



NOAA Fleet Update

December 2017- January 2018

The following update provides the status of NOAA's fleet of ships and aircraft, which play a critical role in the collection of oceanographic, atmospheric, hydrographic, and fisheries data. NOAA's current fleet of 16 ships – the largest civilian research and survey fleet in the world – and nine aircraft, are operated, managed, and maintained by NOAA's Office of Marine and Aviation Operations ([OMAO](#)). OMAO includes civilians, mariners, and officers of the United States NOAA Commissioned Officer Corps ([NOAA Corps](#)), one of the nation's seven Uniformed Services.



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Retirement of Rear Admiral Anita Lopez



Deputy Director, NOAA Commissioned Officer Corps and Deputy Director for Operations Office of Marine and Aviation Operations

Rear Admiral Michael Silah (two star), Director of NOAA's Office of Marine and Aviation Operations and the NOAA Commissioned Officer Corps, has approved Rear Admiral Anita Lopez's (one star) request for retirement on March 1, 2018. Please join us in extending our congratulations and wholehearted appreciation for her 27-year career of service to OMAO, NOAA, and the nation.

As Deputy Director of the NOAA Corps and Deputy Director for Operations, Rear Admiral Lopez has enhanced OMAO by prioritizing the civilians and officers. Her leadership was essential in strengthening our unified Marine Operations, improving efficiencies, standardization, and the fleet's safety. She also facilitated the approval to relocate our Aircraft Operations Center, sustaining operations while retaining our employees. Throughout her career Rear Admiral Lopez has championed diversity and inclusion, most recently leading the implementation of the sexual assault and prevention program at OMAO. This program removes many barriers to better support our people and establishes the NOAA Sexual Assault and Sexual Harassment Helpline.

As a mariner, officer, and senior leader, Rear Admiral Lopez has been integral to the success of OMAO at every level. While we complete the process to select her replacement, Rear Admiral Lopez remains engaged and committed to leading OMAO Operations. NOAA is grateful for her continued dedication and her lasting impacts on OMAO and the NOAA Corps.





100th Anniversary of the NOAA Corps



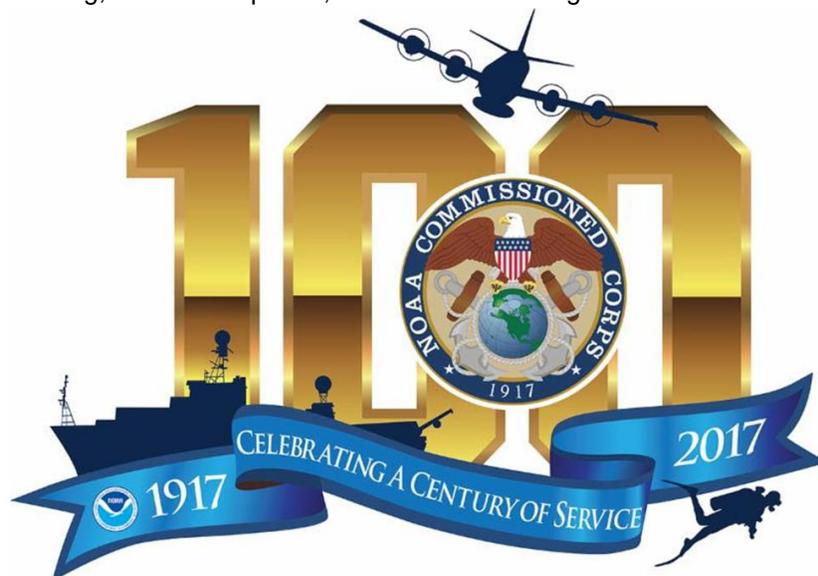
Celebrating a Century of Service on May 22 (1917-2017)

Faced with tough national security and economic challenges and a natural world governed by powerful and mysterious forces that often threatened life, property, and commerce, President Thomas Jefferson signed a bill creating a new federal agency in 1807 that would support the nation's defense, promote the well-being of its citizens, and unlock nature's secrets. The new agency's mission was to chart the nation's coastal waters to ensure that ships could move civilians, troops, and materiel safely.

