

May 9, 2017

Testimony of the Joint Ocean Commission Initiative to the U.S. Senate Committee on Appropriations, Subcommittee on Commerce, Justice, Science, and Related Agencies for NOAA, NSF, and NASA

Chairman Shelby, Ranking Member Shaheen, and other distinguished Members of the Subcommittee on Commerce, Justice, Science, and Related Agencies, we thank you for the opportunity to submit written testimony regarding the Fiscal Year (FY) 2018 Commerce, Justice, Science, and Related Agencies appropriations bill. We are extremely concerned about proposed substantial cuts to ocean and coastal programs across the government that if enacted would undermine our investments and compromise our ability as a nation to promote economies, safeguard our citizens and responsibly balance the many uses of this great common wealth.

The Joint Ocean Commission Initiative (Joint Initiative) is a collaborative, bipartisan effort to catalyze action and monitor progress toward meaningful ocean policy reform. We believe that a continued commitment to protecting base funding and core programs at NOAA, NSF, and NASA is an investment that will save lives and protect our national security, grow our economy, and protect the health of our oceans and coasts. The Joint Initiative is highly appreciative of the progress your subcommittee has made in providing incremental, but substantive additional resources to critical ocean and coastal accounts.

Our testimony is derived from our newest report, the *Ocean Action Agenda: Supporting Regional Economies and Ecosystems*, and further informed by a series of regional ocean leadership roundtables that we convened in the Arctic and on the East, West, and Gulf Coasts. We convened hundreds of industry, military, nonprofit, and tribal leaders, as well as local, state, and federal government officials representing the diverse needs of America's coasts. Across regions and sectors, we heard about the dramatic changes occurring along the coasts and we believe this is precisely the wrong time to reduce our federal investment in coastal states and communities. **Based on the need for significant and sustained federal investment to support regional, state, and local initiatives that we heard on every coast, as well as the value of public-private partnerships, we strongly support increasing NOAA's overall budget to a minimum of \$6 billion.** Notably, in FY 16 NOAA's budget represented only 0.0048% of discretionary federal spending. In addition, investment has been modest relative to the growing needs of oceans and coastal communities, with total federal funding for the oceans essentially remaining flat over the last ten years. As we note throughout our testimony, these investments confer benefits that significantly outweigh their costs.

Invest in strong coasts and economies

In the United States, more than 40 percent of the population lives in coastal counties, which generate almost half of the U.S. gross domestic product. Unfortunately, changing ocean conditions are likely to increase the severity of storms and flooding which will put millions of coastal residents, homes, and businesses in harm's way. The safety and security of these communities depends on timely and accurate information delivery. Observation and monitoring programs, as well as other scientific and data programs are critical to NOAA's ability to accurately forecast weather, enable communities to plan for and respond to flooding and drought, and protect and manage America's coastal and ocean resources. **We ask that your committee continue to support enhanced capabilities for observation and monitoring by allocating \$500 million to NOAA's Office of Oceanic and Atmospheric Research (OAR) and \$42 million to NOAA's Sustained Ocean Observations and Monitoring Program.**

Thanks to the leadership of this subcommittee and its continued investment in science and technology, significant advancements in forecasting have been made. Modern forecasts now allow for almost a week of preparation for many types of major storm events. Beyond short-term weather predictions, sustained ocean observations and the maintenance of long-term data sets are essential for informing community adaptation in a rapidly changing world. Businesses need to know if a severe drought is an anomaly or if such conditions are becoming more frequent. In addition, the U.S. military relies on NOAA forecasts and data products for navigation and extreme weather preparedness.

While more advanced monitoring will save lives, extreme weather events and disasters are inevitable. Hurricane Sandy resulted in over \$60 billion in damage across the Northeast and we cannot afford to be ill prepared for the next storm. This subcommittee should support significant investments in the integrity of coastal communities and their ability to anticipate risk, limit impact from extreme weather events, rapidly recover, and adapt to dramatically changing conditions. Every dollar invested in strengthening coastal communities against storm surge mitigates four dollars in losses. **To strengthen America's coastlines, we strongly support allocations of \$20 million for Regional Coastal Resilience Grants and \$10 million for the National Ocean and Coastal Security Fund.** These accounts support multi-state efforts to coordinate data sharing and improve decision making across jurisdictions, implement innovative solutions to shared priorities, and effectively engage ocean and coastal stakeholders.

Support healthy ocean economies and ecosystems

America's oceans, coasts, and Great Lakes provide critical goods and services, including food, minerals, transportation, medicines, storm protection, tourism, and recreational opportunities. Coastal counties, which produce almost half of America's GDP and one in 50 jobs, are directly dependent on the resources of the oceans and the Great Lakes. This subcommittee should ensure that federal agencies have the resources they need to sustainably manage America's ocean resources.

