

Ocean Science and Technology Research Goals



Ocean science and technology provide the foundation from which we build our nation's security and prosperity. To meet national priorities, we must invest in the underlying scientific enterprise.

- **Enhance our ability to observe and monitor our changing ocean**

Ocean observations are critical not only to maintain the economic prosperity that is historically linked to our rich ocean resource but also to unlock the incredible potential of the sea. Gaps in our nation's ocean observing capabilities limit predictions, weather forecasting improvements, search and rescue efforts, economic development, conservation of ecosystem integrity, and effective policy and management.

- **Advance scientific knowledge of the ocean**

Our ability to forecast, understand, mitigate, and adapt to change is built on the foundation of basic research and analysis of the coastal and marine environment. Every single study undertaken creates, confirms, or analyzes data and information, moving our national scientific enterprise ahead.

- **Increase ocean science education**

Prioritizing ocean education is how the United States will lift ocean literacy amongst its citizens, educating the next generation of scientists and technologists is how we will maintain and grow our nation's global competitiveness, and broadening participation in ocean science will bring new perspectives and solutions to ocean issues.

- **Improve access to the ocean and its science**

The ocean is too often considered a remote and unreachable place. But without access to the marine world, its data and information, or the scientific enterprise itself, innovation and advances would be impossible.

- **Encourage adequate and sustained federal commitment to ocean science and technology**

Federal investment in ocean science and technology makes our nation safer and more prosperous. Federal commitment must be adequate and sustained to achieve these goals and must be more than just policy promises – budget prioritization needs to echo policy initiatives.



Ocean Security

Ocean security is the amalgamation of securities (e.g., national, homeland, food, energy, health, water) dependent on robust ocean knowledge to ensure our safety and survival. Essentially, ocean science safeguards our nation and its economy, food, and health. Further understanding of complex ocean and coastal processes is critical to our everyday lives – today and tomorrow.

Ocean Science Investments Secure Our Nation

- **Improve national and homeland security**

Ocean science and technology provide us with a knowledge advantage against myriad maritime threats we face now and in the future.

- **Enhance economic prosperity**

Ocean science data and information allow for analysis and understanding of our rich ocean resource. From this, businesses and communities can build new ocean-dependent enterprises and maintain and grow current endeavours, all while effectively managing risk.

- **Foster food safety and security**

Whether considering ocean conditions to better understand drought forecasts, to model changes in fish distributions, or to develop aquaculture, data and information from the sea strengthen the nation's ability to understand and predict crop loss, food availability and pricing, contamination, and disease.

- **Promote a healthy human population**

Whether considering the direct health impacts of extreme weather events (e.g., droughts, wildfires, and floods) or indirect effects (e.g., risk multipliers of freshwater access, sanitation, or easier pathogen distribution pathways), increasingly the changing Earth (and ocean) is a global health crisis. Better understanding the ocean's role in human health leads to innovative solutions.

- **Build a dynamic workforce**

A secure, healthy, and prosperous maritime nation belongs to a society willing to evolve its workforce to meet the needs of a changing world. A diverse, well-educated, ocean-literate workforce provides the necessary base from which innovation grows.