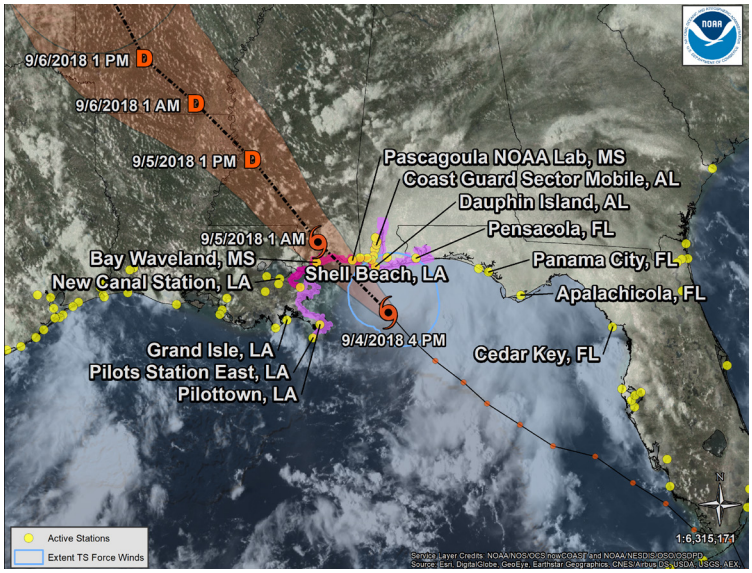
Center for Operational Oceanographic Products and Services
National Oceanic and Atmospheric Administration

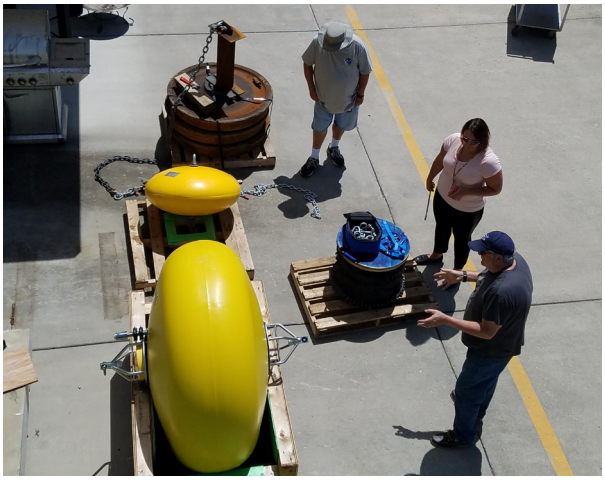
STRATEGIC PLAN | 2019-2023

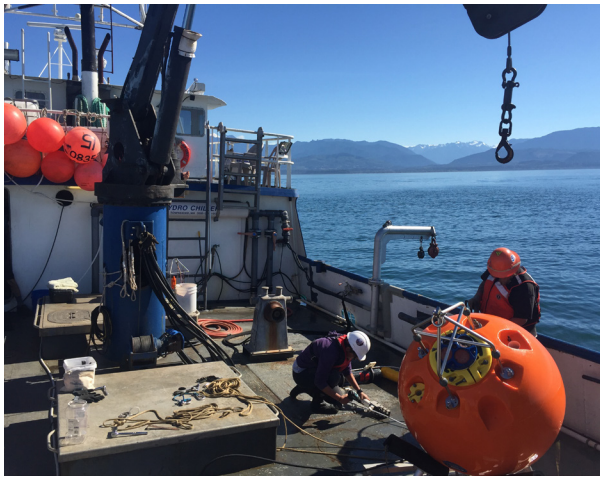
2019-2023

A FIVE-YEAR STRATEGY FOR THE CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES (CO-OPS)

FINAL | NOVEMBER 2018







Richard Edwing, Director, NOAA's Center for Operational Oceanographic Products and Services
Marian Westley, Deputy Director, NOAA's Center for Operational Oceanographic Products and Services

