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How the Oceanographic Community Created a National Oceanographic Partnership Program

BY JAMES D. WATKINS, TERRENCE R. SCHAFF, AND RICHARD W. SPINRAD

ON THIS TENTH anniversary of the National Oceanographic Partnership Program, and as our nation embarks on a broad set of critical societal initiatives, it is valuable to review the accomplishments of the program, and reflect on conceptual origins of the ocean partnership idea and the process by which the program was conceived and established. Although the specific recommendations for establishment of a new program and coordinating mechanisms are contained in several reports discussed below, the conceptual underpinnings originate in a number of earlier activities.

Several actions early in the George H.W. Bush administration highlighted both the need and opportunity for partnerships in non-ocean areas. Following the President's Education Summit in Charlottesville, Virginia, in 1989, a President's Council on Science Education was formed with the goal of the United States being number one internationally in math and science education by the year 2000. It was clear that meeting this

goal would require a broad governmental partnership with the participation of all government agencies. Within the Department of Energy, this mandate was supported by a new emphasis on interaction of the national labs with secondary education, including several hundred million dollars of coordinated inter-agency financial support and establishment of a National Science Bowl. While the primary goal of being number one in math and science education has yet to be achieved, the implementation of a presidential priority had a clear impact on the federal system for years to come.

Virtually simultaneously, in 1990, the US Congress passed the Climate Change Research Act and the President created the Committee on Earth and Environmental Sciences. The Committee included the relevant departments and independent agencies with the responsibility to improve planning, cooperation, and budget coordination. The Committee was responsible for the National Global Change Research Plan

and its implementation through the US Global Change Research Program. Passage and implementation of the Climate Change Research Act thus demonstrated a model of legislative and administration actions to address an area of science with broadly shared responsibility—in this case among 14 governmental agencies.

As a consequence of the confluence of these activities—the push for enhanced science education and the heightened activity associated with understanding global climate change—the United States was poised to recognize the need for dramatic improvements in ocean science and education. In fact, the lack of attention to the ocean at the Kyoto climate conference as well as during debate on a national energy strategy were primary drivers behind the decision of one of us (Watkins) to bring the ocean science institutions together in a new partnership that eventually became the Consortium for Oceanographic Research and Education (CORE).

OPPORTUNITIES FOR NEW PARADIGMS

At the time of CORE's formation in 1994, there were a number of factors driving the need for a new way of thinking about ocean science. Ocean science funding was contracting as a percentage of the overall federal science and technology budget. From the mid 1980s to 1994, ocean science plummeted from 7% to 3.5% of the total federal science and technology budget. A primary factor in this precipitous decline was the end of the Cold War and the subsequent reduction in defense research, much of which was centered on the Soviet submarine threat. While Navy attention and funding ebbed, a broader awareness of the societal importance of the ocean was growing. Population migration to the coastal zone over the preceding decades had received little attention but was focusing more of the nation's economic activity in a concentrated area and putting stress on coastal ecosystems. Marine resources, both living and nonliving, were rapidly becoming more difficult to extract and sustain. Policymakers became increasingly aware of the ecological and economic importance of wetlands and the implications of mass wetland loss and general coastal habitat degradation. Additionally, we witnessed an emerging recognition of the role of the ocean in global climate change. The nation was awakening to a new awareness of the importance of the ocean and coasts that was very different from attitudes during the Cold War and that would present vastly different challenges. These challenges

cut across broad swaths of government agency and congressional jurisdiction and would require a multidisciplinary approach from a science community that was historically organized around the specific disciplines of biology, geology,

funding, even as overall federal science spending had increased significantly. The report also included a valuable survey of the human, physical, and fiscal resources of the ocean science community, showing in aggregate a robust but

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physics, and chemistry.

In 1992, the Ocean Studies Board of the National Research Council (NRC), recognizing the need for a new approach to ocean science, published a pivotal report entitled, *Oceanography in the Next Decade: Building New Partnerships* (National Research Council, 1992). The report noted the increased relevance of ocean science to new challenges, such as global climate change, biodiversity, and environmental quality, and the need to change the nature of oceanography from individual, curiosity-driven science to a field more focused on societal demands. The report quantified for the first time a decade-long decrease in ocean science

distributed national capability for study of the ocean. In their recommendations, the Board focused on the need for a closer working partnership between the federal agencies and academia. The first recommendations were to increase communication between and among the federal agencies and academia, a notable first step to addressing the silo structure of the ocean science community at the time. There were also many recommendations on partnerships specific to individual agencies and disciplines of oceanography, although little attention was given to mechanisms by which such recommendations could be implemented.

