



May 12, 2023

The Honorable Patty Murray
154 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Susan Collins
413 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Kay Granger
2308 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Rosa DeLauro
2413 Rayburn House Office Building
Washington, D.C. 20515

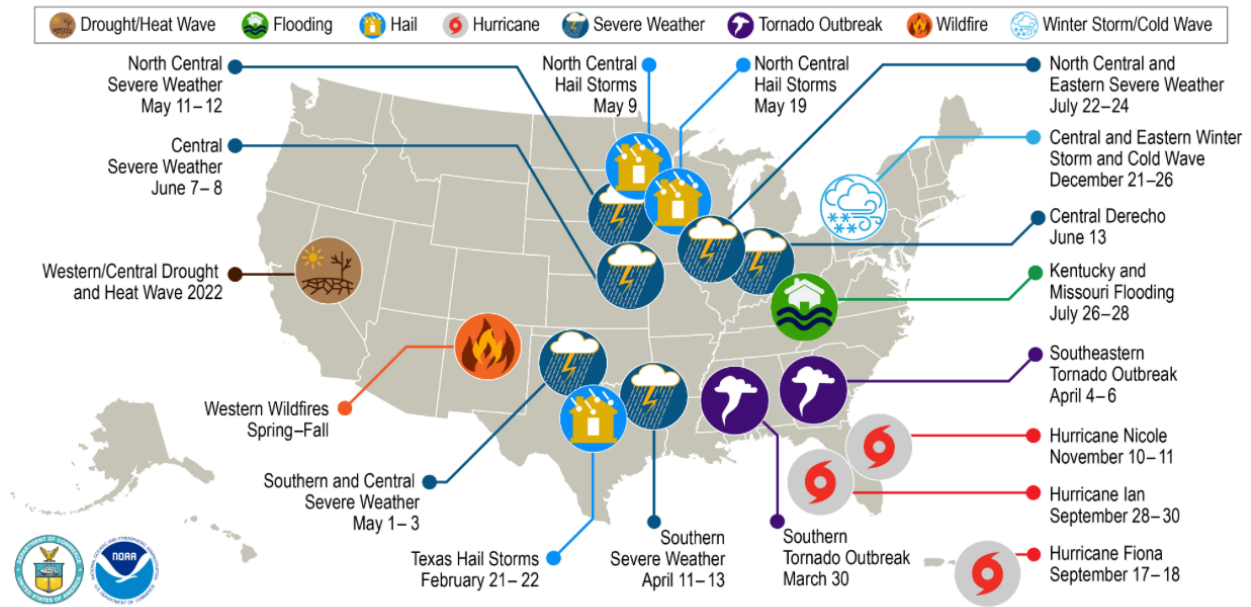
Dear Members of Congress,

We, the undersigned stakeholders of the National Oceanic and Atmospheric Administration (NOAA), representing voices of industry, labor, academia, and the non-profit sector, are encouraged by President Biden's fiscal year (FY) 2024 discretionary funding request for NOAA at \$6.8 billion. While this request continues to recognize the world class scientific, economic, national security, and public health benefits that NOAA provides our nation, **the Friends of NOAA (FoNOAA) maintains that more is needed, and strongly encourages funding the agency at a level of no less than \$7.2 billion in FY 2024.**

Let us be clear, there is no other Agency in the Federal Government more closely connected to the combined economic, scientific, national security, and public health and safety interests of this Nation. NOAA is the front-line agency leading federal and supporting state efforts to address the worsening crisis of severe storms and floods, prolonged droughts, rising sea levels, sustained heat waves, atmospheric rivers, geomagnetic storms, threats to ocean species and ecosystems, and other earth system issues that impact the daily lives of people in this country and around the world.

The services and outreach provided by NOAA offices are critical to citizens and decision-makers' ability to protect life and property and mitigate environmental impacts. They also play an important role in informing strategic investments and improvements needed to reinforce and rebuild an improved and more equitable economy and society still reeling from the COVID-19 pandemic. Robust and predictable science funding for NOAA is critical for our nation's security and for it to remain a world leader in climate, atmospheric and oceanic science, research, and technology. This support will also allow the Agency to continue to build partnerships with industry, which improves the nation's ability to turn science into real-world success, and with community stakeholders, who are critical to locally informed solutions and public education. A well-funded, world-class NOAA is essential to these, and so many more, efforts.