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MESSAGE FROM THE DIRECTOR

I am pleased and excited to introduce our FY19-23 Strategic Plan that will guide our planning and decisions over the next five years. This plan takes a different approach than its predecessors by focusing primarily on those strategic objectives that we, our partners, and our stakeholders have identified as the key areas we most need to advance in the coming years. While we will continue to support the broader range of activities we are responsible for, focusing on the plan's objectives will help ensure we advance the benefits that are most meaningful to our users and our workforce. CO-OPS is an end-to-end operational program that provides a continuous stream of products and services, many of which support daily decisions made in the private and public sector concerning the safety of life and property. It is vital that CO-OPS continues to move forward and keep pace with today's fast changing world. The plan's three goals and underlying objectives focus on providing the best products and services for our users; continually enhancing our ocean observation systems and models; and promoting a high performing workforce. Our new Strategic Plan is complemented by an implementation plan that lays out the activities and milestones to be performed under each objective. The implementation plan guides our annual planning process and execution is tracked through our performance measures, quarterly reviews, and other mechanisms.

Thank you for taking the time to read our plan and we certainly welcome any comments you may wish to share.

Richard Edwing
Director, Center for Operational Oceanographic Products and Services

WHO WE ARE

CO-OPS is the authoritative source for accurate and reliable tides, water levels, currents, and other coastal and oceanographic and meteorological information. We are oceanographers, engineers, field technical experts and information system experts. We work from the water to the Web, turning oceanographic data into meaningful information for the nation. Our services support safe and efficient maritime commerce and transportation, protect public health and safety, and safeguard coastal communities. These responsibilities are mandated by Congress and date back to 1807 as part of the nation's oldest scientific agency.

We maintain an extensive ocean observation infrastructure, including more than 200 long-term water level stations on the U.S. coasts and Great Lakes, an integrated system of real-time sensors concentrated in busy seaports, and temporary meters that collect observations for tidal current prediction updates. Through these systems, we are able to provide the nation with historical and real-time data, prediction, forecasts, and scientific analyses and decision support tools that protect life, the economy and the environment on the coast.

One of our most foundational and essential responsibilities is maintenance of the nation's vertical reference frameworks (tidal and Great Lakes datums) for measuring and communicating tides and water levels along the coasts and Great Lakes. Over the next five years we will embark on major updates to both, the National Tidal Datum Epoch (NTDE) and the International Great Lakes Datum (IGLD). The NTDE is a specific 19-year period used to define Mean Sea Level and other tidal datums such as Mean Lower Low Water and Mean High Water. The NTDE is updated every 20-25 years in order to take into account relative sea level changes caused by global sea level change and vertical land movement. IGLD was established in 1955 as a common datum between the United States and Canada to reference water level heights in the Great Lakes. IGLD is based on a 7-year time frame and is updated every 25-30 years to account for hydrologic changes and vertical land motion. IGLD 1955 was last updated in 1985 and the U.S. and Canada are presently in the process of updating this datum to IGLD 2020 for release in 2025.

