

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 Moran, 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) 2019 Commerce, Justice, Science, and Related Agencies appropriations bill. We also thank you for the comprehensive funding that you provided to ocean priorities in the FY 2018 Omnibus. We recognize the difficulty of allocating resources in these challenging fiscal times and laud your decision to support key ocean accounts in the Omnibus. We were especially encouraged to see \$30 million appropriated to the National Ocean and Coastal Security Fund.

While we are deeply appreciative of FY 2018 appropriations for ocean priorities, we remain concerned about the Administration's substantial proposed cuts to ocean and coastal programs across the government. If enacted, these cuts would undermine our investments and compromise our ability to promote economic development, safeguard our citizens, and responsibly balance the many uses of our oceans and coasts.

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, protect our national security, grow our economy, and preserve the health of our oceans and coasts. America's oceans and coasts provide fundamental goods and services, including food, minerals, transportation, medicines, tourism, and recreational opportunities. Coastal counties, which produce almost half of America's GDP, are directly dependent on the resources of the oceans and the Great Lakes. Moreover, ocean and coastal environments are often the first line of defense when it comes to protecting American communities from severe weather events and providing natural resources to sustain economies.

Based on the need for significant and sustained investment to invigorate public-private partnerships and energize national, regional, state, and local initiatives, **we strongly support increasing NOAA's overall budget to a minimum of \$6.2 billion, NSF's overall budget to a minimum of \$8.45 billion, and NASA Earth Science's budget to a minimum of \$2.03 billion.** We believe the recommendations articulated in this testimony represent a modest investment relative to the growing needs of oceans and coastal communities, as the benefits they confer significantly outweigh the costs. The Joint Initiative is highly appreciative of the progress your Subcommittee has made in providing resources to essential ocean and coastal accounts, and we urge you to continue supporting these priorities.

Research, Exploration, and Observation

A critical component of America's economic, military, and diplomatic power lies in its ocean science enterprise. In recent years, foreign nations, including China, have made 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 enterprises. This shortage becomes ever more alarming as severe storm and flooding events increasingly threaten our nation. We strongly urge this subcommittee to protect vital ocean science and research capabilities.

We ask that your committee continue to support enhanced capabilities for observation and monitoring by allocating \$520 million to NOAA's Office of Oceanic and Atmospheric Research (OAR) and \$45 million to NOAA's Sustained Ocean Observations and Monitoring Program. The safety and security of our country depends on timely and accurate information delivery. Observation and monitoring programs, as well as other scientific and data programs, are integral to NOAA's ability to accurately forecast weather. They are central for NOAA's protection and management of America's coastal and ocean resources and for the U.S. military's navigation and extreme weather preparedness. Moreover, the National Sea Grant College Program works to better understand, conserve, and utilize America's coastal resources, making it critical to coastal states, communities, and economies. These programs are also crucial for Americans themselves, as they enable communities and businesses to plan for and respond to extreme weather events, including flooding and drought.

In addition, **we recommend allocating \$8.45 billion for the NSF, including at least \$1.4 billion for the Geosciences Directorate and the Office of Polar Programs.** The Geosciences Directorate includes the Division of Ocean Science. NSF's investment in the geosciences has spurred innovations, addressed salient national and global challenges, galvanized new economic sectors, generated countless jobs, and led to the development and implementation of advanced technologies. **We also recommend you allocate \$2.03 billion in funding for NASA's Earth Science Division.** NASA improves national capabilities to predict climate, weather, and natural hazards and better manage national resources.

Finally, we appreciate the subcommittee's long-standing support of ocean exploration at NOAA and **recommend allocating \$40 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, in large part by utilizing essential supporting infrastructure including ships, moorings, buoys, and autonomous underwater vehicles, as well as computational and data management hardware.

It is essential that Congress provide the operational and maintenance support necessary to keep research, monitoring, and exploration infrastructure functioning, and to facilitate its modernization. In combination with remote sensing, ocean observation infrastructure has helped to establish and maintain the long-term in-situ data sets that are essential to safeguarding U.S. assets and understanding changes in physical, chemical, and biological processes. These data sets have generated vital tools including Arctic surveys that enabled the U.S. to argue for an extension of our Exclusive Economic Zone; baseline characterization of the Deepwater Horizon site; discovery of new gas hydrates; and new fishery habitat maps.

Resilience and Security

The 2017 calendar year saw a record number of hurricanes and tropical storms which devastated communities across the country and generated over \$200 billion in damage, helping make it the

costliest year for natural disasters in U.S. history. Unfortunately, changing ocean conditions will likely continue to increase the severity of storms and the frequency of flooding events. Changing weather and charged geopolitical relationships heighten the already serious need for ocean and coastal security. Ocean and coastal communities must be safeguarded and made more resilient.

