



# NOAA's Office of Marine and Aviation Operations

## Providing environmental intelligence for a dynamic world

NOAA's personnel, ships, and aircraft play a critical role in gathering environmental data vital to the nation's economic security, the safety of its citizens, and the understanding, protection, and management of its natural resources. NOAA's fleet of ships and aircraft is managed and operated by the Office of Marine and Aviation Operations (OMAO), an office comprising civilians, mariners, and officers of the NOAA Commissioned Officer Corps, one of the seven uniformed services of the United States. OMAO civilians and NOAA Corps officers operate, manage, and maintain NOAA's active fleet of 16 research and survey ships and nine specialized aircraft. Together, OMAO and the NOAA Corps support nearly all of NOAA's missions.

NOAA's fleet range from large oceanographic ships capable of exploring and charting the world's deepest oceans to smaller vessels responsible for surveying the shallow bays and inlets of the United States. The fleet supports a wide range of marine activities including fisheries surveys, nautical charting, and ocean and climate studies. Based throughout the continental United States, Alaska, and Hawaii, the ships operate in all regions of the nation and around the world.

NOAA's aircraft provide a wide range of airborne capabilities. Our highly specialized Lockheed WP-3D "Hurricane Hunter" aircraft are equipped with a variety of scientific instrumentation, radars, and recording systems for both *in situ* and remote sensing measurements of the atmosphere, the Earth, and its environment. Equipped with both C-band weather radar and X-band tail Doppler radar systems, the WP-3Ds have the unique ability to conduct tropical cyclone research in addition to storm reconnaissance. Together with NOAA's Gulfstream IV-SP hurricane surveillance jet, these aircraft greatly improve our physical understanding of hurricanes and enhance the accuracy of tropical cyclone forecasts. NOAA's light aircraft also play a vital role in monitoring our environment. Our King Air, Commander, and Twin Otter aircraft support marine mammal population studies, shoreline change assessments, oil spill investigations, and water resource/snowpack surveys for spring flood forecasts.

New technology will have a significant role to play in the future NOAA fleet. OMAO, in coordination with other NOAA offices and federal agencies, is evaluating and deploying remotely piloted underwater and aircraft systems that could significantly contribute to environmental observations. To better serve the needs of the nation, NOAA is examining the composition of the fleet through a critical review of at-sea science and observation requirements. Our objective is to develop a clear, cost-efficient path forward to ensure that the NOAA fleet can continue to conduct at-sea surveys and research vital to fisheries management, updating nautical charts, responding to natural and manmade disasters, and understanding coastal and marine systems more fully. Meeting these requirements is essential to developing sustainable, science-based management and conservation plans that protect the health and resiliency of these resources over the long-term.

We continue our efforts to build a civilian and NOAA Corps officer workforce that is uniquely qualified to gather critical environmental intelligence and be adaptive and responsive to a changing world and work to expand our partnerships with other federal agencies. We also continue to strengthen our partnership with the U.S. Coast Guard. Our basic NOAA Corps officer training class is held at the U.S. Coast Guard Academy, where newly commissioned officers train alongside Coast Guard officer candidates, developing skills and professional relationships that will benefit both services, especially during challenging times. Active collaboration among the Federal family is critical to ensuring the long-term capability and success of the federal ocean infrastructure. Our partners' success is our success.



NOAA's Gulfstream IV-SP jet sits on the ramp at NOAA's new Aircraft Operations Center located in Lakeland, FL.



For more information, please visit [OMAO's website](https://www.oma.noaa.gov/)  
(<https://www.oma.noaa.gov/>).

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# Recent Mission Highlights

## NOAA Ships and Aircraft Support Hurricane Forecasts and Response

NOAA flight crews and scientists flew a combined 622.7 hours over the course of 120 sorties for hurricane surveillance, research, reconnaissance, and emergency response in 2017. NOAA's Lockheed WP-3D and Gulfstream IV-SP collected and provided vital data used by NOAA scientists for improved modeling, forecasting, and ensuring accurate forecasts provided to the public. NOAA's Beechcraft King Air 350 rapidly responded to demand from emergency managers, using state-of-the-art equipment to collect over 65,000 aerial images of damaged communities from Houston to the U.S. Virgin Islands and rapidly providing that imagery to first-responders and the public. On short notice, NOAA Ship *Thomas Jefferson* departed Florida for Puerto Rico and the U.S. Virgin Islands to conduct surveys in and around ports. The priority tasking searched for sunken storm debris posing a threat to shipping traffic and a hazard to navigation. These post-storm surveys provided critical information regarding navigational safety for multiple vital ports.

## Building NOAA's 21st Century Fleet

NOAA is in the process of replacing much of its aging fleet of ships that comprise half of the federal government's oceanographic capabilities and provide critical at-sea monitoring and data that keep the public safe and the national economy strong. NOAA is executing a \$140 million investment to recapitalize the NOAA fleet of ships, eight of which are past their predicted operational life, need constant repair, and will be retired in the next 10 years. In FY18, NOAA is working with Navy to begin building the first replacement ship, and construction of a second new general purpose oceanographic research vessel is planned for FY20/FY21. Communities and businesses rely on NOAA data to keep U.S. ports open to commerce, monitor the status of ocean fish stocks, and plan for severe storm events. NOAA ships sail more than 100 missions each year to ensure an uninterrupted collection of at-sea data vital to the U.S. economy for fisheries management and nautical charting. NOAA's ships are a vital national infrastructure critical to fulfilling the Nation's primary mission essential functions and legal mandates.



National Oceanic and Atmospheric Administration

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