To learn more about all we do, visit tidesandcurrents.noaa.gov

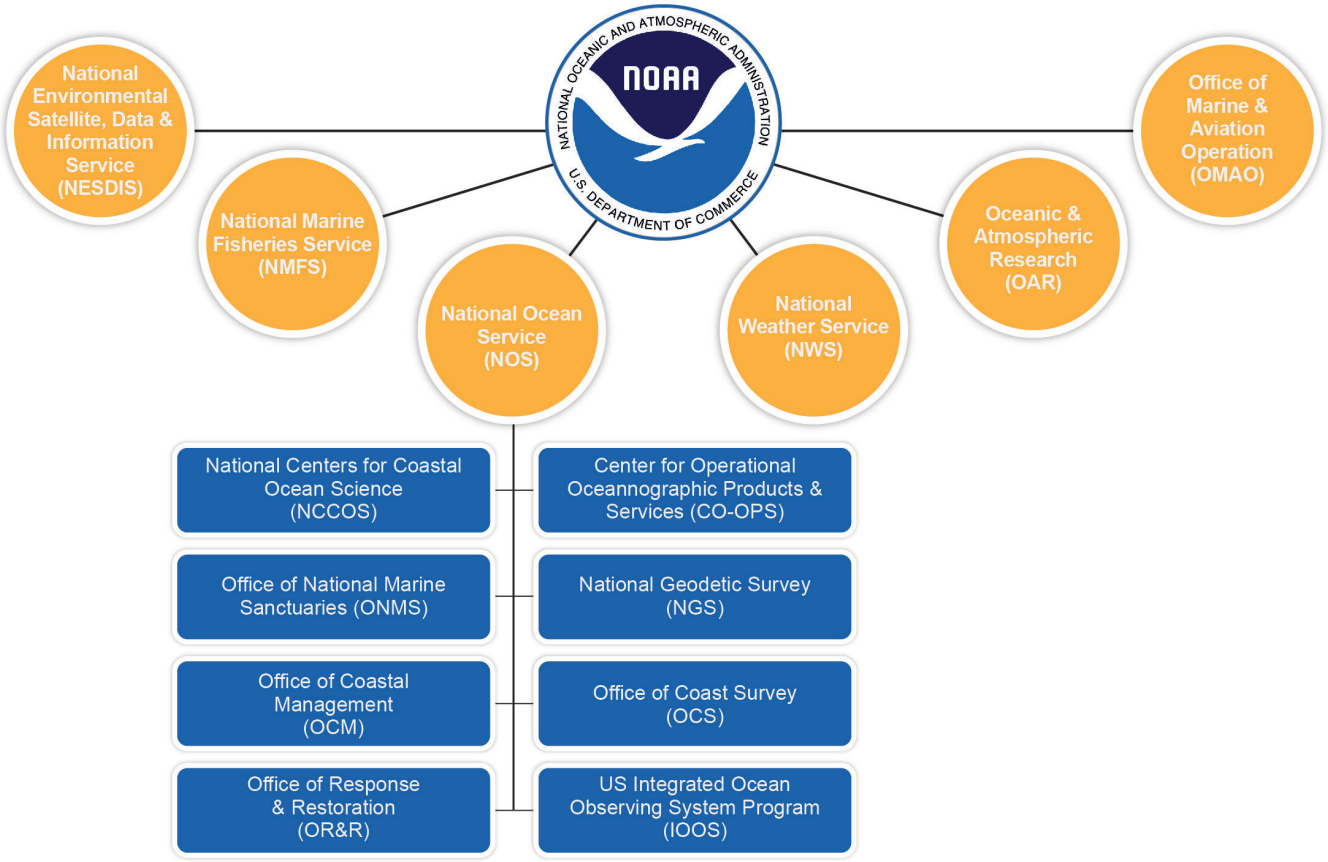
MISSION

Serve as the authoritative source for accurate, reliable, and timely tide, water level and other oceanographic information to support safe and efficient maritime navigation, coastal hazards preparedness and response, and sound ecosystem management.