During the next 150 years, that agency, the Survey of the Coast (later the Coast & Geodetic Survey or C&GS), would prove itself in war as well as in peacetime. With America's entry into the World War I, a commissioned service of the C&GS was formed in 1917 to ensure the rapid assimilation of C&GS technical skills for defense purposes. During World War II, officers and civilians of the C&GS produced nautical and aeronautical charts, provided critical geospatial information to artillery units, and conducted reconnaissance surveys.

Today, the work of the C&GS—and more—is conducted by the National Oceanic and Atmospheric Administration (NOAA) and the NOAA Commissioned Officer Corps—one of the seven uniformed services of the United States. The direct descendants of the C&GS, NOAA and the NOAA Corps work every day to keep the nation secure and productive by providing products and services that support maritime domain awareness; help ensure safe passage of commercial and military traffic on our nation's waterways; warn mariners, aviators, and the public of severe weather; aid search and rescue efforts; and conserve and protect our natural resources.

Continuing in the tradition of their C&GS predecessors, NOAA Corps officers continue to play a vital role in the acquisition and analysis of environmental data that aid NOAA and other agencies in meeting the national security, economic, and environmental challenges of the 21st century. NOAA Corps officers command ships that scan the seafloor for potential hazards to shipping, monitor oceanographic and atmospheric conditions, and study ocean resources. They also operate highly specialized aircraft that collect environmental and geographic data necessary for weather and flood prediction, nautical and aeronautical charting, disaster response, and resource management.





Basic Officer Training Class (BOTC)



130

Congratulations to BOTC 130 and their Coast Guard colleagues! The classes graduated on Tuesday, November 21, after seventeen weeks of hard work.

Please help us in recognizing the following award recipients:

Distinguished Honor Graduate: ENS Brian S. Caldwell
Professional Mariner Award: ENS Brian S. Caldwell
Academic Award: ENS Kevin A. Tennyson
Health and Physical Readiness Award: ENS Hayley A. Betker
Leadership in Writing Award: ENS Nicolas S. DeProspero

Bravo Zulu to these individuals for demonstrating excellence throughout BOTC!

The students completed their Bridge Resource Management training and headed to their assignments on December 1 (see below). They are eager to join their ships and aircraft and put their professional training to use.



Officer Candidates participate in a review prior to graduation.

[Photo: U.S. Coast Guard Academy]



BOTC 130 Graduates



Please join us in welcoming our newest officers to the NOAA Corps. The list below includes their name, home state, and first assignment ship/Center and location.