Congress took a pioneering first step with the FY 2018 Omnibus by authorizing \$30 million for the National Ocean and Coastal Security Fund (NOCSF), doubling what was previously available through the NOAA Regional Coastal Resilience Grants program. The Fund supports work to better understand and utilize the oceans, coasts, and Great Lakes, and ensures the continuation of the ecological, economic, social, security, and recreational services these resources provide. As early as 2004, the Joint Initiative's predecessors, the Pew Oceans Commission and the U.S. Commission on Ocean Policy, called for a fund dedicated to the management and conservation of our marine resources. The NOCSF builds on that important legacy by providing dedicated funding for ocean priorities. **We ask this subcommittee to further support this essential fund by allocating \$40 million to the NOCSF in FY 2019.** A portion of this funding should continue to support critical partnerships that encourage collaboration and data sharing on the regional scale.

NOAA's National Ocean Service (NOS) is also critical for sustained resilience and security. **We strongly recommend that NOS receive an allocation of \$570 million.** In particular, we appreciate the Administration's 27% increase in the FY 2019 Request for the US Integrated Ocean Observing System, which provides new tools and forecasts to improve safety, enhance the economy, and protect our environment. NOS funding supports economy boosting programs that ensure safe and efficient transportation and commerce, preparedness and risk reduction, and stewardship, recreation, and tourism. For example, NOAA PORTS, provides real time oceanographic data to promote safe and efficient navigation at commercial ports, generating \$300 million in benefits. In addition, NOAA's Office of Coastal Management delivers the science and environmental intelligence communities need to address storm preparedness, erosion, development, habitat loss, sea level rise, public access, and threats to water quality. The NOS is also responsible for administering the Office of National Marine Sanctuaries and a range of restoration projects that dramatically enhance the resilience of coastal communities and ocean environments. For example, a section of re-nourished beach at the McFaddin National Wildlife Refuge in Texas withstood relentless pounding in 2017 from Tropical Storm Cindy and Hurricane Harvey, when many nearby locations did not. It is also worth noting that these investments pay serious economic dividends: National Marine Sanctuaries generate approximately \$8 billion annually for local economies and NOAA's restoration projects create an average of 17 jobs for every \$1 million invested.

Every dollar invested in strengthening coastal communities against storm surge mitigates four dollars in losses. We ask the subcommittee to support the NOCSF and the NOS to bolster the nation's economic and environmental resilience and security.

Ocean Acidification

Ocean acidification is evident along every shoreline and is having major impacts on economies worldwide. By changing the chemistry of seawater, ocean acidification endangers shellfish, corals, and other marine life that form calcium shells or skeletons and disrupts marine food webs. In the United States, ocean acidification poses a fundamental risk to our fisheries and aquaculture industries. Left unresolved, ocean acidification will exact a substantial toll on the world's economies

and diminish our capacity to nourish growing populations. **We strongly urge you to allocate a minimum of \$30 million for NOAA's Integrated Ocean Acidification program.** Funding the Integrated Ocean Acidification program at elevated levels will support critical research, monitoring, education, and outreach and will help develop a better understanding of the causes, impacts, and scale of ocean acidification. It will also support programs that identify and implement interventions that address ocean acidification and help protect our Nation's fisheries and aquaculture.

Sustainable Fisheries

Fishing is a cornerstone of the ocean economy and an important aspect of American history and culture. Since 1976, we have seen tremendous progress toward creating and maintaining sustainable fisheries domestically and internationally. Much of this progress can be credited to your Subcommittee's commitment to scientifically-sound fishery management and the tireless efforts of U.S. fishermen, regional fishery management councils, state commissions, scientists, and managers.

However, American fisheries are currently facing unprecedented challenges including changing ocean conditions, impacts from land-based activities, shifts in historic stock distributions, increasingly complex data requirements, and a rapidly growing recreational fishing sector. NOAA Fisheries requires elevated funding to address these numerous challenges. For example, better science and real-time data can improve the quality of management decisions and provide regional management councils with more tools to assess the current status of fish stocks. **To protect America's fisheries and the jobs that rely on them, we recommend allocating \$1 billion to the National Marine Fisheries Service to fully implement the Magnuson-Stevens Fishery Conservation and Management Act.** This should include the ability to improve the coastal infrastructure on which fisheries depend and address threats that changing conditions pose. We also urge you to support initiatives to spread sustainable fishery management globally.

Concluding Remarks

The Joint Initiative greatly appreciates your commitment to stretching scarce resources to address the challenges of our maritime nation. We thank you for the robust funding allotted to ocean priorities in FY 2018 and acknowledge the bold and forward-looking decision to fund the National Ocean and Coastal and Security Fund. We will continue to track progress on key ocean and coastal programs and accounts in FY 2019 and beyond. Thank you for considering our requests as the subcommittee continues the FY 2019 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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