U.S. 2022 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 18 separate billion-dollar weather and climate disasters that impacted the United States in 2022. (2022 U.S. billion-dollar weather and climate disasters in historical context, Adam B. Smith, January 10, 2023 - <https://www.climate.gov/news-features/blogs/2022-us-billion-dollar-weather-and-climate-disasters-historical-context>)

Billions of dollars are spent every year to recover from major weather events whose damage totals in the last fifty years have reached the trillions. In 2022, according to NOAA, 18 separate weather events caused at least 474 direct or indirect fatalities, with damages totaling more than \$160 billion. Over a seven-year period (2016-2022), “122 separate billion-dollar disasters have killed at least 5,000 people and cost [upwards] of \$1 trillion in damage.” *id.*

Weather disasters are becoming more frequent, more dangerous, and costlier to the nation, especially in rural, agricultural, and disadvantaged communities. The figure above captures only the largest scale, billion dollar events. However, all across the country, costs are incurred by communities dealing with smaller-scale, highly-localized weather events that are increasingly frequent and severe. Fort Lauderdale, for example, experienced a highly anomalous 25-inch rainfall in a single day (April 12, 2023) which caused millions of dollars of damage that was very localized. There is an accumulated cost to commerce and our national security by highly-anomalous events. What used to be 100-year storms are occurring more frequently than every 100 years – which is reflective of a changing climate

NOAA demands strong financial support to be able to bolster the research, education, outreach, and risk communication; and on the ground climate resilience implementation necessary to prepare for this new climate reality, mitigate worsening conditions, improve our national and economic security, and build climate resilience.

The following NOAA functional areas highlight just a few of the countless benefits NOAA provides to the nation and its citizens.

World Class Research and Development

NOAA research and observations have led to a better understanding of climate change, mitigation techniques, and adaptation strategies. Continuing this cutting-edge work and leading the cross-agency approach will require vibrant extramural research, observing, outreach, and education components through extramural programs, the Cooperative Institutes, Integrated Ocean Observing System (IOOS), and the Sea Grant Program. Increased funding at the agency will support the expansion of research programs to ensure every region and state is adequately served by the agency's research programs. NOAA must continue the modernization of observation and monitoring operational systems, including its oceanographic fleet of vessels, fleet of aircraft, a suite of in-situ ocean and coastal sensors, and remote capabilities.

NOAA is responsible for monitoring the world's largest Exclusive Economic Zone, including a wide variety of sanctuaries and marine monuments. NOAA is also responsible for ensuring the protection and rehabilitation of more than 160 endangered and threatened marine species. Including key funding for much-needed boosts over baseline funding for protected species is essential to the overall efficiency and functioning of NOAA's ocean protection mission.

Funding for NOAA will also support major advancements in coordinating observational data for future scientific discovery such as more accurate hurricane forecasts, and the Airborne Phased Array Radar, an advanced atmospheric system which will open new research frontiers in Earth Systems Sciences and high-impact weather events. With this support, the Agency can more efficiently transition the most promising research into operations, applications, and commercialization, as well as expand regional research to help manage climate risks and support climate assessment efforts.

Innovative and Cutting-edge Geostationary and Polar Satellite Systems

NOAA satellites provide weather forecasting, storm tracking, and long-term Earth observations that protect lives and infrastructure. Strong support for the agency will allow NOAA to maintain current launch and development schedules in addition to embarking on developing the next generation geostationary satellites, known as GEO-XO, to further enhance the geostationary satellite mission well into the 2030s and beyond. The need for such investments has never been more important to the economy, particularly as the U.S. renews its commitments to address climate change. Robust funding for NOAA also translates into the continuation of exploring all avenues of collecting and disseminating crucial data derived from NOAA's modeling and forecasting of earth systems including weather and climate change. Increased funding will help ensure current launch dates stay on schedule and develop new systems that address the future, long-term, needs of Americans who rely on products and services derived from these critical observations day in and day out. The nation's burgeoning weather and climate demands necessitate increased investments in observing architecture to ensure NOAA is able to fulfill its mission.

Timely and Accurate National Weather Service Forecasts and Warnings

Every day, more and more Americans are coming to terms with our new climate reality -- a reality in which severe weather events are occurring with increasing intensity and greater frequency. The National Weather Service plays an indispensable role in providing essential information to a public ever more reliant on weather data to make decisions about how they protect themselves and their

livelihoods. Robust funding for NWS is required to ensure that progress made towards building a “Climate Ready Nation,” which is an extension of NOAA’s long-standing, and successful, Weather Ready Nation mission.

NWS must continue to build community resilience in the face of growing vulnerability to extreme weather events by increasing warning lead times, strengthening its observations capabilities, improving forecast communication and data access, and expanding decision support infrastructure. NOAA and NWS should continue to enhance and improve reliability for critical dissemination services which provide mission-critical data, including radar, satellite, observations, numerical model outputs and many other types of weather, water, climate, and environmental data. NOAA has implemented Decision Support Services that need to further evolve as communities face worsening weather and climate damage. More specifically, strong support for NOAA will allow the Agency to continue developing the next generation of flooding and drought forecasts.