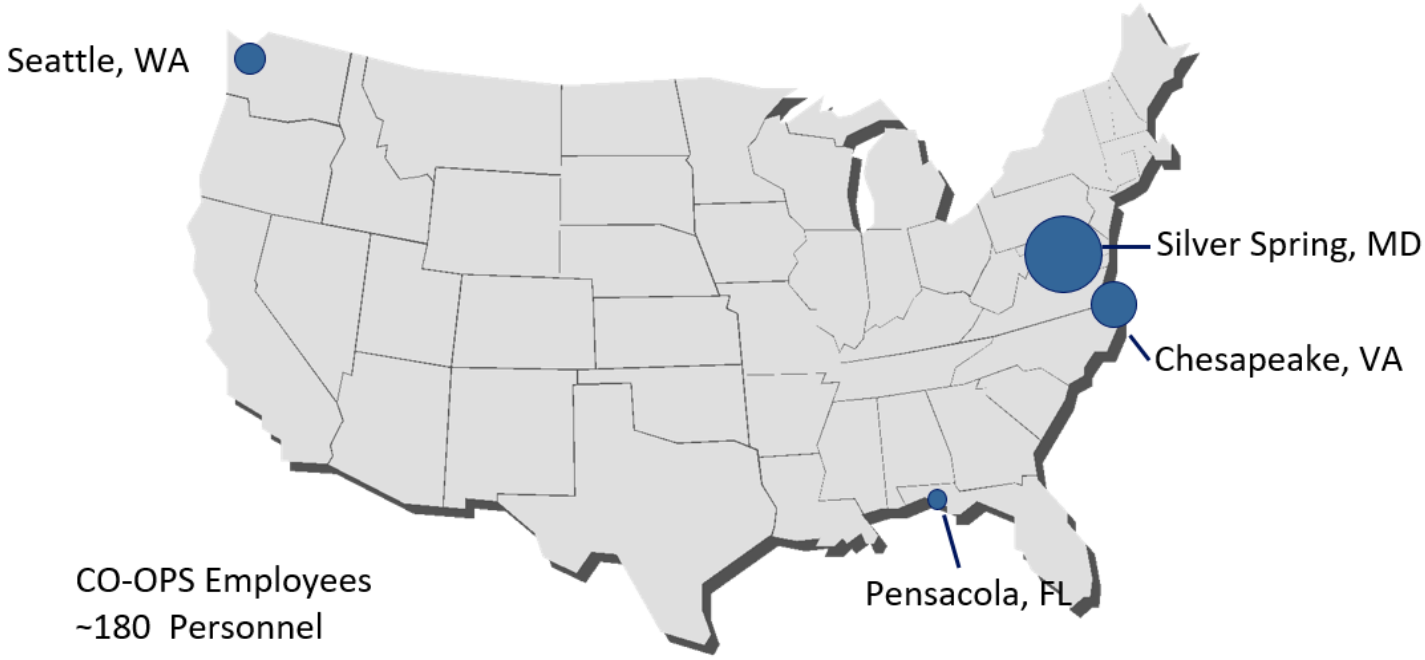
VISION

Supporting the Nation’s economy and safeguarding coastal communities with oceanographic information accessible by anyone, at any time, from any place.

