

intellectual diversity of the forefront kinds of research that are going on." Noting that the agency "is no more diverse now than it was in the 1970s," McNutt said a business-as-usual method of hiring a person here and there is not an effective way to renew the agency. The USGS "is going to have to radically come up with a new way of going about how we try to attract a more diverse workforce," she said.

While she acknowledged that some people might be critical of the agency's broad mission to provide reliable scientific information, she defended it. "I think we have got a really great mission. When you look at what is on top of the issues facing the country—clean water, energy, climate change, a population increasingly at risk from natural hazards—all of that falls smack dab in the purview of the USGS."

"I don't think the problem is our mission. I think the problem is our budget has been strangled and we haven't been allowed to

renew our workforce. For years, we have not had a lot of leadership within the Department of the Interior, and even in the White House, that cared about science or that cared about the USGS, and now we do," she told *Eos*, adding that President Obama has put together a strong science team.

The biggest threat to the USGS is the federal deficit, McNutt said. "We are making the plea, of course, that if you care about science, you really need to do something to renew this agency, because these are important times, and the nation needs the USGS now more than ever."

As the first person to have the dual title of USGS director and science advisor to the interior secretary, McNutt said she does not view it as a juggling act between providing unbiased scientific information and perhaps being called on to provide opinions to the secretary.

"My role as science advisor is not to translate science into a policy outcome," she said.

Rather, McNutt said, she is providing advice to ensure that scientific information is used properly.

McNutt said her management style draws from her experience as the mother of three girls. Just as McNutt tried to have each child understand the perspective of her siblings, she wants people from one agency division, for instance, to understand the perspective of someone in a different part of the organization.

As for being a role model as the first woman to lead the agency in its 130-year history, McNutt has a different perspective, noting that on her floor of the USGS headquarters building in Reston, Va., there are just a few men. "So I don't really feel like much of a role model there," she said. However, McNutt said she is pleased that some women find encouragement that there could be "great things in store for them."

—RANDY SHOWSTACK, Staff Writer

MEETING

Saltier, Hotter, More Acidic, and Less Diverse? Observing the Future Ocean

OceanObs'09: Ocean Information for Society—Sustaining the Benefits, Realizing the Potential;
Venice, Italy, 21–25 September 2009

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Ten years ago, a vision of a sustained system for providing information about the global ocean was presented at OceanObs'99, the first International Conference on the Ocean Observing System for Climate. An initial ocean-observing system for marine physical climate and carbon is being implemented as a result. Many other observing activities focused on marine biological and geochemical systems also have been undertaken in the past decade. These activities collectively have proven to be fundamental to the Intergovernmental Panel on Climate Change's assessments, have documented profound marine variability and change, have better characterized stresses on global living marine systems, and have supported a range of forecasts and projections of the coming decades.

More than 600 participants from 36 nations attended OceanObs'09 to envision an enhanced system for the coming

decade, able to meet a broader range of societal needs. Participants reviewed the state of global ocean observations, identified key observing opportunities, and illustrated the services that are being delivered. They also discussed the need for organizational structures to foster the widest range of observing and service activities and plans to take them forward.

The conference built upon many community white papers describing plans for specific activities that might be feasible over the next decade. Plenary papers presented integrated perspectives based on those white papers. More than 200 poster contributions provided details and further ideas related to future observations of the full-depth and high-latitude physical climate of the ocean, of biogeochemical changes including acidification and deoxygenation, and of the marine life and health of the ocean. The lack of coherent long-term national financing avenues was identified as a universal challenge.

All participants recognized the need to complete and sustain the initial ocean-

observing system and build a more integrated system to support a wide range of climate and marine forecasts and services. In particular, the conference participants (1) set a target date of 2015 for nations to fully implement the initial physical and carbon global ocean-observing system, (2) called for support to develop systematic global biogeochemical and biological observations, guided by the outcomes of the conference, (3) called for agreement on a framework for planning and taking forward an enhanced sustained global ocean-observing system that will include new physical, biogeochemical, and biological observations while sustaining present observations, (4) urged adherence to a broad range of best practices, and (5) asked for increased effort in capacity building and education to serve all potential stakeholders.

A small postconference working group will propose an international organizational framework to facilitate a fully integrated approach to advancing the ocean-observing system over the coming decade, and to seek national support for these efforts. The conference proceedings, which will include all of the community white papers and plenary papers and other materials, are in preparation. All conference material is available on the conference Web site (<http://www.oceanobs09.net>), and community comments on draft plenary papers can be submitted on the site.

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