communities. Individuals having experience across multiple areas (e.g., technical and end-use service experience) will be sought. Members will be drawn from a broad cross-section of IOOS data providers and users, relevant technology communities, and related national and international programs. The DMAC-ST will be composed as follows:

- A DMAC-ST Team Chair appointed by Ocean.US.
- A Vice Chair drawn from the IOOS community at large. This position will rotate across the community.
- A member representing each NOPP Federal agency so requesting.
- A member representing the National Federation of Regional Associations (NFRA).
- Members requested by Ocean.US to represent the private sector, the international sector, and relevant major projects/ programs with which DMAC must coordinate closely such as ORION, CoML, and others as may be deemed appropriate to accomplish the DMAC-ST goals.
- The target size of the DMAC-ST Team shall be 25.
- Additional appointments may be made by Ocean.US to fill any gaps subsequently identified.
- Ocean.US may make adjustments to team size as needs dictate, including the creation of an Executive Team (XT) drawn from the Team Members to facilitate the efficient operation of the Steering Team

## **Operations**

The DMAC-ST will set its own operational procedures (e.g., for reporting, working remotely by email, etc.). The Ocean.US office will provide administrative support for all meetings and other DMAC activities as needed. Systems and software engineering support may be required in order for the DMAC-ST to accomplish its tasks.

- The DMAC-ST will strive to operate as a consensus organization.
- In the event that achieving consensus is not feasible, or the most optimal outcome, members shall be able to vote on measures. A vote is carried by 75% of those members voting “Approve” or “Disapprove”. No quorum is required for votes in plenary sessions of regularly scheduled, semi-annual ST meetings, since the time and place is established well in advance. A quorum is required at other meetings of the ST, Expert Teams, Caucuses, and Working Groups.
- A quorum shall consist of 60% of members.
- As the DMAC-ST considers standards, protocols, best practices or other relevant business items, there may be situations where the support of multiple strategies represents the most prudent approach. As long as the consideration of multiple

options does not violate the spirit of IOOS interoperability, the IOOS-ST may move forward without consensus.

- ST Members will serve 2-year terms that will be staggered to ensure continuity, with no individual serving more than two consecutive terms. NOPP agency representatives are not subject to term limitations.
- Members can designate an alternate.
- The Steering Team shall recognize conflicts of interest and take action as it deems appropriate.
- In the event that a key decision is needed between regularly scheduled meetings, the following processes can be invoked:
  - The DMAC-ST Chair can convene a quorum of the complete DMAC-ST via email or telephone/video conferencing in order to address the issue (preferred).
  - The DMAC XT can make a decision per the rules of engagement described above, subject to a review by the entire DMAC-ST.
  - In extreme time-critical situations when the lag of setting up an email or telecon/videocon discussion would result in serious consequences, the DMAC-ST Chair is empowered to make a decision subject to a review by the entire DMAC-ST.
- The DMAC-ST Team will meet at least semi-annually.
- The DMAC-XT shall convene via telecon on a regular basis or in-person, as needed.

### ***DMAC Expert Teams/Integrated Product Teams***

The DMAC-ST is empowered to create and dissolve Expert Teams (ETs) and Integrated Product Teams (IPTs) as required. IPTs have a product, deliverable, or objective focus (i.e., a demonstration) and include within their membership, representation of key stakeholders and technology domains required to complete the task. IPTs will be instantiated by the Steering Team for a specific objective and should be dissolved upon completion of the task. ETs/IPTs are subject to the following guidelines:

- Expert Teams perform the assessments and evaluations needed in the various technical areas to be addressed by the DMAC-ST, as well as provide recommendations to the DMAC-ST on how to proceed in the given areas. ETs may or may not be persistent.
- Each ET/IPT shall have a chair approved by the ST. The ET/IPT chair may be a member of the Steering Team, or drawn from the community at large.
- Membership on the ETs/IPTs is open beyond the DMAC ST, and shall reflect the balance and technical expertise required to address the issues for which they are responsible.
- It is expected that Community Engagement Caucuses will provide recommendations for ET/IPT membership.
- The DMAC-ST will review recommendations and invite/assign ET/IPT membership.
- The size of each ET /IPT will be a balance between scope and efficiency.