- Ensign Alexandria E. Andonian from Brighton, Michigan - will be assigned to the [NOAA Ship Oscar Dyson](#), homeported in Kodiak, Alaska
- Ensign Nicholas J. Azzopardi from Clarkston, Michigan - will be assigned to the [NOAA Ship Rainier](#), homeported in Newport, Oregon
- Ensign Hayley A. Betker from Charlevoix, Michigan - will be assigned to the [NOAA Ship Hi'ialakai](#), homeported in Honolulu, Hawaii
- Ensign Brian S. Caldwell from Long Beach, California - will be assigned to the [NOAA Ship Okeanos Explorer](#), homeported in Davisville, Rhode Island
- Ensign Alexander W. Creed from Keyport, New Jersey - will be assigned to the [NOAA Ship Pisces](#), homeported in Pascagoula, Mississippi
- Ensign Nicolas S. DeProspero from Savannah, Georgia - will be assigned to the [NOAA Ship Nancy Foster](#), homeported in Charleston, South Carolina
- Ensign Emma M. Ethier from Norton, Massachusetts- will be assigned to the [NOAA Ship Henry B. Bigelow](#), homeported in Newport, Rhode Island
- Ensign James C. Freed from Santa Rosa, California - will be assigned to the [NOAA Ship Bell M. Shimada](#), homeported in Newport, Oregon
- Ensign Eric C. Fritzsche from Urbana, Illinois - will be assigned to the [Aircraft Operations Center](#) for Initial Flight Training, located in Lakeland, Florida
- Ensign Andrew J. Fullerton from Seminole, Florida - will be assigned to the [NOAA Ship Oregon II](#), homeported in Pascagoula, Mississippi
- Ensign Daniel E. Jessurun from Aguadilla, Puerto Rico - will be assigned to the [NOAA Ship Oscar Elton Sette](#), homeported in Honolulu, Hawaii
- Ensign Taylor A. Krabel from Reno, Nevada - will be assigned to the [NOAA Ship Thomas Jefferson](#), homeported in Norfolk, Virginia
- Ensign Airlie G. Pickett from Wilmington, North Carolina - will be assigned to the [NOAA Ship Rainier](#), homeported in Newport, Oregon
- Ensign Patrick E. Pope from Anchorage, Alaska - will be assigned to the [NOAA Ship Rueben Lasker](#), homeported in San Diego, California
- Ensign Lyle L. Robbins from Ellicott City, Maryland - will be assigned to the [NOAA Ship Rainier](#), homeported in Newport, Oregon
- Ensign Kevin A. Tennyson from Ellicott City, Maryland - will be assigned to the [NOAA Ship Fairweather](#), homeported in Ketchikan, Alaska
- Ensign Jackson Vanfleet-Brown from San Francisco, California - will be assigned to the [NOAA Ship Fairweather](#), homeported in Ketchikan, Alaska



FY 2018 Ship Fleet Budget Request



The President's Budget Request for NOAA includes \$75 million in FY 2018 as part of an ongoing multi-year NOAA ship fleet recapitalization initiative. Since 2007, the NOAA fleet has declined from 19 ships to the current fleet of 16 ships. Without recapitalization, the fleet will decrease to eight ships by 2028. In FY 2018, funding will support construction of a second NOAA vessel (N/V) Class A. This vessel will be a variant of the Navy's existing Auxiliary General Oceanographic Research (AGOR) vessel, serving a primary mission of oceanographic monitoring, research, and modeling. NOAA will also continue planning for additional ships. New ship construction consists of four acquisition phases: requirements analysis, concept design, preliminary design, and detailed design and construction. Efforts will be made throughout the process to leverage design aspects of previous ship classes and to create standardization across the fleet to meet multiple core mission requirements.

We thank Congress for the fleet recapitalization support received in FY 16 (\$80 million) and FY17 (\$75 million) and on November 1, 2017, NOAA obligated \$141.2M to the Navy for the first NOAA AGOR Variant vessel.

Fleet Recapitalization Resources

[OMAO Fleet Recapitalization - Building NOAA's 21st Century Fleet](#) [March 2017 - PDF 2.1 MB]

[OMAO Fleet Recapitalization Questions and Answers \(Q&As\)](#) - [PDF]

[NOAA Fleet Independent Review Team Final Report](#)

[The NOAA Fleet Plan: Building NOAA's 21st Century Fleet](#) [PDF 7.5 MB]

NOAA Budget Request Resources

[FY 2018 NOAA Congressional Justification](#)

[FY 2018 Bluebook](#)