ORGANIZATIONAL CHART



LOCATIONS

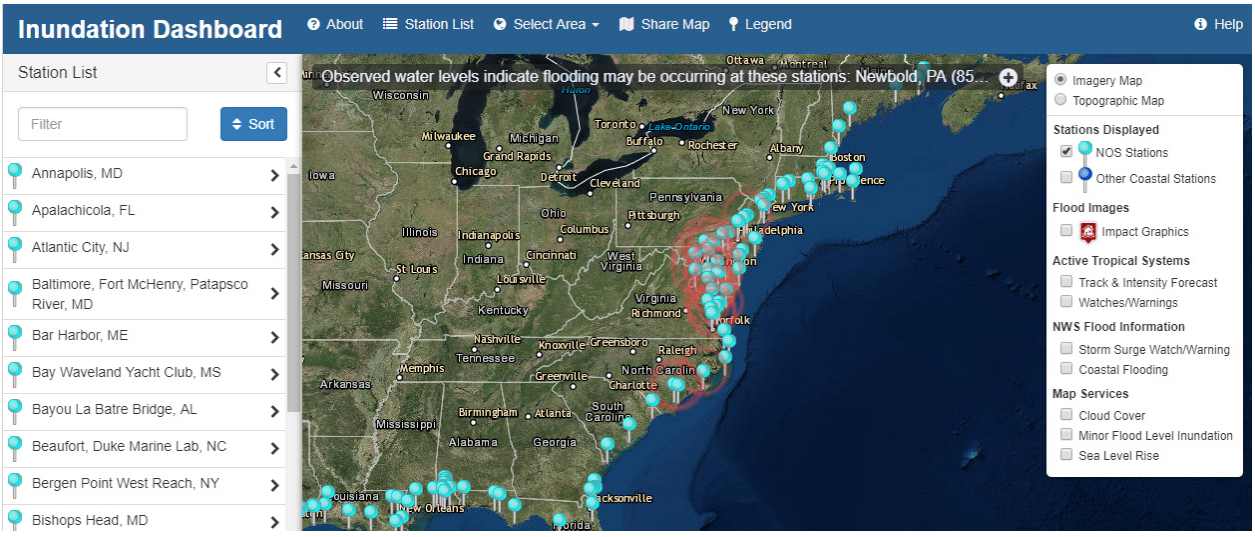


CO-OPS Employees
~180 Personnel
2/3 Federal; 1/3 contract

SUPPORT FOR NOAA PRIORITIES & THE BENEFIT OF PARTNERSHIPS

We have long practiced a cross cutting, multi-mission approach in taking the timely, accurate and reliable data acquired by our observing systems and turning them into meaningful information for the nation. While we strive to provide a suite of products and services that directly supports the needs of the maritime community and coastal and emergency managers, we also make it a priority to work across the agency, helping our NOAA partners fulfill their missions. We provide one-minute water level information to the National Weather Service (NWS) for tsunami warnings, real-time observations and predictions for NWS coastal flood watches and warnings, and water-level information to the National Marine Fisheries Service for habitat restoration. We provide tidal datums to the Office of Coast Survey for charting our marine navigation routes and demarcating our shoreline, and scientific analysis of high-tide flooding and sea-level trends for climate research.

One of our most successful and long-standing partnerships is the Physical Oceanographic Real-Time System, or PORTS®. This public-private partnership program is used as a decision support tool to improve the safety and efficiency of maritime commerce in our Nation's seaports. PORTS® makes and disseminates real-time oceanographic observations that are most needed by maritime



navigators, but these observations also benefit recreational activities, emergency management, and coastal resource management. Local partners identify their specific oceanographic and meteorological sensor needs and then fund the acquisition, installation, and ongoing operation and maintenance of these sensors. NOAA covers program management, data management, quality control, and dissemination, and new sensor technology infusion. In seaports where PORTS® data are available, there has been more than a 40 percent reduction in allisions, collisions, and groundings.

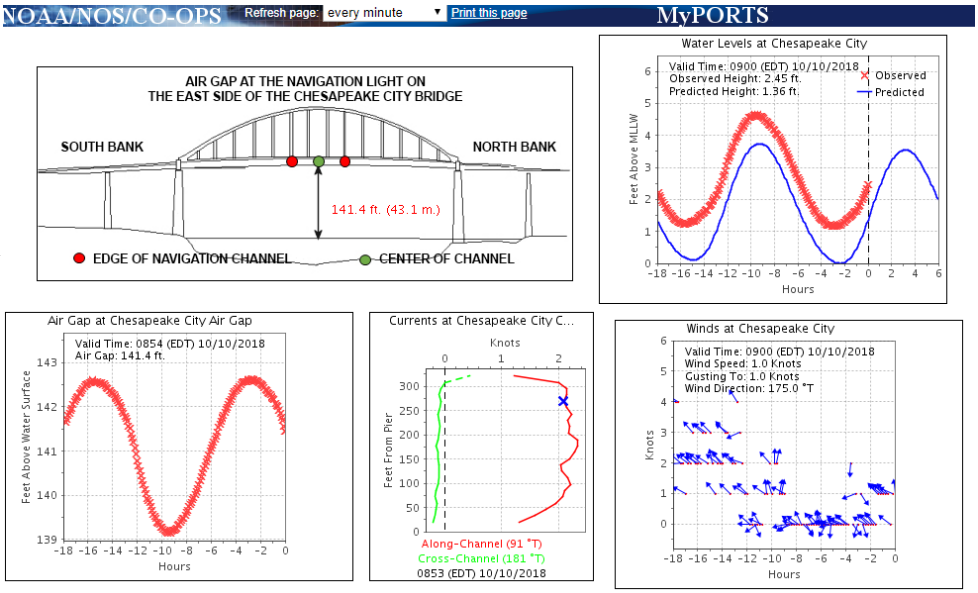
We play a key role in supporting the strategic NOAA priorities of the Blue Economy, to increase the sustainable economic contributions of our ocean resources, as well as the implementation of the Weather and Water Act (PL 115-25), to reduce the impacts of extreme weather and water events in order to save lives and protect property. In particular, we are a key element of the NOS Blue Economy Precision Navigation program that partners at the local level to optimize the ability of large vessels to operate in close proximity to the seafloor, narrow channels, or other hazards. We rely on collaboration with our partners across NOAA, other federal agencies, state and local governments, private industry, IOOS Regional Associations, and academia to leverage unique capabilities throughout the continuum from sustained observations of the coastal environment to end product and service delivery. Partnerships leverage limited resources toward making environmental information available that will protect the safety of life and property.