- Each ET/IPT will meet as required.

### ***DMAC Community Engagement Caucuses***

The DMAC-ST is empowered to create and dissolve Community Engagement Caucuses (CECs) as required in order to more fully engage and more completely understand the needs of those communities with which IOOS DMAC must engage. CECs will:

- Provide the DMAC-ST and ETs/IPTs, as required, inputs, recommendations, and needs or requirements from their respective sectors/communities;
- Provide recommendations to the DMAC-ST on membership for the ETs/IPTs;
- Facilitate and synthesize reviews of draft DMAC plans, guidance, and reports by their sector/community;
- Serve as a resource/ambassador to their sectors/communities for accurate information about IOOS and DMAC activities.
- Have a chair drawn from the DMAC-ST, an IOOS Regional Association, or other appropriate source. Membership on CECs is open to any interested individual or party.
- Establish appropriate communications and outreach mechanisms (such as informal list servers, e-mail groups of community representatives, etc.) to assist them in carrying out their responsibilities. CECs are not required to meet in person.

## **Subtitle C--Integrated Coastal and Ocean Observation System Act of 2009**

### **SEC. 12301. SHORT TITLE.**

This subtitle may be cited as the 'Integrated Coastal and Ocean Observation System Act of 2009'.

### **SEC. 12302. PURPOSES.**

The purposes of this subtitle are to--

(1) establish a national integrated System of ocean, coastal, and Great Lakes observing systems, comprised of Federal and non-Federal components coordinated at the national level by the National Ocean Research Leadership Council and at the regional level by a network of regional information coordination entities, and that includes in situ, remote, and other coastal and ocean observation, technologies, and data management and communication systems, and is designed to address regional and national needs for ocean information, to gather specific data on key coastal, ocean, and Great Lakes variables, and to ensure timely and sustained dissemination and availability of these data to--

(A) support national defense, marine commerce, navigation safety, weather, climate, and marine forecasting, energy siting and production, economic development, ecosystem-based marine, coastal, and Great Lakes resource management, public safety, and public outreach training and education;

(B) promote greater public awareness and stewardship of the Nation's ocean, coastal, and Great Lakes resources and the general public welfare; and

(C) enable advances in scientific understanding to support the sustainable use, conservation, management, and understanding of healthy ocean, coastal, and Great Lakes resources;

(2) improve the Nation's capability to measure, track, explain, and predict events related directly and indirectly to weather and climate change, natural climate variability, and interactions between the oceanic and atmospheric environments, including the Great Lakes; and

(3) authorize activities to promote basic and applied research to develop, test, and deploy innovations and improvements in coastal and ocean observation technologies, modeling systems, and other scientific and technological capabilities to improve our conceptual understanding of weather and climate, ocean-atmosphere dynamics, global climate change, physical, chemical, and biological dynamics of the ocean, coastal and Great Lakes environments, and to conserve healthy and restore degraded coastal ecosystems.

### **SEC. 12303. DEFINITIONS.**

In this subtitle:

- (1) ADMINISTRATOR- The term `Administrator' means the Under Secretary of Commerce for Oceans and Atmosphere in the Under Secretary's capacity as Administrator of the National Oceanic and Atmospheric Administration.
- (2) COUNCIL- The term `Council' means the National Ocean Research Leadership Council established by section 7902 of title 10, United States Code.
- (3) FEDERAL ASSETS- The term `Federal assets' means all relevant non-classified civilian coastal and ocean observations, technologies, and related modeling, research, data management, basic and applied technology research and development, and public education and outreach programs, that are managed by member agencies of the Council.
- (4) INTERAGENCY OCEAN OBSERVATION COMMITTEE- The term `Interagency Ocean Observation Committee' means the committee established under section 12304(c)(2).
- (5) NON-FEDERAL ASSETS- The term `non-Federal assets' means all relevant coastal and ocean observation technologies, related basic and applied technology research and development, and public education and outreach programs that are integrated into the System and are managed through States, regional organizations, universities, nongovernmental organizations, or the private sector.
- (6) REGIONAL INFORMATION COORDINATION ENTITIES-
  - (A) IN GENERAL- The term `regional information coordination entity' means an organizational body that is certified or established by contract or memorandum by the lead Federal agency designated in section 12304(c)(3) of this subtitle and coordinates State, Federal, local, and private interests at a regional level with the responsibility of engaging the private and public sectors in designing, operating, and improving regional coastal and ocean observing systems in order to ensure the provision of data and information that meet the needs of user groups from the respective regions.
  - (B) CERTAIN INCLUDED ASSOCIATIONS- The term `regional information coordination entity' includes regional associations described in the System Plan.
- (7) SECRETARY- The term `Secretary' means the Secretary of Commerce, acting through the National Oceanic and Atmospheric Administration.
- (8) SYSTEM- The term `System' means the National Integrated Coastal and Ocean Observation System established under section 12304.
- (9) SYSTEM PLAN- The term `System Plan' means the plan contained in the document entitled `Ocean. US Publication No. 9, The First Integrated Ocean Observing System (IOOS)

