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On the Crest of a New Ocean Agenda

Admiral James D. Watkins, U.S. Navy (Retired)

The International Year of the Ocean provides an excellent opportunity for nations around the world to reexamine their commitment, individually and in aggregate, to ocean science. Changes of the last several decades in world geopolitical structure, movement of populations to the coasts, new understanding of the relationship between oceans and human health, and increasing reliance on the seas for food and other material goods require a reexamination of national priorities assigned to meeting the needs of modern world societies and emerging new economic sectors. Globally, we need to develop better technologies and educational methodologies, to heighten awareness of links between atmosphere and oceans, and to address increasing societal concern about the impact of human activities on the marine environment and its ecosystems—all of which combine to drive the ocean research agenda. These needs, and new sensitivities to the way we utilize and place value on our oceans and coastal areas, place new demands on applications of ocean science and technology. These in turn can only be satisfied by raising the priority given to ocean science investments by all leading industrial nations and by establishing more responsive ocean research implementation processes.

... we must commit to an aggressive, proactive, and cooperative agenda ....

In the United States, for example, major changes in our motivations for conducting ocean science have taken place as federal funding for basic ocean research remained constant while investment in basic research doubled. As a consequence, ocean sciences now represent less than 4% of the total U.S. basic research budget, down from 7% in fiscal year 1982. It appears that there was no conscious decision to reduce emphasis; rather, funding was allowed to drift down without objection by responsible or affected individuals.

The 7% investment in ocean science 15 years ago gave the United States sufficient resources to generate the outstanding research products necessary to meet the national goals of that era. The current level (one-half the old) is simply not adequate to support pending scientific research, especially in light of the broadening scope of ocean research and applications for its use. Clearly, a stronger investment is needed worldwide as we enter the next millennium. Many exciting global research challenges have been identified in the new report sponsored by the U.S. National Academy of Sciences. This report was produced by the Ocean Studies Board of the National Research Council (NRC) and is entitled, "Opportunities in Marine Science: Challenges on the Horizon." These opportunities include improving the health and productivity of coastal oceans, sustaining ocean ecosystems, predicting climate variations over a human lifetime, and modernizing ocean observational capabilities, topics that demand the finest in international scientific collaboration. One pressing challenge is studying the underappreciated Arctic Ocean and its impact on world climate, food availability, and marine commerce.

In preparation for these kinds of endeavors, the U.S. Congress and Clinton administration created and implemented in 1996 a National Oceanographic Partnership Program, which provides a new mechanism for undertaking complex, multidisciplinary research that can contribute more efficiently and effectively to the missions of the nine U.S. federal agencies with ocean responsibilities. This Partnership Program provides the means to address the kinds of grand ocean science challenges outlined by the NRC report. Further, it provides a needed mechanism to connect more reliably with our international science and technology partners, so essential when conducting research into the world's greatest natural resource.

Now, during the International Year of the Ocean, is the time to set the foundation for renewed world attention to the oceans and an awareness that we must commit to an aggressive, proactive, and cooperative science and technology agenda to responsibly realize their potential. We know what we need to do and have the scientific and technological capability to meet the challenges. Let's commit to a new paradigm of active partnership and leadership while the tides are with us.

The author is President of the Consortium for Oceanographic Research and Education.