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A critical partnership that took form shortly after the release of the NRC report was CORE. Admiral Watkins took the helm as President of Joint Oceanographic Institutions (JOI) in 1993 with the intent to unify the ocean science community so that its intellectual strength could be brought to bear on critical national issues, including those identified by the NRC. He immediately moved to establish a broader coalition of ocean research organizations, which in 1994 became CORE. CORE was originally founded with 13 members and grew rapidly to encompass virtually all of the nation's ocean science institutions. (Note: CORE merged with JOI in 2007 to form the Consortium for Ocean Leadership, with 94 members.) CORE served as a voice in Washington, DC, for the oceanographic community. It also offered a forum for discussion of community-wide priorities and provided the means to act on those priorities.

It was from CORE that the discussion arose regarding how to formalize the partnership concept envisioned by the NRC report and how to develop real mechanisms to both promote and enable partnerships at many levels of US ocean science. Of great importance to the early stages of informal discussion was the Partnership Coordinating Group consisting of high-level ocean agency leaders and several members of the CORE Board of Governors. The agency members were of sufficient position to commit to their agency's participation in the development of a partnership framework as well as provide advice on how to consider a concept of partnering within a community and federal system that was severely stovepiped. This level of community leadership was critical as a

demonstration of commitment to a new way of doing business in ocean sciences.

The State-Federal Task Force was of great value in considering a new partnership within the oceanographic community. The Task Force published an outstanding report defining the essential principles of partnering, and describing a new framework for cooperation between the states and the federal government (Carnegie Commission on Science, Technology and Government, 1995). The overarching partnership principles were quickly recognized as ideal elements for guiding the development of a National Oceanographic Partnership Program. Those principles included:

- shared ownership
- broad participation
- diversity of interests
- champions and advocates
- partnership formalization and clear identification of roles and responsibilities
- merit-based decision-making
- flexibility
- cost-sharing
- formal mechanisms of evaluation
- stability/long-term commitment

With a general conceptual framework provided by the NRC report and the support and advice of the Partnership Coordinating Group, CORE then set out to identify specific actions and mechanisms that could be put in place to encourage and facilitate a new partnering paradigm. Support was granted by the various federal ocean agencies for the Interagency Partnership Initiative under which CORE led a series of workshops with themes of national security, economic development, quality of life,

and communication and education. Working groups were identified and convened where representatives from academia, government, and industry discussed not only the opportunities for collaboration but also how to construct functional and enduring partnerships. This process was critical for building trust and consensus and refining a set of recommendations for subsequent action.

The deliberations of the working groups resulted in publication by CORE (1996) of the report, *Oceans 2000: Bridging the Millennia—Partnerships for Stakeholders in the Oceans*. The report contained recommendations for action to three groups of stakeholders: researchers and educators, the executive branch, and Congress. In aggregate, the recommendations were intended to, “accelerate and improve the applicability of ocean research to the national interests in quality of life, national security, economic development, and education/communication.” Recommendations for researchers and educators were to define new partnership opportunities, optimizing the use of new data, resources, and communication tools. Examples included declassification, long-term observatories, and marine information and education networks. The recommendations for the executive agencies included establishment of a National Ocean Leadership Council consisting of top officials of the ocean agencies that would have responsibility for broad policy aspects of US ocean research efforts and report regularly to Congress. Furthermore, the report called for a partnership management plan for the effective and cost-efficient implementation of ocean science and technology programs. The report recognized the

importance of such a plan to dealing clearly with concerns of resources, personnel, infrastructure, schedules, and deliverables among multiple parties. The report contained two specific recommendations for Congress: (1) the passage of a National Oceanographic Partnership Act, formalizing the partnership within the executive branch and (2) the formation of a congressional task force on ocean science as a mechanism for communication and action within the Congress itself (which eventually became the House Oceans Caucus).

With release of the report, a significant effort was made across the oceanographic community to encourage implementation of the recommendations. Although many academics and agency leaders were involved in events prior to release of *Oceans 2000*, relatively few in Congress were familiar with the effort. A coordinated effort was undertaken by CORE to educate congressional members and staff on the need for new legislation to implement the report. Briefings were held for the numerous committees with oversight of ocean science agencies, outlining the need for legislation establishing a new National Ocean Leadership Council (the word Research was later introduced to make the NORLC) and a National Oceanographic Partnership Program. In response, the House of Representatives held a first-ever joint hearing of the Committees on Natural Resources, Armed Services, and Science and Technology to receive and discuss the *Oceans 2000* report. Testifying in unison on the need for action were Admiral Watkins and the leadership of the ocean science agencies. The Senate also became involved

under the leadership of Senators Trent Lott and Fritz Hollings, who set the stage for the involvement, respectively, of the Senate Committee on Armed Services and the Senate Committee on Commerce, Science, and Transportation. In the months that followed, the National Oceanographic Partnership Act (NOPA) was drafted, debated, and considered by both bodies of Congress. NOPA was eventually folded into the FY 1997 Defense Authorization Act and was signed into law by President Clinton on September 23, 1996. Seed funding for the first year of the National Oceanographic Partnership Program (NOPP) was subsequently provided in the FY 1997 Department of Defense Appropriations Act.