Development Plan', as updated by the Council under this subtitle.

**SEC. 12304. INTEGRATED COASTAL AND OCEAN OBSERVING SYSTEM.**

(a) Establishment- The President, acting through the Council, shall establish a National Integrated Coastal and Ocean Observation System to fulfill the purposes set forth in section 12302 of this subtitle and the System Plan and to fulfill the Nation's international obligations to contribute to the Global Earth Observation System of Systems and the Global Ocean Observing System.

(b) System Elements-

(1) IN GENERAL- In order to fulfill the purposes of this subtitle, the System shall be national in scope and consist of--

(A) Federal assets to fulfill national and international observation missions and priorities;

(B) non-Federal assets, including a network of regional information coordination entities identified under subsection (c)(4), to fulfill regional observation missions and priorities;

(C) data management, communication, and modeling systems for the timely integration and dissemination of data and information products from the System;

(D) a research and development program conducted under the guidance of the Council, consisting of--

(i) basic and applied research and technology development to improve understanding of coastal and ocean systems and their relationships to human activities and to ensure improvement of operational assets and products, including related infrastructure, observing technologies, and information and data processing and management technologies; and

(ii) large scale computing resources and research to advance modeling of coastal and ocean processes.

(2) ENHANCING ADMINISTRATION AND MANAGEMENT- The head of each Federal agency that has administrative jurisdiction over a Federal asset shall support the purposes of this subtitle and may take appropriate actions to enhance internal agency administration and management to better support, integrate, finance, and utilize observation data, products, and services developed under this section to further its own agency mission and responsibilities.

(3) AVAILABILITY OF DATA- The head of each Federal agency that has administrative jurisdiction over a Federal asset shall make available data that are produced by that asset and that are not otherwise restricted for integration, management, and dissemination by the System.

(4) NON-FEDERAL ASSETS- Non-Federal assets shall be coordinated, as appropriate, by the Interagency Ocean Observing Committee or by regional information coordination entities.

(c) Policy Oversight, Administration, and Regional Coordination-

(1) COUNCIL FUNCTIONS- The Council shall serve as the policy and coordination oversight body for all aspects of the System. In carrying out its responsibilities under this subtitle, the Council shall--

(A) approve and adopt comprehensive System budgets developed and maintained by the Interagency Ocean Observation Committee to support System operations, including operations of both Federal and non-Federal assets;

(B) ensure coordination of the System with other domestic and international earth observing activities including the Global Ocean Observing System and the Global Earth Observing System of Systems, and provide, as appropriate, support for and representation on United States delegations to international meetings on coastal and ocean observing programs; and

(C) encourage coordinated intramural and extramural research and technology development, and a process to transition developing technology and methods into operations of the System.

