



NATIONAL ASSOCIATION OF MARINE LABORATORIES
FY 2021 PUBLIC POLICY AGENDA
April 2021

The National Association of Marine Laboratories (NAML) was established in 1989 to support the vital role of Marine and Great Lakes Laboratories in the Nation's Ocean and Coastal Enterprise -- This network of place-based marine and Great Lakes laboratories is a unique and valuable national asset. The geographic reach of this network includes estuaries, the coastal zone, the Great Lakes and inland watersheds, the global ocean including polar regions, and the sea floor. NAML labs connect scientists, students, public and civic leaders with leading edge science, environmental and coastal intelligence and professional training that contributes to the understanding, management, and stewardship of our ocean, coastal zones and Great Lakes.

The intersection of ocean, coastal zone and Great Lakes natural resources and U.S. economic activity is complex and highly interdependent. The U.S. depends on healthy marine and freshwater resources, yet many human activities and natural events impact these resources, thereby jeopardizing jobs, wages, our gross domestic product, human health, and well-being. NAML labs operate on the frontline of a rapidly changing environment providing coastal intelligence, comprised of both human socioeconomics and the natural aquatic world to better manage and sustain the full spectrum of marine and Great Lakes resources.

Marine and Great Lakes science laboratories play pivotal roles in the national priorities identified in the [Memorandum on Ocean Mapping of the United States Exclusive Economic Zone and the Shoreline and Nearshore of Alaska](#), and in national assessments on [Science and Technology for America's Oceans: A Decadal Vision; Sea Change: 2015-2025 Decadal Survey of Ocean Sciences](#), and [Enhancing the Value and Sustainability of Field Stations and Marine Laboratories in the 21st Century](#). These documents emphasize the need to understand the ocean in the earth system, promote the blue economy, advance monitoring and predictive modeling capabilities. NAML laboratories bring a high degree of relevance to these critical efforts at lower cost, higher return on investment and with the important benefit of training future generations of the marine science and policy workforce.

The Importance of Oceans, Coasts, and Great Lakes to National, Economic, and Environmental Security -- The ocean, our coasts, and the Great Lakes are among the United States' most treasured resources. They are an integral part of our national identity and our Nation's future. The ocean covers 71% of the Earth's surface and hundreds of millions of people rely on a viable ocean. A healthy, productive, and resilient ocean is inextricably linked to Earth's climate and weather patterns and contributes significantly to our quality of life. The ocean provides and creates jobs, gives mobility to our national commerce and Armed Forces, helps feed our Nation, secures our borders, fuels our economy, and provides places for recreation and solace. Understanding the physical, chemical, biological, and geological changes in the ocean is vital to the survival and prosperity of humanity.

In the United States, the ocean and its wealth of natural resources have played a critical role in fueling American prosperity and energy independence, protecting our country, generating over 3 million jobs, sustaining industries, and contributing to 2% of the nation's gross domestic product. Our coastal ports and ocean transport systems are the engines of world trade, facilitating a thriving U.S. economy through the maritime enterprise. The biological diversity and productivity of the ocean sustains the health of coastal communities and promotes a vibrant national economy. At the same time, coastal communities that drive the ocean economy are also vulnerable to events such as hurricanes, tsunamis, sea level rise, floods, over-development and surging coastal population growth. Many of these stressors to our oceans and coastal zones, and by extension the services they provide, are evidenced by human observations of changing coastlines and ecosystems, navigation routes, water quality, species diversity, the timing and occurrence of pathogen outbreaks, the rising burden of marine debris, and flat-lined or declining populations of commercially and ecologically important marine species.

The National Association of Marine Laboratories (NAML) is a nonprofit organization representing the ocean, coastal and Great Lakes interests of member laboratories that employ thousands of scientists, engineers and professionals nationwide. NAML labs conduct high quality research and education in the natural and social sciences and translate that science to improve decision-making on important issues facing local, state, regional, national and international entities.



The ocean science and technology (S&T) enterprise -- through its use and support of marine and Great Lakes laboratories -- can provide the knowledge and the education and training needed to address these and other important and complex challenges while also providing fact-based information for decision makers that will ultimately strengthen our Nation and its communities.

NAML Research and Education Priorities for FY 2021 -- To support the vital role of marine and Great Lakes laboratories in the ocean S&T enterprise, NAML requests that our Nation's Leaders fully fund the Federal Government's investment in extramural, merit-based, competitive research, infrastructure, observing and education programs at NSF, NOAA, NASA, EPA, DOI, USGS, and other ocean, coastal and Great Lakes related agencies. Investments through these agencies are essential for the development of knowledge, a diverse workforce, an ocean-literate society, and the technological innovations needed to power the Nation's economy, improve human health, and sustain a strong national defense and vibrant society. NAML urges expanded support for these extramural programs that support research, infrastructure, observations, and education. Examples of what they address include:

- The U.S currently imports 90% of its seafood - U.S.-based aquaculture is needed to address this imbalance, to advance seafood security and to expand opportunities for economic growth;
- The ocean is changing – we must understand the impacts and causative factors of shifting environmental regimes such as sea level rise, harmful algal blooms, hypoxia, and ocean acidification to improve coastal resilience and inform risk management of critical defense, transportation, civic and business infrastructure along U.S. coastlines;
- The ocean holds vast renewable and nonrenewable resources - ocean exploration, research, and technology development are needed to advance national security, commerce and domestic energy independence;
- Technology is the great enabler – big data, sustained ocean observations, predictive ecosystem models, “omics” are all needed for comprehensive understanding of ecosystems fueling adaptive management strategies to sustain the social-economic productivity of U.S. exclusive economic zones;
- Marine infrastructure is vital - ships, autonomous vehicles, laboratory refurbishment, data analysis, observational capabilities, and instrumentation development combine to understand the complex four-dimensional ocean; and
- STEM is the foundation – biological, chemical, geological and physical marine sciences, ocean engineering and marine policy education and training is key to long-term advancement of human and environment health and social-economic objectives.

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