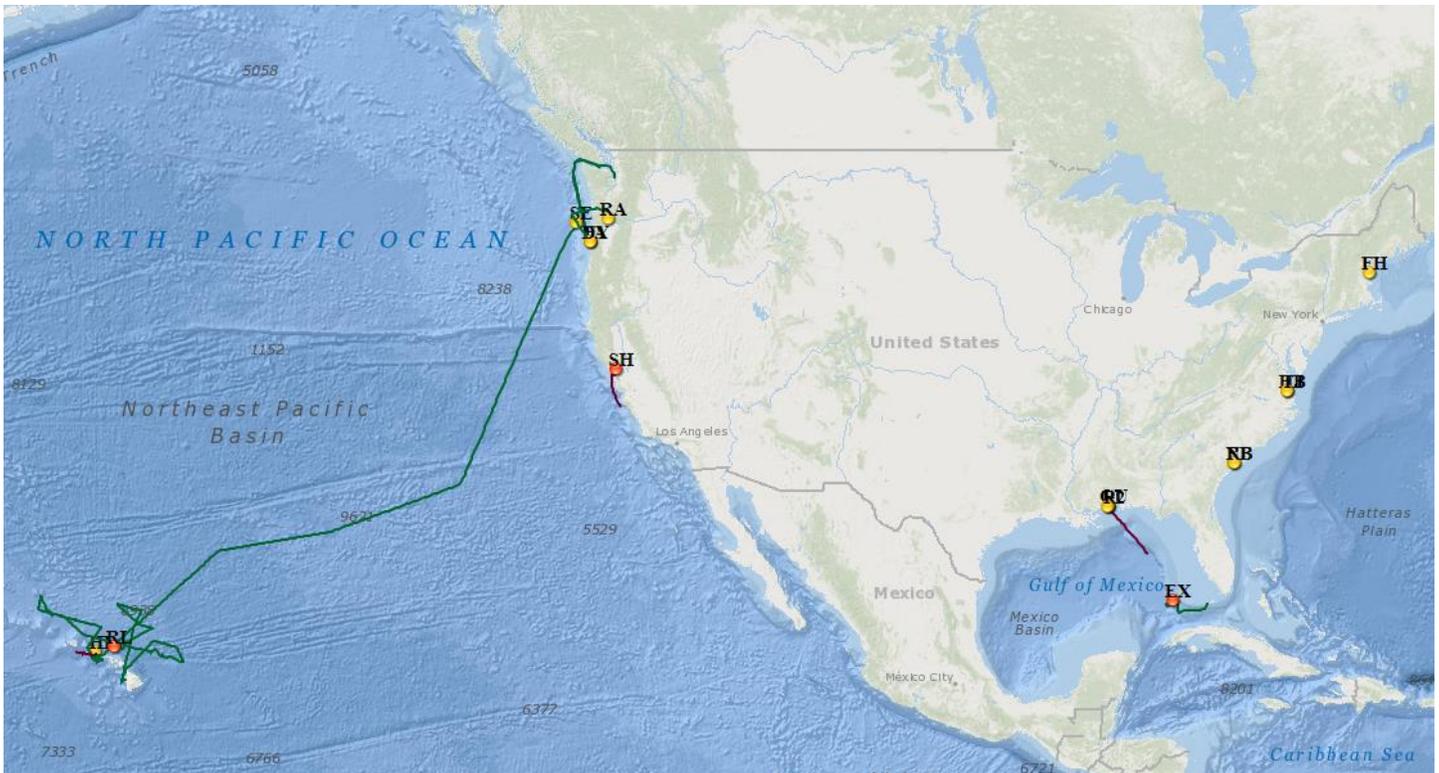


OMAO's Ships and Centers



OMAO's [Ship Tracker](#) (screen shot below) shows information about the location - present and past - of our fleet of research and survey ships. Please note: To access Ship Tracker you must create an account with a **.gov** or **.mil** email address. All other access is restricted.

OMAO's ships and related Marine Centers are listed below based on the geographical location of the vessels' homeports starting in the Northeast and ending in the Pacific.



New Castle, NH

NOAA Ship *Ferdinand R. Hassler*

Commanding Officer: LCDR Matthew Jaskoski

Primary Mission Category: Hydrographic Surveys

Ship Status: Ship will undergo annual fleet inspection and a scheduled dockside maintenance period in New Castle, New Hampshire through the month of December, with planned start to a survey of the approaches to Chesapeake Bay in January.

Newport, RI

NOAA Ship *Henry B. Bigelow*

Commanding Officer: CDR Jeff Taylor
Primary Mission Category: Fisheries Research
Temporary Location: Norfolk, Virginia

Ship Status: Ship is in Norfolk, Virginia, undergoing emergency repairs to the main propulsion system.

