

**ROUNDTABLE SUMMARY:
Global Observations – Local Decisions
Global Earth Observation System of Systems (GEOSS)**

On Friday, April 13, 2007, Dr. Richard W. Spinrad, Assistant Administrator for Oceanic and Atmospheric Research (OAR), hosted a Constituent Roundtable, “Global Observations – Local Decisions, Global Earth Observation System of Systems (GEOSS)” at the new Five Rivers Delta Resource Center in Spanish Fort, AL, just outside of Mobile. Also present and providing the NOAA leadership perspective was Deputy Assistant Secretary (DAS) Timothy Keeney. Constituents, representing academia, federal and state government, non-governmental organizations and private industry joined Dr. Spinrad and Mr. Keeney as part of a two-day series of events including the grand opening of the Five Rivers Center, the roundtable itself, Discovery Day at Dauphin Island: Discovering 200 Years of NOAA programs, and a groundbreaking ceremony for the new NMFS lab – the Richard C. Shelby Center for Ecosystem-based Fisheries Management. The Roundtable was ably organized by the Mississippi-Alabama Sea Grant Consortium and NOAA is grateful to recognize their leadership. An open forum of additional constituents and graduate students immediately followed the Roundtable and provided another valuable venue for NOAA to field questions and gather feedback. The following is a summary of the major points discussed at the roundtable.

Opening Remarks

In his opening remarks, Dr. Spinrad welcomed the group and underscored the important role NOAA research plays in NOAA achieving its mission and goals. He stressed three messages – OAR supports preeminent research at all levels of the organization; OAR research provides value to society; and OAR operates in a culture of transparency, reaching out to constituents for input on research priorities and planning.

He spent about 30 minutes providing a detailed overview [presentation of GEOSS](#) and how an integrated data management system will be able to provide for a continuum of sound observations that can be directly applied to societal benefit. He further articulated that such a system would allow for a “one-stop-shop” portal with links to geographically-specific tailored environmental products such as weather watches and warnings, harmful algal bloom forecasts, marine debris maps, and a carbon tracker and other climate information.

Before turning the floor over to the constituents, Dr. Spinrad discussed the importance of our ability to fund and support cutting edge research, coupled with quality outreach and education. He then opened up the floor with the question of what additional products would be useful to the community, what investments the constituents would like to see in global earth observations, and how can we use existing on-the-ground partnerships, like Sea Grant, to get products out?

Constituent Observations

Participants addressed how NOAA could use integrated observations and the resultant data products and services to better serve its constituents. They identified a shared goal of ensuring advances in science are used to help everyone (from the most sophisticated user to the general public) make better decisions.

Four common themes emerged: (1) data and data sharing; (2) data gaps and the need for research transfer; (3) storm prediction and its link to economies and communities; and (4) the major players in the transfer of research to operations.

Data and Data Sharing:

The issue of how to manage data and deal with proprietary information was mentioned by a number of participants. Participants expressed the need for robust geospatial data at a variety of resolutions, with an increasing need for high-resolution data at 30 m or better. The value of data is enhanced greatly with increased resolution. At the same time, what is considered high-resolution for some fields is not for others. The habitat restoration and marsh ecology community expressed interest in resolution at the scale of 10s of meters.

A second data issue raised was the potential for unmanned aerial aircraft data to supplement satellite data. Participants expressed that unmanned data is acceptable, but satellite data requires less geo-rectification, making it a more attractive option.

There was strong support among the group that better data will always lead to a better product. Take vibrio for example, enhanced technology will help NOAA predict the level of detriment to human and ecosystem health.

The third issue with regard to data was accessibility and interoperability. Participants applauded NOAA's effort to integrate the collection of data and also to make it accessible, and encouraged more to be done in this area. The importance of incorporating economic data – growth trends, demographics, production trends, etc. – was emphasized. This will allow for the end-users to better utilize the data in their decision making. For example the Chamber of Commerce was in the early stages of developing a framework for environmental data that would be useful for elected officials, planners, and economists when applying it to decisions that affect the resilience of their communities. The only trouble is that there is not currently a consistent standard applied to the merging and interoperability of the data.

Data Gaps and the Need for Research Transfer

Participants noted that data gaps existed for wave height measurements, both offshore and inshore. In addition, they also mentioned the need to continuously improve the instrumentation with better sensors and processing, then getting them incorporated into the models and back to the public in an applied way. Dr. Spinrad emphasized VADM Lautenbacher's vision for providing integrated data and keeping the agency on the same message with regard to data and data sharing. In addition, participants underscored the importance of transitioning applied research to operations so that the users and decision makers can readily apply it to decision making.

Participants recommended that NOAA could improve the value of its research, products and services by packaging information with an understanding of user needs. Additionally, they identified the need to expand NOAA's ability to evaluate the success of a new product or service - using reaction criteria, learning criteria, outcome criteria and performance criteria.

Storm Prediction and its Link to Economies and Communities

One of the biggest concerns of the participants is the need for accurate, timely storm prediction. It remains an issue for citizens, planners, and certainly for the power

companies. Participants expressed confusion in that a Category 3 hurricane (Katrina) made a much worse impact than a Category 5 hurricane previously (Camille). They understood that it isn't always a matter of simply the strength, timing and location of the hurricane, but the other variables as well. Within 72 hours of landfall, the predication is good enough for emergency responders and power operators to respond, but they also need to plan for storm surge, communications and supply chains. For example, it is critical for receive a prediction that warns that a Category 3 could be worse than a Category 5, perhaps something along the lines of an impact scale similar to the heat index and windchill factor.

Major Players in the Transfer of Research to Operations

Participants recognized that the world is changing quickly and NOAA needs to focus attention to ensuring that critical data and information is delivered into the hands of the end-users in a usable format. A concern was in protecting the conduits for that transfer. Among others, Sea Grant was mentioned as a conduit for information and products in both directions – getting the science, technology, and products to the public and feeding the priorities back in the other direction too.

Conclusion

Dr. Spinrad and DAS Tim Keeney noted that the breadth of perspective communicated at this roundtable will be extremely valuable as NOAA continues to develop GEOSS as an integrated system of systems.