(2) INTERAGENCY OCEAN OBSERVATION COMMITTEE- The Council shall establish or designate an Interagency Ocean Observation Committee which shall--

(A) prepare annual and long-term plans for consideration and approval by the Council for the integrated design, operation, maintenance, enhancement and expansion of the System to meet the objectives of this subtitle and the System Plan;

(B) develop and transmit to Congress at the time of submission of the President's annual budget request an annual coordinated, comprehensive budget to operate all elements of the System identified in subsection (b), and to ensure continuity of data streams from Federal and non-Federal assets;

(C) establish required observation data variables to be gathered by both Federal and non-Federal assets and identify, in consultation with regional information coordination entities, priorities for System observations;

(D) establish protocols and standards for System data processing, management, and communication;

(E) develop contract certification standards and compliance procedures for all non-Federal assets, including regional information coordination entities, to

establish eligibility for integration into the System and to ensure compliance with all applicable standards and protocols established by the Council, and ensure that regional observations are integrated into the System on a sustained basis;

(F) identify gaps in observation coverage or needs for capital improvements of both Federal assets and non-Federal assets;

(G) subject to the availability of appropriations, establish through one or more participating Federal agencies, in consultation with the System advisory committee established under subsection (d), a competitive matching grant or other programs--

(i) to promote intramural and extramural research and development of new, innovative, and emerging observation technologies including testing and field trials; and

(ii) to facilitate the migration of new, innovative, and emerging scientific and technological advances from research and development to operational deployment;

(H) periodically review and recommend to the Council, in consultation with the Administrator, revisions to the System Plan;

(I) ensure collaboration among Federal agencies participating in the activities of the Committee; and

(J) perform such additional duties as the Council may delegate.

(3) LEAD FEDERAL AGENCY- The National Oceanic and Atmospheric Administration shall function as the lead Federal agency for the implementation and administration of the System, in consultation with the Council, the Interagency Ocean Observation Committee, other Federal agencies that maintain portions of the System, and the regional information coordination entities, and shall--

(A) establish an Integrated Ocean Observing Program Office within the National Oceanic and Atmospheric Administration utilizing to the extent necessary, personnel from member agencies participating on the Interagency Ocean Observing Committee, to oversee daily operations and coordination of the System;

(B) implement policies, protocols, and standards approved by the Council and delegated by the Interagency Ocean Observing Committee;

(C) promulgate program guidelines to certify and integrate non-Federal assets, including regional information coordination entities, into the System to provide regional coastal and ocean observation data that



meet the needs of user groups from the respective regions;

(D) have the authority to enter into and oversee contracts, leases, grants or cooperative agreements with non-Federal assets, including regional information coordination entities, to support the purposes of this subtitle on such terms as the Administrator deems appropriate;

(E) implement a merit-based, competitive funding process to support non-Federal assets, including the development and maintenance of a network of regional information coordination entities, and develop and implement a process for the periodic review and evaluation of all non-Federal assets, including regional information coordination entities;

(F) provide opportunities for competitive contracts and grants for demonstration projects to design, develop, integrate, deploy, and support components of the System;

(G) establish efficient and effective administrative procedures for allocation of funds among contractors, grantees, and non-Federal assets, including regional information coordination entities in a timely manner, and contingent on appropriations according to the budget adopted by the Council;

(H) develop and implement a process for the periodic review and evaluation of regional information coordination entities;

(I) formulate an annual process by which gaps in observation coverage or needs for capital improvements of Federal assets and non-Federal assets of the System are identified by the regional information coordination entities, the Administrator, or other members of the System and transmitted to the Interagency Ocean Observing Committee;

(J) develop and be responsible for a data management and communication system, in accordance with standards and protocols established by the Council, by which all data collected by the System regarding ocean and coastal waters of the United States including the Great Lakes, are processed, stored, integrated, and made available to all end-user communities;

(K) implement a program of public education and outreach to improve public awareness of global climate change and effects on the ocean, coastal, and Great Lakes environment;

(L) report annually to the Interagency Ocean Observing Committee on the accomplishments, operational needs,

and performance of the System to contribute to the annual and long-term plans developed pursuant to subsection (c)(2)(A)(i); and

(M) develop a plan to efficiently integrate into the System new, innovative, or emerging technologies that have been demonstrated to be useful to the System and which will fulfill the purposes of this subtitle and the System Plan.