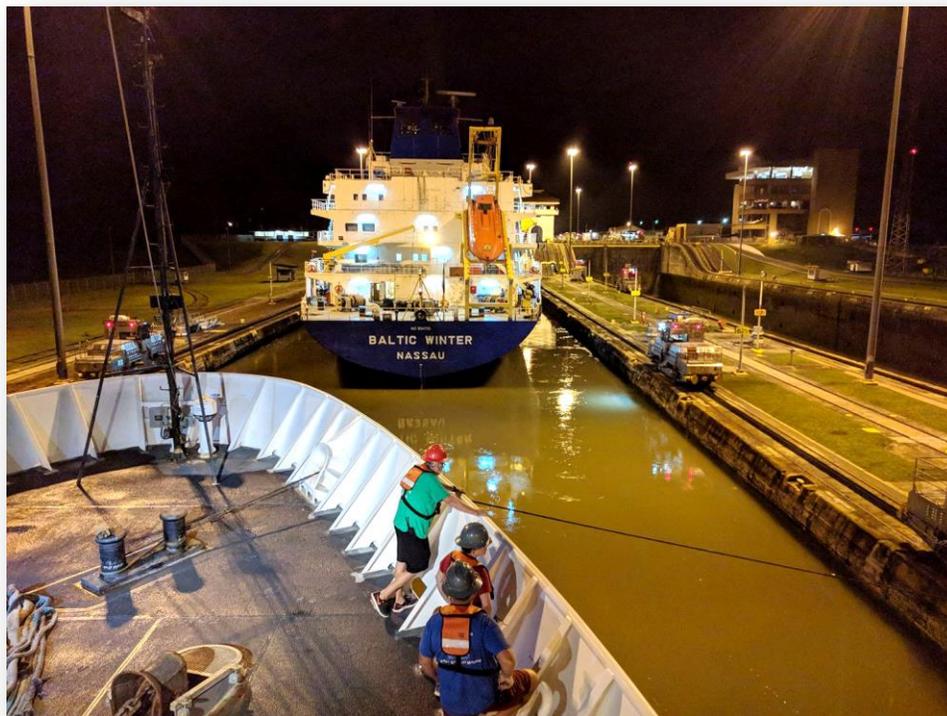
- Repairs required dry docking of the ship, removing the motor through the side of the hull, and shipping the motor to a repair facility in Ohio. Motor components are custom-made due to acoustic quieting requirements.
- As a precautionary measure based on the failure of the primary propulsion motor, the second propulsion motor was inspected, showing similar signs of fatigue. The decision was made to remove and repair the second motor to mitigate potential impacts to future operations, shifting the estimated time of repair completion to **February**.

Davisville, RI

NOAA Ship *Okeanos Explorer*

Commanding Officer: CDR Eric Johnson
Primary Mission Category: Oceanographic Exploration and Research
Depart: Key West, Florida
Arrive: Pascagoula, Mississippi
Project: Gulf of Mexico Mapping

Objectives: The ship will collect high resolution mapping data from sonars in priority areas, including the Seaflower Marine Protected Area in Columbian waters, the Caribbean, and the Gulf of Mexico. The data and information collected during this expedition gives resource managers, the academic community, and the private sector the information they need to identify, understand, and manage ocean resources.



NOAA Ship *Okeanos Explorer* transits through the Miraflores Locks in the Panama Canal in route to the Gulf of Mexico, following over two and a half years of operations in the Pacific.

[Photo: NOAA]

Norfolk, VA

NOAA Ship *Thomas Jefferson*

Commanding Officer: CDR Christiaan van Westendorp

Primary Mission Category: Hydrographic Surveys

Ship Status: Ship will undergo annual fleet inspection and a scheduled dockside maintenance period in Norfolk, Virginia until March 2018.

OMAO'S MARINE OPERATIONS CENTER – ATLANTIC (MOC-A)

CDR Stephanie Koes, Commanding Officer MOC-A

MOC-A serves as a homeport for one NOAA ship. Its personnel provide administrative and logistical support, and manage the day-to-day operations, for the research and survey ships in NOAA's Atlantic fleet. Each year, these ships conduct dozens of missions to assess fish and marine mammal stocks, conduct coral reef research, collect seafloor data to update nautical charts, and explore the ocean.