Continued funding is also required for NOAA to maintain its NEXRAD Weather Radars and Automated Surface Observing Systems, including mesonets, which are essential for severe weather warnings and avoiding data gaps. Critically, the NWS also has an immediate workforce need to fill more than 500 vacant positions. While such investments are needed now, increased funding also allows for the development of new solutions and partnerships that will be needed in an ever-changing global weather community.

Building Resilient Coastal Communities Through Healthy Oceans, Coasts, and Great Lakes

NOAA’s work to understand, protect, and manage oceans and coasts is essential to our economy, ecology, community resilience, public health, and safety. NOAA provides a robust suite of programs and tools to help coastal communities adapt to coastal changes, mitigate impacts of coastal hazards, and build long-term resilience to climate change. NOAA-sustained ocean research and observations, such as the Integrated Ocean Observing System, are integral to understanding coastal climate impacts including sea level rise and related hazards, blue carbon ecosystems, harmful algal blooms, ocean acidification, sustainable fisheries and much more. As coastal communities and economies are increasingly affected, NOAA and its network of extramural partners, including State and Territory Coastal Zone Management Programs, and place-based programs such as the National Marine Sanctuaries and National Estuarine Research Reserve System play a key role in supporting regional, state, and local efforts to address these challenges on the ground. These programs are also working to address elements of environmental justice and the undue burden that climate change has on disadvantaged communities. Additionally, protected ocean, coastal, and estuarine habitats are sentinel sites providing information, tools and community support for changing conditions and adaptation strategies. NOAA, in tandem with on-the-ground partners and stakeholders, are working to ensure coastal communities have robust, accurate, and reliable data, innovative tools, and effective management strategies to inform decision-making and build community resilience to climate change impacts. With increased and consistent funding, NOAA can provide these robust tools and resources to support informed decision-making that is essential to our economy and environment and to ensure public safety, healthy oceans, and resilient coastal communities.

Informed and Productive Management of Fisheries and Protected Species

Sustainable fishing feeds us, connects us to the ocean, and sustains vibrant cultures. The commercial and recreational fishing industry generated \$253 billion in sales impacts and supported 1.7 million jobs

in 2020. Healthy fisheries are vital to both our economy and the environment. The continued success of the American fisheries depends on sustained and abundant fishery resources, which are achieved through strong, science-based management. U.S. fisheries are among the most sustainable in the world, but in 2021, a fifth of fish stocks were overfished. The rebuilding of stocks has also slowed, with only 6 stocks rebuilt in the last five years, compared with 15 stocks in the five years prior (2012-2017). Climate change adds to the already-complex process of ensuring that our fish stocks are healthy fisheries. Our coastal communities and marine wildlife are being drastically affected by warming waters and extreme weather events. The productivity of fisheries globally has declined by an estimated 4% since 1930 because of warming. Funding continues to limit even maintaining the status quo for core conservation and management.

Ensuring that NOAA's mandates under the Magnuson-Stevens Act are fully funded and expanded will be essential to reducing overfishing, increasing the rebuilding of fish stocks, and protecting our ecosystems and species that are currently under threat. Steady funding of related programs are essential to healthy and thriving ocean ecosystems that support coastal economies. Securing sustainable and climate-ready fisheries as part of a broader suite of climate solutions presents a critical opportunity to build climate adaptation directly into our fisheries management processes. Investment in NOAA and NMFS is vital to achieving this goal. In particular, funding the Climate, Ecosystems, and Fisheries Initiative, or CEFI, will enable NMFS to provide fishing communities and other ocean users with the information and tools they need to prepare for and respond to changing oceans.

Additionally, recent decades have brought novel and expanding threats to many protected species, including marine mammals. Direct threats, such as being caught as bycatch or struck by vessels, is causing harm and mortality, including to critically endangered populations like the North Atlantic right whale and Rice's whale. And indirect threats, such as increasing levels of marine contaminants and underwater noise pollution, reduce the resilience of animals, including the iconic Southern Resident orcas, to withstand other stressors. More than one-third of all marine mammals face extinction in the next few decades due to threats from habitat loss, climate change, and other human activities. However, the National Marine Fisheries Service's budget on protected resources has consistently received funding below what is necessary. Marine mammals are keystone species in ocean ecosystems, and are also key drivers of ocean tourism.

Supporting NOAA's Current and Future Workforce

The great work of NOAA's research and management programs can only be realized if investments are made that address the immediate workforce needs of the Agency. As with many agencies and industries, NOAA has faced several long standing vacancies and will need to work quickly to continue rebuilding its premier workforce. Critical programs such as fellowships, internships, and extramural programs like Sea Grant and the Cooperative Institutes engage the next generation of scientists from around the country, helping to expand the Agency's capacity and prepare for the future. With all that NOAA does to keep our national security, public health, and economic interests safe, the work of the Office of Education is often regrettably overlooked.

