Catalyzing the U.S. Ocean Economy

Submitting Organization: RECOS – The Ocean Coalition
Affected Government Agencies: DOE, USGS, Army Corp, NOAA
Corresponding Appropriations: CJS, DoD, Energy & Water, Interior

Background: The marine economy touches the lives of every American. This economy contributes an estimated $2.5T USD to global markets annually, 350 million jobs globally, and is expected to double by 2030. Sectors that rely on quantitative ocean data and experts include maritime transportation, renewable energy, critical resource mining, fisheries and aquaculture, insurance/reinsurance, farming, tourism and recreation, and real estate. Catalyzing ocean economic growth depends on knowledge of the ocean's capacity and condition. Real-time ocean data, from space to sub-seafloor, provide a competitive advantage for the U.S. to develop new frontiers in exploration, technology, resources, and security. For example, sustained and new observations and forecasts of the ocean improve hazard mitigation for coastal and island communities and the shipping industry, reducing loss of life, property, and insurance. Marine knowledge ensures a healthy ocean and sustainable resources to grow the economy and employment opportunities. Key agencies that contribute to ocean observations, technology, and prediction include NOAA, DOE, BOEM, NSF, NASA, DOI, FEMA, and the U.S. Navy.

The evolving Earth system and resulting events heighten the need for ocean access and accurate information to guide predictions and timely and effective management responses. Examples include extreme weather, environmental change**,** and rapid, poleward migration of fisheries that feed 40% of the global population. Shipping and trade are being dramatically altered as Arctic sea ice retreats. Ocean change, if misunderstood, risks U.S. economic vitality, environmental health, and food and national security. Ocean-based environmental solutions need to be designed, modeled, scientifically tested, and rigorously evaluated before full-scale implementation. In the absence of such work, unforeseen, lasting repercussions could overshadow short-term benefits. Importantly, we need to move fast because global ocean challenges are manifesting themselves more rapidly and expanding in scope.

Many industries require vast amounts of ocean data with broad scope, and application, derived from many federal agencies. According to NASA, 74% percent of Fortune 100 companies have used NASA Earth Science data. Funding the development of advanced tools, including artificial intelligence based tools, will improve sectors such as navigation and ship operations for defense, maritime transportation, and recreational boaters. Multi-scale ocean observations underpin weather forecasts and are critical to generating scientific knowledge of the oceans to give the U.S. a competitive ocean economic advantage.

Federal investment in ocean research is the essential precursor to developing the needed technologies, models, data tools, and knowledge critical for maintaining global leadership. These investments support universities and industries and will foster the advanced work force and science and technology capabilities the country needs. Critical in this endeavor is the Academic Research Fleet, which supports multidisciplinary, multi-investigator research ocean technology development. Large research vessels are vitally important to the U.S. oceanographic effort, and ship building provides well-paying jobs for Americans and is a critical industry for national security.

Recommendation in legislation: RECOS maintains that U.S. investment in science and technology is essential in preparing the nation for growing current and catalyzing emerging economic opportunities. We recommend the highest possible funding levels for basic and applied research programs, focusing on multi-sector partnerships with industry, to explore new research instrumentation, data analysis and academic research fleet recapitalization.