Charleston, SC

NOAA Ship *Nancy Foster*

Commanding Officer: Master Donn Pratt

Primary Mission Category: Oceanographic Research, Environmental Assessment

Ship Status: Ship will be in a scheduled dockside maintenance period in Charleston, South Carolina until January, followed by a drydock repair period through March 2018.

NOAA Ship *Ronald H. Brown*

Commanding Officer: CAPT Kurt Zegowitz

Primary Mission Category: Oceanographic Research, Environmental Assessment

Ship Status: Ship will be in an unscheduled repair period in Charleston, South Carolina until February for repairs to the ship's propulsion motor. NOAA will complete its assessment of impacts to oceanographic and meteorological research missions planned aboard the ship for November through February. Based on the results, NOAA will develop a strategy to mitigate those impacts and expects to have more details available by the next update.

Pascagoula, MS

NOAA Ship *Pisces*

Commanding Officer: CDR Nicholas Chrobak

Primary Mission Category: Fisheries Research

Ship Status: Ship will be in a scheduled dockside maintenance period in Pascagoula, Mississippi until March 2018.

NOAA Ship *Oregon II*

Commanding Officer: Master Dave Nelson

Primary Mission Category: Fisheries Research

Ship Status: Ship will be in a scheduled dockside maintenance period in Pascagoula, Mississippi until March 2018.

NOAA Ship *Gordon Gunter*

Commanding Officer: CDR Lindsay Kurelja

Primary Mission Category: Fisheries Research

Ship Status: Ship will undergo annual fleet inspection and a scheduled dockside maintenance period in Pascagoula, Mississippi until January, with a planned Gulf of Mexico marine mammal survey to begin in January.

San Diego, CA

NOAA Ship *Reuben Lasker*

Commanding Officer: CDR Kurt Dreflak

Primary Mission Category: Fisheries Research

Ship Status: Ship will undergo annual fleet inspection and scheduled dockside maintenance period in San Diego, California until January, with a planned start of the annual winter California Cooperative Oceanic Fisheries Investigations (CalCOFI) survey in January.

Newport, OR

NOAA Ship *Rainier*

Commanding Officer: CDR Ben Evans

Primary Mission Category: Hydrographic Surveys

Temporary Location: Portland, Oregon

Ship Status: Ship will be in a scheduled drydock maintenance period in Portland, Oregon until February 2018.



NOAA Ship *Rainier* departs Yaquina Bay, Newport, Oregon en route to Portland, Oregon for drydock maintenance period.

[Photo: Able Seaman Briggs/NOAA]

NOAA Ship *Bell M. Shimada*

Commanding Officer: CDR Paul Kunicki

Primary Mission Category: Fisheries Research

Temporary Location: Vallejo, California

Ship Status: Ship will be in a scheduled drydock maintenance period in Vallejo, California until February 2018.

OMAO'S MARINE OPERATIONS - NATIONAL SUPPORT

CAPT Todd Bridgeman, Director of Marine Operations

Mr. Troy Frost, Deputy Director of Marine Operations

OMAO's Marine Operations oversees the operations of OMAO's ships and the three regional Centers, including the Marine Operations Center-Pacific, Marine Operations Center-Atlantic, and Marine Operations Center-Pacific Islands. Employees of Marine Operations are stationed nationwide to provide strategic, administrative, engineering, maintenance, electronic, budgetary, and personnel support to the OMAO fleet. Each year these ships conduct dozens of missions to assess fish and marine mammal stocks, conduct coral reef research, collect seafloor data to update nautical charts, and explore the ocean.

OMAO'S MARINE OPERATIONS CENTER – PACIFIC (MOC-P)

CAPT Keith Roberts, Commanding Officer MOC-P

MOC-P serves as a homeport for two NOAA ships. Its personnel provide administrative and logistical support, and manage the day-to-day operations, for the research and survey ships in NOAA's Pacific fleet. Each year, these ships conduct dozens of missions to assess fish and marine mammal stocks, conduct coral reef research, collect seafloor data to update nautical charts, and explore the ocean. MOC-P also serves as the home of OMAO's Marine Operations.