(4) REGIONAL INFORMATION COORDINATION ENTITIES-

(A) IN GENERAL- To be certified or established under this subtitle, a regional information coordination entity shall be certified or established by contract or agreement by the Administrator, and shall agree to meet the certification standards and compliance procedure guidelines issued by the Administrator and information needs of user groups in the region while adhering to national standards and shall--

(i) demonstrate an organizational structure capable of gathering required System observation data, supporting and integrating all aspects of coastal and ocean observing and information programs within a region and that reflects the needs of State and local governments, commercial interests, and other users and beneficiaries of the System and other requirements specified under this subtitle and the System Plan;

(ii) identify gaps in observation coverage needs for capital improvements of Federal assets and non-Federal assets of the System, or other recommendations to assist in the development of the annual and long-term plans created pursuant to subsection (c)(2)(A)(i) and transmit such information to the Interagency Ocean Observing Committee via the Program Office;

(iii) develop and operate under a strategic operational plan that will ensure the efficient and effective administration of programs and assets to support daily data observations for integration into the System, pursuant to the standards approved by the Council;

(iv) work cooperatively with governmental and non-governmental entities at all levels to identify and provide information products of the System for multiple users within the service area of the regional information coordination entities; and

(v) comply with all financial oversight requirements established by the Administrator, including requirements relating to audits.

(B) PARTICIPATION- For the purposes of this subtitle, employees of Federal agencies may participate in the functions of the regional information coordination entities.

(d) System Advisory Committee-

(1) IN GENERAL- The Administrator shall establish or designate a System advisory committee, which shall provide advice as may be requested by the Administrator or the Interagency Ocean Observing Committee.

(2) PURPOSE- The purpose of the System advisory committee is to advise the Administrator and the Interagency Ocean Observing Committee on--

(A) administration, operation, management, and maintenance of the System, including integration of Federal and non-Federal assets and data management and communication aspects of the System, and fulfillment of the purposes set forth in section 12302;

(B) expansion and periodic modernization and upgrade of technology components of the System;

(C) identification of end-user communities, their needs for information provided by the System, and the System's effectiveness in disseminating information to end-user communities and the general public; and

(D) any other purpose identified by the Administrator or the Interagency Ocean Observing Committee.

(3) MEMBERS-

(A) IN GENERAL- The System advisory committee shall be composed of members appointed by the Administrator. Members shall be qualified by education, training, and experience to evaluate scientific and technical information related to the design, operation, maintenance, or use of the System, or use of data products provided through the System.

(B) TERMS OF SERVICE- Members shall be appointed for 3-year terms, renewable once. A vacancy appointment shall be for the remainder of the unexpired term of the vacancy, and an individual so appointed may subsequently be appointed for 2 full 3-year terms if the remainder of the unexpired term is less than 1 year.

(C) CHAIRPERSON- The Administrator shall designate a chairperson from among the members of the System advisory committee.

(D) APPOINTMENT- Members of the System advisory committee shall be appointed as special Government employees for purposes of section 202(a) of title 18, United States Code.

(4) ADMINISTRATIVE PROVISIONS-

(A) REPORTING- The System advisory committee shall report to the Administrator and the Interagency Ocean Observing Committee, as appropriate.

(B) ADMINISTRATIVE SUPPORT- The Administrator shall provide administrative support to the System advisory committee.

(C) MEETINGS- The System advisory committee shall meet at least once each year, and at other times at the call of the Administrator, the Interagency Ocean Observing Committee, or the chairperson.

(D) COMPENSATION AND EXPENSES- Members of the System advisory committee shall not be compensated for service on that Committee, but may be allowed travel expenses, including per diem in lieu of subsistence, in accordance with subchapter I of chapter 57 of title 5, United States Code.

(E) EXPIRATION- Section 14 of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the System advisory committee.

(e) Civil Liability- For purposes of determining liability arising from the dissemination and use of observation data gathered pursuant to this section, any non-Federal asset or regional information coordination entity incorporated into the System by contract, lease, grant, or cooperative agreement under subsection (c)(3)(D) that is participating in the System shall be considered to be part of the National Oceanic and Atmospheric Administration. Any employee of such a non-Federal asset or regional information coordination entity, while operating within the scope of his or her employment in carrying out the purposes of this subtitle, with respect to tort liability, is deemed to be an employee of the Federal Government.