GOAL ONE

USER DRIVEN PRODUCTS AND SERVICES

Deliver user-driven decision support and oceanographic information to enhance the nation's economy and safeguard coastal communities.

Sustained, high-quality coastal, ocean, and Great Lakes observations are an invaluable public asset. We strive to maximize the value and impact of these observations through the delivery of data services and targeted decision support tools. Over the next five years, we will specifically invest in the next generation of navigation services and coastal inundation products, and will broadly engage respective user communities to design and deliver effective tools through a modern mobile website. We will clearly communicate the utility and value of our product suite. At the same time, we will empower others outside of the federal government to create additional products and decision support tools by increasing the discoverability of our data and providing readily-accessible data services. Facilitating the ability of private industry to create value added products with our data is a force multiplier that also helps create jobs and grow the economy. We will also efficiently maintain and update modern water level vertical reference frameworks for the nation's coastal areas and the Great Lakes region to ensure accurate application of tide and water level observations, as well as informed decision support tools.



Our core products and services can be broadly characterized as the: provision of water level datums that create the vertical reference framework for our Nation's coastal areas and the Great Lakes; longstanding tide and tidal current predictions that inform commercial and recreational communities, real-time coastal ocean observations that support safe and efficient maritime commerce, storm surge and tsunami warnings; near-term hydrodynamic model forecasts of coastal ocean conditions; seasonal tidal flooding outlooks and authoritative long-term relative sea level trends; and harmful algal bloom bulletins for highly-impacted areas of the Nation's coasts.

OVER THE NEXT FIVE FISCAL YEARS CO-OPS PLANS TO:

OBJECTIVE 1.1:
Advance and integrate a full spectrum of inundation products with extended outlook and spatial coverage, including storm surge, high tide flooding, and sea level trends.

OBJECTIVE 1.2:
Improve data discoverability and accessibility to enable greater value and impact through partner applications.

OBJECTIVE 1.3:
Advance the next generation of navigation services with integrated real time data, predictions, and forecast information to facilitate user decision-making.

OBJECTIVE 1.4:
Modernize and streamline the delivery of CO-OPS products and services through the Tides and Currents website based on validated user feedback.

OBJECTIVE 1.5:
Modernize the Nation's foundational reference frameworks leveraging automation, improved tools, and underlying procedures.

OBJECTIVE 1.6:
Sustain a responsive user engagement and feedback process to adjust to evolving needs.