NOAA Ships (left to right) *Oscar Dyson*, *Fairweather*, and *Rainier* alongside at MOC-P.

[Photo: LTJG Wang/NOAA]

Ketchikan, AK

NOAA Ship *Fairweather*

Commanding Officer: CDR Mark Van Waes

Primary Mission Category: Hydrographic Surveys

Temporary Location: Newport, Oregon

Ship Status: Ship will undergo annual fleet inspection and scheduled dockside maintenance period in Newport, Oregon until February 2018.

Kodiak, AK

NOAA Ship Oscar Dyson

Commanding Officer: CDR Michael Levine

Primary Mission Category: Fisheries Research

Temporary Location: Newport, Oregon

Ship Status: The ship will undergo annual fleet inspection and scheduled dockside maintenance period until January of 2018.



NOAA Ship Oscar Dyson approaches the pier at MOC-P.

[Photo: LTJG Wang/NOAA]

Honolulu, HI

NOAA Ship Hi'ialakai

Commanding Officer: CDR Colin Little

Primary Mission Category: Oceanographic Research, Environmental Assessment

Ship Status: The ship will undergo annual fleet inspection and scheduled dockside maintenance period until February 2018.

NOAA Ship Oscar Elton Sette

Commanding Officer: CDR Donald Beaucage

Primary Mission Category: Fisheries Research

Temporary Location: Portland, Oregon

Ship Status: The ship will undergo annual fleet inspection and scheduled drydock maintenance period until March 2018.

OMAO'S MARINE OPERATIONS CENTER – PACIFIC ISLANDS (MOC-PI)

CAPT Robert Kamphaus, Commanding Officer MOC-PI

MOC-PI serves as a homeport for two NOAA ships. Its personnel provide administrative and logistical support, and manage the day-to-day operations, for the ships in NOAA's Pacific Islands fleet and for ships operating in the Western Pacific. Each year, these ships conduct dozens of missions to assess fish and marine mammal stocks, conduct coral reef research, collect seafloor data to update nautical charts, and explore the ocean.



OMAO's Aircraft



Lakeland, FL

Unmanned Aircraft Systems (UAS)

NOAA's Aircraft Operations Center (AOC) UAS Section provides policy input, oversight, and guidance for all of NOAA's UAS operations. The UAS Section of AOC is staffed by a team of aviation professionals who specialize in operational UAS implementation. The UAS Section tracks all small UAS (sUAS) operations for NOAA to include aircraft hours, types, pilot qualifications, and pilot training. The UAS Section also coordinates airspace approvals for operations within the U.S. National Airspace System, special use airspace, and foreign airspace. AOC conducts a thorough review of all projects by applying established risk management procedures to sUAS missions, including an airworthiness review of all aircraft. This support is provided to NOAA Line Offices and partners to further develop and refine the use of sUAS for NOAA's research and data collection.



UAS Flight Approval

The [NOAA Unmanned Aircraft Systems Handbook](#) provides guidance to NOAA users of UAS and a framework for the safe and efficient operation of UAS operated or sponsored by NOAA. The handbook supplements [NAO 216-104A: Management and Utilization of Aircraft](#) and the [AOC Unmanned Aircraft Systems Operations Policy](#). NOAA researchers or field offices wanting to utilize a sUAS should contact AOC at aoc.uas@noaa.gov (link sends e-mail). Learn more about NOAA UAS privacy at: <https://www.oma.noaa.gov/learn/aircraft-operations/about/noaa-unmanned-aircraft-systems-privacy>.

WP-3D (N42RF) – “Hurricane Hunter”

Current Mission: Scheduled Maintenance
After a busy hurricane season, N42RF will be in scheduled maintenance through December.

