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Shifting Waters

It is an honor to serve as your president of The Oceanography Society, and it is humbling to follow in the footsteps of our past presidents. I want to thank especially Mike Roman and Carolyn Thoroughgood who have ably served TOS recently and who have guided me through “learning the ropes.” However, any missteps are my responsibility!

Five years ago, Mel Briscoe asked me to write an article on my thoughts about the future of our science in a special issue of *Oceanography* (Abbott, 2008). Under the title “Oceanography in 2028,” I discussed the forces of change affecting our field and how they might impact our research and educational programs as well as our institutions. Writing just before the financial crisis of 2008, I could foresee increasing budget pressures in many countries, though I did not anticipate the depth and extent of the challenges posed by large national debt and slow economic growth. One of the impacts on oceanography in the United States has been a declining success rate for National Science Foundation (NSF) proposals (now a bit below 30%, although many myths were dispelled in a recent article by Duce et al., 2012). And, as noted by David Conover, director of the NSF Division of Ocean Sciences, facilities costs now consume about 50% of the his division’s budget. Our public research universities continue to face budget reductions from state governments (National Science Board, 2012), yet are being asked to do more in science/technology/engineering/mathematics (STEM) education and economic development.

However, new opportunities have arisen in the last five years. Massive open online courses (MOOCs) are emerging in both the private sector and through university consortia, although there remain fundamental issues regarding how to make money and how to certify student performance. The Schmidt Ocean Institute (<http://www.schmidtocean.org>) is now

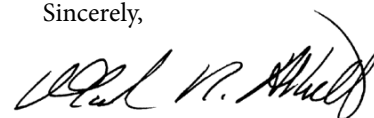
operating a highly capable vessel in support of ocean research. Sensor networks, such as those being deployed by the Ocean Observatories Initiative (<http://www.oceanobservatories.org>), will provide enormous new data sets in near-real time. The NSF Directorate for Geosciences is developing the EarthCube concept (<http://earthcube.ning.com>) that will build new levels of cyberinfrastructure to support the Earth science and education community.

Some of these forces could profoundly impact oceanography, altering how we teach and how we conduct our research. Many of our institutions have begun this transformation. For example, having started as Oregon State’s Department of Oceanography over 50 years ago, my home base is now the College of Earth, Ocean, and Atmospheric Sciences, encompassing both undergraduate and graduate education and research. Other institutions are exploring new pathways as well.

Beyond these forces of budgets, technology, and organization, oceanography is now being pursued against a larger backdrop of Earth system science. But as Raupach (2012) discusses, we now have an even more profound shift as our science will need to engage in conversations about human values and public policy regarding the future of our planet.

I look forward to the next two years as president of TOS, and I hope our community will have a lively and productive set of discussions regarding these issues and the field of oceanography. Buckle up!

Sincerely,



Mark R. Abbott, TOS President

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