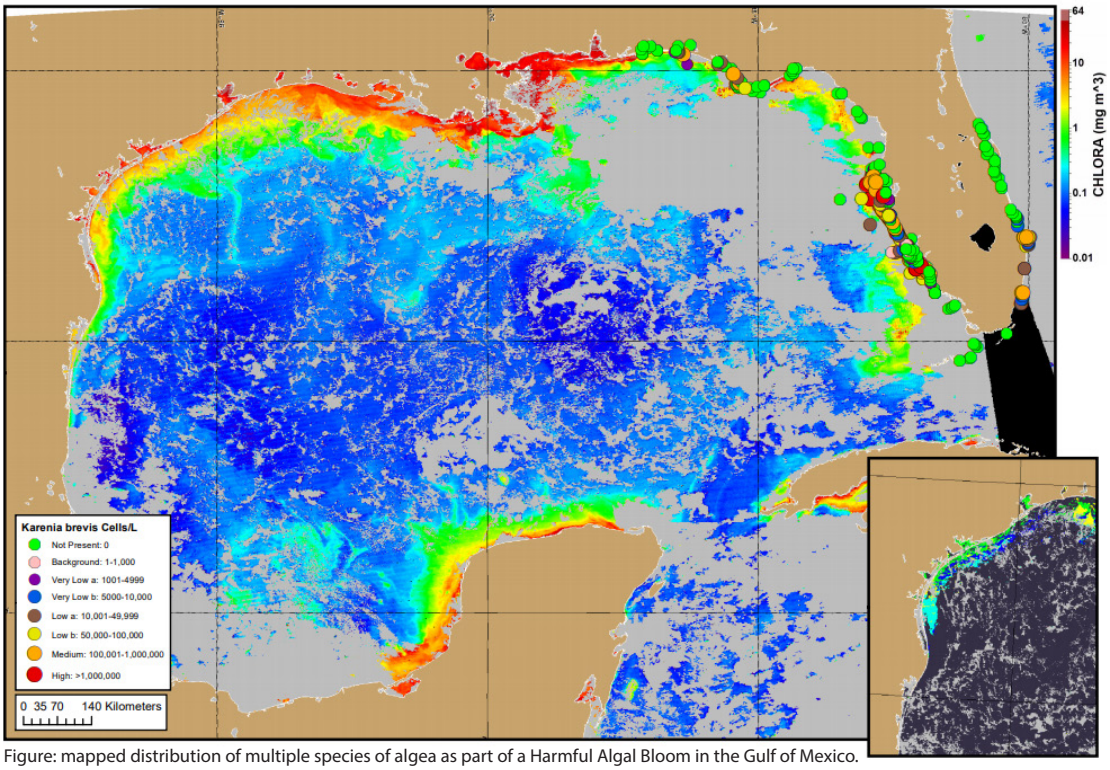


Figure: mapped distribution of multiple species of algea as part of a Harmful Algal Bloom in the Gulf of Mexico.

GOAL TWO

OCEANOGRAPHIC OBSERVING & MODELING SYSTEMS

Increase the reliability, integrity, and sustainability of coastal observations and modeling systems.

Our coastal observations and modeling systems meet rigorous scientific standards and our data are reliable and always available for our stakeholders to access and use with great certainty. Over the next five years we will continue to be a leader in the Federal Government for collecting and analyzing water level data for the benefit of our nation's economy, public safety, and sound ecosystem management. We will also use advanced technology to ensure the sustainability of our coastal and Great Lakes observation infrastructure. In order to provide more coastal coverage for our products, we will grow our coastal observations and modeling programs through partnerships and community based approaches. We will also provide technical expertise and assistance, enabling partners to collect data for their own needs.

CO-OPS maintains three core observation and one modeling system. The National Water Level Observation Network (NWLON) is the foundation of the comprehensive system for observing, communicating, and assessing the impact of changing water levels nationwide. With a network of 210 long-term, continuously operating water level stations throughout the US and its territories, the NWLON is the "go to" source for water level data among the government and commercial sector navigation, recreation, and coastal ecosystem management stakeholders.

The National Current Observation Program (NCOP) collects, analyzes, and distributes observations and predictions of currents. The program's goals are to ensure safe, efficient and environmentally sound maritime commerce, and to support environmental needs such as hazardous material spill response.

PORTS® is a decision support tool that improves the safety and efficiency of maritime commerce. PORTS® measures and disseminates real-time oceanographic observations needed by local mariners, including water levels, currents, salinity, water temperature, meteorological parameters (e.g., wind direction and speed, atmospheric pressure, air temperatures), visibility, and bridge air gap. PORTS® operates as a public-private partnership program where local partners identify their specific oceanographic sensor needs and then fund the acquisition, installation, and ongoing operation and maintenance of these sensors.