With enactment of the law, the NORLC was set up and NOPP was formally established. Subsequently, agency heads recognized the need for and installed a less-formal—but absolutely essential—Interagency Working Group. The short time in which the oceanographic partnership idea gestated from an initial concept to formalization was remarkable, with only five months transpiring between the introduction of NOPA and its final passage. Typically, legislation creating new governmental programs, especially those cutting across multiple agencies (and therefore multiple congressional committees) will take several years to wind through the legislative process. Although many factors played a part, perhaps none was more important than the leadership that came from high levels in the federal agencies, Congress, and the academic ocean science community. While the concept was sound, the need was clear, and substantial community consensus

was built, the Partnership Act and subsequent program implementation would not have taken place without the active support of a vocal leadership. Furthermore, the importance of having a high-level champion with the capability and resources to lead an active lobbying campaign on behalf of the community was a key ingredient to maintain focus and momentum and cannot be underestimated. This is a particularly important point to consider now as a new administration takes office and there is significant change in Congress. In fact, one might argue that even in light of the change of administration after the election of 2000, the subsequent role that NOPP has been able to play is testimony to the effectiveness of the 1990s legislative push. Many of the leaders who played significant roles in the formation of the partnership have moved on, taking with them the corporate knowledge and support base for the partnership effort. It will be necessary to educate the new leadership and ensure that the progress that has been made will not be lost, but instead is appreciated and will set the foundation for continued progress.

The successes of the ocean partnership effort started more than ten years ago have been impressive. The partnership effort, backed by the goal of preparing the nation to address complex new questions, inspired significant attention at high levels of government. This attention was then held further as the Presidential and Pew Ocean Commissions issued their reports (Pew Oceans Commission, 2003; US Commission on Ocean Policy, 2004) and presented their recommendations. Additionally, the momentum and community focus provided in the lead-up and development of NOPP

demonstrated to the full oceanographic community the effectiveness of partnering to conduct research. A decade's worth of extraordinary research involving all sectors has proven the value of the partnership concept. NOPP has provided a much-needed mechanism for project funding. Partnering among research scientists is remarkably more common than it was ten years ago. The ocean science community has new and sophisticated tools available to address increasingly complex multidisciplinary problems that require many areas of expertise. The federal agencies have encouraged a cross-institution and cross-discipline approach to answer ever more complicated research problems with great success. Perhaps most importantly, NOPP provides the forum for dialogue, debate, and decision-making regarding the most exciting research topics and challenges.

While the structural goals originally described in *Oceans 2000* were well met, the inherent goal of leveraging the partnership program to draw new funding to ocean science fell short. As a community, we succeeded in bringing together performers from academia, government, and industry as never before. But we have not effected change in the resourcing of our field. Although the ocean community has no reliable way to measure and track funding (which is another need that should be met), it is fair to say that funding has not kept pace with increasing demands. Moreover, dedicated NOPP funding has been sporadic and was never broadly subscribed. Was this a failure in inducing partnering in Congress? Or was it simply a consequence of inadequate attention to one or more of the fundamental

principles identified above?

So, where do we go from here to make best use of the foundation built over the last ten years?

There is a great opportunity in this time of political transition to consider changes to the ocean partnership. It is easily argued that NOPP is more necessary now than ever before as we struggle to understand the role of the ocean in our changing climate and attempt to consider marine ecosystems in whole rather than part. In the past, NOPP was solely focused on research, and new requirements for partnering in ocean science continue to arise. For instance, the recent *Ocean Research Priorities Plan and Implementation Strategy* (JSOST, 2007) recommends a number of research programs for which NOPP is proving to be an ideal implementing mechanism. In addition, as we succeed in connecting our research to societal needs, we would argue that now is the time to expand the portfolio to the applications of research and the coordination with such issues as ecosystem health, marine operations (including ocean observing), and human health. Another intriguing possibility is in the area of climate services. There are initial discussions underway on how to approach climate services, a federal function that arguably must involve all agencies with an ocean purview. With proper buy-in from the ocean agencies and leadership from NORLC, NOPP could provide an expanded mechanism to address critical aspects of a climate service without creating an entirely new bureaucratic structure.

In summary, we have much to appreciate from the evolution of NOPP. It has served as a catalyst for the maturation of our research community and helped us

realize that the impact of our research efforts can be compounded through effective collaboration, coordination, and cooperation. It is our responsibility, now, to take these enhanced skills of partnering and apply them to society's most exigent needs with haste and vigor. ☐

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