Fishing is a cornerstone of the ocean economy and an important aspect of American history and culture. Our fish stocks must be managed sustainably to ensure that current and future Americans are able to benefit from the bounty of the oceans and Great Lakes. Since 1976, we have seen tremendous progress toward creating and maintaining sustainable fisheries domestically and internationally. Much of this progress can be credited to the commitment of your Subcommittee to sound fishery management and the tireless efforts of U.S. fishermen, regional fishery management councils and multi-state commissions, scientists, and managers. Together, you have made U.S. fisheries management an international benchmark and model for sustainable fisheries practices. **To protect America's fisheries and the jobs that rely on them, we recommend allocating \$1 billion to the National Marine Fisheries Service (NMFS). We also ask that you support initiatives to spread sustainable fishery management globally.**

In addition to NMFS, NOAA's National Ocean Service (NOS) includes a range of programs that support both ocean health and the ocean economy. **We strongly recommend that NOS receive an allocation of \$528 million.** This funding would support critical programs. NOS operates the NOAA PORTS program which provides real time oceanographic data to promote safe and efficient navigation at commercial ports. The program generates \$300 million in benefits by increasing the safety and efficiency of port operations. NOS is also responsible for administering the Office of

National Marine Sanctuaries and a range of restoration projects. It is worth noting these investments pay real economic dividends. Across all national marine sanctuaries, commercial fishing, recreation, tourism, and research generate about \$8 billion annually in local economies. In addition, NOAA's restoration projects created an average of 17 jobs, and as many as 33 jobs, for every \$1 million invested—a much higher rate of job creation than in other sectors.

Additionally, this subcommittee can support healthy oceans and economies by investing in ocean acidification research. **We strongly urge you to allocate \$30 million for the Integrated Ocean Acidification program. The investment in this program is minimal given the potential catastrophic impacts of acidification on the marine environment.** Ocean acidification is evident along every shoreline of the United States and can have major impacts on ocean dependent economies. While impacts on shellfish and coral reefs receive most of the attention related to ocean acidification, fisheries, aquaculture, and coastal ecosystems will all be greatly affected. Funding the Integrated Ocean Acidification program at NOAA at increased levels will allow us to measure and assess the spatial and temporal extent of the emerging threat of ocean acidification, and better understand the complex dynamics causing it.

Close critical gaps in ocean science to spur economic growth

A critical component of America's economic, military, and diplomatic power lies in its ocean science enterprise. In recent years, other countries, including China, have been making significant investments in their ocean science and research capabilities. Meanwhile, the U.S. continues to face a serious shortage of fiscal support for ocean science, research, education, exploration, monitoring, and observation. We strongly urge this subcommittee to protect these critical ocean science and research capabilities.

In particular, we recommend allocating \$8 billion for the NSF, including \$1.398 billion for the Geosciences Directorate and its Division of Ocean Science. NSF's investment in the geosciences has spurred innovations, addressed important national and global challenges, spurred new economic sectors, supported research that produces most of the technical geosciences jobs in American industry, and led to the development and implementation of advanced technologies that save lives, protect property, and support our economy. **In addition, we recommend you allocate \$2.03 billion in funding for the NASA's Earth Science Division.** NASA improves national capabilities to predict climate, weather, and natural hazards and better manage national resources.

An essential element of ocean science is the supporting infrastructure. This includes a variety of platforms including ships, moorings, buoys, gliders, floats and autonomous underwater vehicles, as well as computational and data management hardware. This core infrastructure is the backbone of sustained ocean and coastal observations. In combination with remote sensing, these capabilities are essential to establishing and maintaining the long-term in-situ data sets that are essential to understanding changes in physical, biological processes. The ocean science community is dependent upon the infrastructure provided by NOAA, NSF, and the Navy. It is essential that Congress provide the operational and maintenance support necessary to keep this infrastructure functioning, and to support its modernization. **We ask the subcommittee to recognize and adequately support these programs and activities across federal agencies.**

Specifically, we appreciate the subcommittee's long standing support of ocean exploration at NOAA and recommend allocating \$32 million for the Ocean Exploration program to maintain the

pace, scope, and efficiency of exploration. NOAA's Ocean Exploration program has a long history of bipartisan support. The program has greatly contributed to our knowledge of the ocean. It has produced Arctic surveys that enabled the U.S. to argue for an extension of our own Exclusive Economic Zone; baseline characterization of the Deepwater Horizon site in the Gulf before and after the oil spill; discovery of new gas hydrates stretching from Cape Cod to Cape Hatteras; and new fishery habitat maps off the Northeast.

Support regional priorities

Across the country, we heard about the need for more federal support for regional, state, and local initiatives. NOAA and other federal agencies play a key role in supporting regional and state initiatives, including regional partnerships such as those underway in the Northeast and Mid-Atlantic. Data and information from the Northeast and Mid-Atlantic Data Portals, which were developed through this process, are already providing economic benefits to the regions. We urge you to continue funding initiatives at NOAA, and across federal agencies, that support coastal communities. For example, the National Sea Grant College Program is critical to coastal states and communities. The program, which operates at 33 universities, is a federal-local partnership that has had \$575 million in economic activities, which is a 854 percent return on investment. Cuts to programs like Sea Grant will have a direct and negative impact on local communities, academic institutions, and STEM students across the country.

The Arctic is an environmental bellwether for the rest of the world and is changing faster than anywhere else on Earth. Such rapid change has broad implications for America's economy, environment, and security. Given the strategic importance of the Arctic, the United States must make the region a priority. **We recommend that Congress make a significant investment through the FY 2018 appropriations bill toward implementation of the National Strategy for the Arctic Region.** Increased funding for federal agencies operating in the Arctic, such as NOAA and NSF, is essential to our international leadership in the region and will enable cross-cutting efficiencies with the Coast Guard, the Navy, and the Department of the Interior.

Concluding Remarks

The Joint Initiative greatly appreciates your commitment to stretching scarce resources to address the challenges of the world's greatest maritime nation. We will continue to track progress in advancing key ocean and coastal programs and accounts in FY 2018 and beyond. Thank you for considering our requests as the subcommittee begins its FY 2018 appropriations process. The Joint Initiative appreciates your attention to this matter and stands ready to assist you in advancing positive and lasting changes in the way we manage our nation's oceans and coasts.

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