CO-OPS also develops and operates a national network of Operational Nowcast and Forecast Hydrodynamic Model Systems (called OFS), through the National Operational Coastal Modeling Program (NOCMP). This program integrates observing system data streams, hydrodynamic model predictions, product dissemination and continuous quality-control monitoring to create coastal condition forecasts of water levels, currents and other oceanographic and meteorological parameters.

OVER THE NEXT FIVE FISCAL YEARS CO-OPS PLANS TO:

OBJECTIVE 2.1:
Implement a data-driven approach to system maintenance resulting in increased sustainability, efficiency, and cost savings.

OBJECTIVE 2.2:
Implement Global Navigation Satellite System (GNSS) technology as a primary vertical control to sustain global leadership in water level observations.

OBJECTIVE 2.3:
Expand and enhance coastal observation coverage in accordance with a five-year modeling plan.

OBJECTIVE 2.4:
Support a NOS unified modeling approach in support of NOAA's diverse missions.

OBJECTIVE 2.5:
Leverage partners to fill critical National Water Level Observation Network (NWLON) gaps.

OBJECTIVE 2.6:
Institutionalize a robust Technical Assistance Program to assist partners with data collection and analysis.

OBJECTIVE 2.7:
Lead coordination and standardization of coastal water level measurement procedures among mission-aligned federal agencies.

GOAL THREE

ORGANIZATIONAL PERFORMANCE

Achieve a diverse, inclusive, and high performing workforce supported by innovative information technology and agile operating practices.

CO-OPS' employees are its most important asset and have a diverse set of competencies. We are oceanographers who plan and implement oceanographic surveys, and conduct in-depth oceanographic analysis and evaluation of incoming data. We are engineers of all disciplines (including civil, electrical, and mechanical) who manage our equipment and design our observing systems to meet challenging conditions. We are field technicians and physical scientists that deploy and maintain our observing systems. We are modelers that test, implement, operate, and maintain hydrodynamic models. We are biologists responsible for forecasting Harmful Algal Blooms (HAB). We are information technology specialists that ensure our cybersecurity, support our websites, and ensure data and products are continually flowing. We are communications and administrative staff that provide the services that underpin our organization.

Over the next five years we commit to enhancing existing staff skills through training, mentoring and recruiting new talent to keep pace with changing technologies. Promoting a diverse and inclusive workforce with unique perspectives and skills will ensure we can tackle complex challenges as a team. We will also seek to adopt a more agile operating posture, leveraging the unique capabilities of our staff and engaging our users throughout the continuum of product development and service delivery.

OVER THE NEXT FIVE FISCAL YEARS CO-OPS PLANS TO:

OBJECTIVE 3.1:
Cultivate a diverse workforce to leverage unique perspectives, backgrounds, experiences, and skills, and enrich CO-OPS' mission impacts.

OBJECTIVE 3.2:
Promote an inclusive culture where every person feels valued for their contributions, connected to our mission, and energized by CO-OPS' beneficial impacts on the nation.

OBJECTIVE 3.3:
Achieve an organizational culture in which members demonstrate accountability, explore innovation, and pursue high performance.

OBJECTIVE 3.4:
Increase organizational tolerance for risk taking to promote continuous learning and innovation.

OBJECTIVE 3.5:
Develop and train our workforce to adapt to evolving mission requirements and provide challenges and opportunities that promote professional growth.

OBJECTIVE 3.6:
Optimize the staffing and organizational structure to align with strategic priorities and ensure mission success.

OBJECTIVE 3.7:
Formalize structured onboarding and exit strategies to ensure knowledge transfer and continuous learning.

OBJECTIVE 3.8:
Modernize IT infrastructure, tools, and technologies, and adopt agile business processes to improve the delivery of our products and services to the nation.

OBJECTIVE 3.9:
Increase automation of work-intensive operational processes to redirect resources toward strategic priorities.

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