

**STATEMENT FOR THE RECORD  
DR. ANTHONY F. MICHAELS  
PRESIDENT  
NATIONAL ASSOCIATION OF MARINE LABORATORIES  
BEFORE THE  
SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE & RELATED  
AGENCIES  
COMMITTEE ON APPROPRIATIONS  
UNITED STATES SENATE  
WASHINGTON, D.C.  
MARCH 2006**

Mr. Chairman and Members of the Subcommittee, on behalf of the National Association of Marine Laboratories I am pleased to submit this statement in strong support of the President's American Competitiveness Initiative, as well as the research and education programs under the subcommittee's jurisdiction that are vitally important for a vibrant oceans, coastal, and Great Lakes research and education enterprise. My name is Tony Michaels and I am the Director of the Wrigley Institute for Environmental Studies at the University of Southern California. I am submitting this statement as the President of National Association of Marine Laboratories (NAML).

NAML is a nonprofit organization of over 120 member institutions employing more than 10,000 scientists, engineers, and professionals and representing ocean, coastal and Great Lakes laboratories stretching from Maine to the Gulf of Mexico to the west coast, from Guam to Bermuda and from Alaska to Puerto Rico. NAML labs support the conduct of high quality ocean, coastal and Great Lakes research and education in the natural and social sciences and the effective use of that science for decision-making on the important issues that face our country. Through national and regional networks, NAML labs –

- Promote and support basic and applied research of the highest quality from the unique perspective of coastal laboratories;
- Assist local, regional and state entities with information related to the use and conservation of marine and coastal resources using ecosystem-based management approaches;
- Recognize, encourage and support the unique and significant role that coastal laboratories play in workforce development, enhancing science/ocean literacy, and in conducting education, outreach, and public service programs for K-12 audiences; and
- Facilitate the exchange of information and relevant expertise between NAML member institutions, government agencies, and the private sector.

**AMERICAN COMPETITIVENESS INITIATIVE--** NAML strongly supports the President's FY 2007 American Competitiveness Initiative (ACI) for research and education along with the accompanying Presidential budget request which includes a doubling of the Federal commitment to basic research programs in the physical sciences over the next 10 years. NAML expressly supports the President's FY 2007 request of \$6.02 billion for the NSF.

While not officially part of the President's ACI, NAML also urges the Subcommittee to recognize and support the vital research programs of the National Oceanic and Atmospheric Administration (NOAA) and calls on the subcommittee to fund NOAA at a level of \$4.5 billion which would enable NOAA to carry out its multiple missions on behalf of the American people.

**OCEAN, COASTAL AND GREAT LAKES RESEARCH** -- NAML strongly supports enhanced support for cutting edge ocean, coastal, and Great Lakes research in the natural and social sciences, education, outreach, and related infrastructure. The marine sciences have much to offer the Nation as it seeks to strengthen its ability to innovate and compete in today's global economy. They are inherently interdisciplinary, push the envelope in terms of technology development, test the boundaries of our data collection and analysis systems, and offer an effective training ground for future scientists and engineers. As the Nation seeks to augment its investment in the physical sciences to increase its international competitiveness, NAML calls on policy makers to recognize the integrated nature of the marine sciences and to support an enhanced investment in these as well as other science and engineering disciplines as part of any long term economic competitiveness policy.

NAML supports increased federal funding for the National Science Foundation (NSF) consistent with the President's budget for FY 2007. Basic research and the transfer and use of the knowledge developed through research are vital for the long term economic competitiveness and national security of this Nation. It is increasingly important for the Nation to maintain - and enhance - its scientific edge in a global community with emerging new capacities for scientific research. NSF provides vital support for basic research and education which enhances public understanding of the Nation's oceans, coastal areas, and the Great Lakes. NSF also provides important support for basic laboratory facilities, instrumentation, support systems, computing and related cyberinfrastructure, and ship access. The final report of the U.S. Commission on Ocean Policy makes several recommendations on the need to develop and enhance ocean, coastal and Great Lakes research infrastructure. That infrastructure includes research vessels, ocean observing systems, and the shore-based instrumentation and equipment needed to collect and analyze the data and observations made by research vessels and the observing systems. For that reason, NAML strongly supports the NSF proposal to initiate support for the development of the Ocean Observatories Initiative in the FY 2007 budget request. NAML also urges the Congress to provide \$5 million for the expansion of the NSF's Field Stations and Marine Laboratories program. This modest program provides researchers with access to state of the art instrumentation for research and education and necessary cyberinfrastructure and data management systems that complement the Ocean Observatories Initiative.

NOAA is one of the premier science agencies in the Federal Government, providing decision makers with important data, products and services that promote and enhance the nation's economy, security, environment, and quality of life. It was NOAA -- and its underlying science enterprise -- that enabled the delivery of accurate and timely information regarding the impending landfall of Hurricane Katrina in 2005, a forecast that saved tens of thousands of lives.