(f) Limitation- Nothing in this subtitle shall be construed to invalidate existing certifications, contracts, or agreements between regional information coordination entities and other elements of the System.

**SEC. 12305. INTERAGENCY FINANCING AND AGREEMENTS.**

(a) In General- To carry out interagency activities under this subtitle, the Secretary of Commerce may execute cooperative agreements, or any other agreements, with, and receive and expend funds made available by, any State or subdivision thereof, any Federal agency, or any public or private organization, or individual.

(b) Reciprocity- Member Departments and agencies of the Council shall have the authority to create, support, and maintain joint centers, and to enter into and perform such contracts, leases, grants, and cooperative agreements as may be necessary to carry out the purposes of this subtitle and fulfillment of the System Plan.

**SEC. 12306. APPLICATION WITH OTHER LAWS.**

Nothing in this subtitle supersedes or limits the authority of any agency to carry out its responsibilities and missions under other laws.

**SEC. 12307. REPORT TO CONGRESS.**

(a) Requirement- Not later than 2 years after the date of the enactment of this Act and every 2 years thereafter, the Administrator shall prepare and the President acting through the Council shall approve and transmit to the Congress a report on progress made in implementing this subtitle.

(b) Contents- The report shall include--

(1) a description of activities carried out under this subtitle and the System Plan;

(2) an evaluation of the effectiveness of the System, including an evaluation of progress made by the Council to achieve the goals identified under the System Plan;

(3) identification of Federal and non-Federal assets as determined by the Council that have been integrated into the System, including assets essential to the gathering of required observation data variables necessary to meet the respective missions of Council agencies;

(4) a review of procurements, planned or initiated, by each Council agency to enhance, expand, or modernize the observation capabilities and data products provided by the System, including data management and communication subsystems;

(5) an assessment regarding activities to integrate Federal and non-Federal assets, nationally and on the regional level, and discussion of the performance and effectiveness of regional information coordination entities to coordinate regional observation operations;

(6) a description of benefits of the program to users of data products resulting from the System (including the general public, industries, scientists, resource managers, emergency responders, policy makers, and educators);

(7) recommendations concerning--

(A) modifications to the System; and

(B) funding levels for the System in subsequent fiscal years; and

(8) the results of a periodic external independent programmatic audit of the System.

#### **SEC. 12308. PUBLIC-PRIVATE USE POLICY.**

The Council shall develop a policy within 6 months after the date of the enactment of this Act that defines processes for making decisions about the roles of the Federal Government, the States, regional information coordination entities, the academic community, and the private sector in providing to end-user communities environmental information, products, technologies, and services related to the System. The Council shall publish the policy in the Federal Register for public comment for a period not less than 60 days. Nothing in this section shall be construed to require changes in policy in effect on the date of enactment of this Act.

#### **SEC. 12309. INDEPENDENT COST ESTIMATE.**

Within 1 year after the date of enactment of this Act, the Interagency Ocean Observation Committee, through the Administrator and the Director of the National Science Foundation, shall obtain an independent cost estimate for operations and maintenance of existing Federal assets of the System, and planned or anticipated acquisition, operation, and maintenance of new Federal assets for the System, including operation facilities, observation equipment, modeling and software, data management and communication, and other essential components. The independent cost estimate shall be transmitted unabridged and without revision by the Administrator to Congress.

**SEC. 12310. INTENT OF CONGRESS.**

It is the intent of Congress that funding provided to agencies of the Council to implement this subtitle shall supplement, and not replace, existing sources of funding for other programs. It is the further intent of Congress that agencies of the Council shall not enter into contracts or agreements for the development or procurement of new Federal assets for the System that are estimated to be in excess of \$250,000,000 in life-cycle costs without first providing adequate notice to Congress and opportunity for review and comment.

**SEC. 12311. AUTHORIZATION OF APPROPRIATIONS.**

There are authorized to be appropriated to the Secretary of Commerce for fiscal years 2009 through 2013 such sums as are necessary to fulfill the purposes of this subtitle and support activities identified in the annual coordinated System budget developed by the Interagency Ocean Observation Committee and submitted to the Congress.