For example, the José E. Serrano Educational Partnership Programs with Minority Serving Institutions is a NOAA-led STEM education and future workforce program that supports the training and graduation of students and the increased participation of students from traditionally underrepresented minority communities while developing eligible candidates for careers in NOAA or NOAA mission-related enterprises. The program also supports competitive awards for post-secondary education and research

capacity development in atmospheric, oceanic, and environmental sciences and remote sensing at Minority Serving Institutions.

Continuing smart and robust investments in the current and future scientific community must be made to build and maintain a NOAA that authentically reflects a diverse nation, and that is squarely focused on resolving long-standing issues of inequity and exclusion.

A Well-Funded NOAA for A Healthy and Secure Nation

Friends of NOAA urges Congress to support a robust budget for NOAA which serves every corner of the nation by providing information and tools to support industry, advance marine resource stewardship, and address storms, floods, and climate hazards. Our weather, climate, and ocean systems do not work independently of one another, and our understanding of these systems cannot either. From satellites and weather operations, to fisheries and coastal management, every facet of NOAA serves an essential purpose.

Therefore, we—as long-standing partners of NOAA, who support the Agency in meeting its mandates—strongly encourage you to continue to support NOAA, and continue to recognize its role in protecting and supporting our national economy, national security, and public health, by funding the Agency at a level of at least \$7.2 billion in FY2024.

If Friends of NOAA can be of service or provide additional information, please contact Paul Heppner (co-chair), pheppner@gst.com, or Pamitha Weerasinghe (co-chair), pamithaw@gmail.com. Thank you for your consideration of this request.

Sincerely,

Friends of NOAA

a.i. solutions
AccuWeather, Inc.
American Association of Port Authorities
American Geophysical Union
American Institute of Biological Sciences
American Rivers
Association for the Sciences of Limnology and Oceanography
Association of Public and Land-grant Universities
Association of Zoos & Aquariums
Association of National Estuary Programs
Atmospheric and Environmental Research
Ball Aerospace & Technologies Corp.
Blue Climate Solutions
BreezoMeter
Campaign for Environmental Literacy
Campbell Marketing Group
CASE Consultants International

Coastal States Org
Coastal States Organization
Earth Resources Technology, Inc. (ERT)
Earthjustice
Ecological Society of America
Federal Science Partners
Georgia Conservancy
Global Science & Technology, Inc.
Global Science and Technology, Inc.
Hubbs-Seaworld Research Institute
I.M. Systems Group, Inc.
Inland Ocean Coalition
Institute for Global Environmental Strategies
Integrated Systems Solutions, Inc.
International Business Sales and Service Corporation
International Fund for Animal Welfare
International SeaKeepers Society
IOOS Association

ISciences, LLC
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Joint Ocean Commission Initiative
Lamont-Doherty Earth Observatory, Columbia
University Earth Institute
Lewis Burke Associates
Marine Conservation Institute
Marine Fish Conservation Network
Meridian Institute
National Aquarium
National Association of Marine Laboratories
National Estuarine Research Reserve
Association
National Federation of Regional Associations
for Coastal and Ocean Observing
National Marine Sanctuary Foundation
National Ocean Protection Coalition
National Weather Service Employees
Organization
Natural Resources Defense Council
NV5
Ocean Conservancy
Ocean Conservation Research
Oceana
Ogeechee Riverkeeper
Oregon State University
Raytheon
RCG
Reinsurance Association of America

Restore America's Estuaries
Riverside Technology, Inc
Saildrone
School of Ocean and Earth Science and
Technology, University of Hawaii
Scripps Institute of Oceanography
Scripps Institution of Oceanography
Sea Grant Association
Sea Stewards
TAO Consulting
The Mariners' Museum
The Nature Conservancy
The Ocean Foundation
The Ocean Project
The University of Oklahoma
TMA Blue Tech
UC Davis Bodega Marine Laboratory
UCAR
UCLA Institute of the Environment and
Sustainability
UN Foundation
University of Colorado, Boulder
University of Washington
Vaisala, Inc.
Wisconsin Maritime Museum
Woods Hole Oceanographic Institution
Woodwell Climate Research Center
World Wildlife Fund

cc:

The Honorable Chuck Schumer
The Honorable Mitch McConnell
The Honorable Kevin McCarthy
The Honorable Hakeem Jeffries
Senate Commerce, Justice, Science Appropriations Subcommittee
House Commerce, Justice, Science Appropriations Subcommittee
Senate Committee on Commerce, Science, and Transportation
House Committee on Science, Space, and Technology