The \$4.5 billion recommended for NOAA would fully fund the President's FY'07 budget request, restore funding for core programs, and address all the areas of concern and priority that have traditionally been supported by Congress. It would allow enhancements in the development of an integrated ocean and atmospheric observing system; increased research and education activities and expanded ocean conservation and management programs; and provide critical improvements in infrastructure (satellites, ships, high performance computers, facilities), and data management.

In August 2004, a Congressionally requested study of NOAA's research programs, entitled, *Review of the Organization and Management of Research in NOAA* concluded that extramural research is critical to accomplishing NOAA's mission. The access to such enhanced research capacities provides NOAA with world class expertise not found in NOAA laboratories; connectivity with planning and conduct of global science; means to leverage external funding sources; facilitation of multi-institution cooperation; access to vast and unique research facilities; and access to graduate and undergraduate students. Academic scientists also benefit from working with NOAA, in part, by learning to make their research more directly relevant to management and policy. It is an important two-way interaction and exchange of information and value.

NAML strongly supports a robust NOAA extramural research activity and calls on the subcommittee to support the National Sea Grant Program, the National Undersea Research Program, the Ocean Exploration Initiative, as well as research related to aquaculture, invasive species, harmful algal blooms and the various joint and cooperative institutes at levels envisioned in last year's Senate version of the Commerce-Justice-State Appropriations bill. These partnership programs are not only consistent with the findings of the August 2004 review of NOAA research, but are also consistent with the NOAA strategic plan and enable NOAA to carry out its mission at the state and local level.

**OCEAN, COASTAL AND GREAT LAKES EDUCATION AND OUTREACH --** A strong national ocean policy can only be sustained through the development of high-quality coastal, ocean, and Great Lakes education programs that support learning at all age levels and by all disciplines. Through such efforts, NAML can highlight the relevance and utility of coastal, ocean and Great Lakes resources and demonstrate and increase the value of incorporating science-based decisions in a public policy process designed to protect and enhance these resources. For that reason, NAML strongly supports the NSF Centers for Ocean Science Education Excellence program (COSEE), NSF education and human resources generally, and NOAA's Office of Education. Such programs provide a rich environment within which partnerships flourish. A greater understanding of the oceans and coastal ecosystems will instill a sense of stewardship for these important environments. These programs also yield a more diverse workforce that includes a significant participation by underrepresented groups. Preparing these cultural bridges would allow us to capitalize upon diverse national strengths, ensuring the flow of intellectual talent into ocean, coastal, and Great Lakes-related fields.

**OCEAN COMMISSION AND INTERAGENCY RESPONSE --** NAML strongly supports implementation of the recommendations from the U.S. Commission on Ocean Policy and the initial efforts of the Administration's Interagency Committee on Ocean Policy to develop a response to the Commission's recommendations. The Commission's analysis

of policies governing oceans, coasts, and Great Lakes has resulted in a collection of bold and broad-reaching recommendations for reform. Implementation of these recommendations by the Federal government will enable the U.S. to maintain and strengthen its role as a world leader in protecting and sustaining the planet's oceans, coasts, and Great Lakes. NAML is particularly supportive of the Commission's recommendation to re-align NOAA's functions to support ecosystem-based management approaches. In addition, we fully endorse the Commission's recommendations to double the federal investment in ocean, coastal, and Great Lakes research as well as its recommendation to promote a strong federal investment in ocean, coastal, and Great Lakes education, outreach, and stewardship. The Commission's recommendations are important first steps in addressing the nation's ocean, coastal, and Great Lakes needs.

NAML is supportive of the initial steps taken by the Administration in response to the Commission's report – including the creation of Committee on Ocean Policy established in December 2004 by Executive Order. NAML is committed to working with the interagency Joint Subcommittee on Ocean Science and Technology and to commenting on the forthcoming Ocean Research Priorities Plan and Implementation Strategy.

**INTEGRATED OCEAN, COASTAL & GREAT LAKES OBSERVING SYSTEMS -**

- Integrated observations offer critical information on coastal processes necessary for addressing issues, such as the health of humans and marine life, weather and climate nowcasts and forecasts, homeland security, and resource management. Coastal and marine laboratories have been addressing this need. However, funding for existing subsystems is difficult to sustain, and significant additional funding is required to implement the national integrated system. Although efforts have been made in the past to coordinate Federal agencies involved in ocean and coastal research and national and international programs regarding coastal, ocean, and Great Lakes observing systems, further investment and strengthened cooperation at all levels is still needed to ensure that these systems are sustained and that they incorporate the long-term monitoring efforts of the nation's coastal and marine laboratories. NAML enthusiastically supports the development of a sustained integrated ocean observing system to be managed by NOAA.

**CONCLUSION** -- NAML recognizes the extraordinary fiscal constraints and difficult choices the Subcommittee must make. Nevertheless, the research and education programs under the Subcommittee's jurisdiction are vital investments in the future of this Nation and deserve the maximum support possible. Thank you for the opportunity to submit these recommendations.