WP-3D (N43RF) – “Hurricane Hunter”

Temporary Base: Jacksonville, Florida
Current Mission: Scheduled Maintenance
The aircraft was inducted into re-winging in March. No additional projects are planned on this airframe until re-wing is complete in fall 2018.

Gulfstream IV (N49RF) – “Hurricane Hunter”

Current Mission: Scheduled Maintenance
After a busy hurricane season, N49RF will be in scheduled maintenance through December.

Jet Prop Commander (N45RF)

Temporary Base: Various Locations
Current Mission: Soil Moisture/Snow Survey
NOAA's Jet Prop Commander aircraft will continue supporting the snow survey mission, using specialized detection equipment to make accurate, real-time measurements of snow water content across the country. This information is critical for managers and others to make optimal decisions supporting river, flood, and water supply forecasting, agriculture and forest management, recreation and winter tourism, and the commerce, industry, and transportation sectors of the Nation's economy.

Twin Otter (N46RF)

Temporary Base: Various Locations

Current Missions: Coastal Mapping

This aircraft will conduct Topographic Bathymetric Lidar (light detection and ranging) and photogrammetry surveys in the coastal zone used to produce the most up-to-date and accurate marine navigation charts, FEMA flood plain and inundation maps, and other Integrated Ocean and Coastal Mapping (IOCM) applications. Data gathered will help ensure safe and efficient marine transportation and benefit coastal communities with accurate resource management and aid emergency response efforts.

Twin Otter (N48RF)

Temporary Base: Various Locations

Current Mission: Northeast Atlantic Marine Assessment Program for Protected Species

N48RF is supporting the Northeast Atlantic Marine Assessment Program for Protected Species (NE AMAPPS). The purpose of the NE AMAPPS survey is to provide data for NOAA Fisheries, the Bureau of Ocean Energy Management, and the United States Navy so that each agency can meet its obligations under the Endangered Species Act, Marine Mammal Protection Act, and National Environmental Policy Act. Each agency is subject to litigation and possible delays or stoppage of fisheries, energy development, and military activities without current information. The objective of this project is to provide information on the distribution and abundance of marine mammals and turtles throughout the year. The survey will be flown from Maine to New Jersey.

Twin Otter (N56RF)

Temporary Base: St. Simon's Island, Georgia

Current Missions: Southeast Right Whale Survey

North Atlantic right whales are critically endangered and are protected under the Marine Mammal Protection Act and Endangered Species Act. Aerial surveys serve multiple conservation objectives including providing location, distribution, and count of right whales and calves for population assessments, relay of right whale sightings to mariners to help prevent collisions with ships, photo identification records of right whales, and information on distribution and abundance of other marine mammals and turtles.

Twin Otter (N57RF)

Temporary Base: Calgary, Alberta, Canada

Current Mission: Scheduled maintenance period

The aircraft will undergo scheduled maintenance and corrosion inspection at Rocky Mountain Aircraft in Calgary, Alberta through February 2018.

King Air (N68RF)

Temporary Base: Various Locations

Current Mission: Soil Moisture/Snow Survey Calibration

N68RF is conducting instrumentation and calibration of snow survey equipment so that this platform can be used for the Soil Moisture/Snow Survey Mission in the future.

OMAO'S AIRCRAFT OPERATIONS CENTER (AOC)

CAPT Nancy Hann, Commanding Officer AOC

The AOC, located at Lakeland Linder Regional Airport in Lakeland, Florida, serves as the main base for OMAO's fleet of nine aircraft and provides capable, mission-ready aircraft and professional crews to the scientific community. Whether studying global climate change or acid rain, assessing marine mammal populations, surveying coastal erosion, investigating oil spills, flight checking aeronautical charts, or improving hurricane prediction models, the AOC flight crews continue to operate in some of the world's most demanding flight regimes.



NOAA's Gulfstream IV-SP (foreground) and Orion WP-3D (background) and two of NOAA's Twin Otter aircraft in the hangar at the AOC in Lakeland, Florida.

[Photo: David Hall/NOAA]



Unmanned Systems Support



NASA Global Hawk

Location: Edwards Airforce Base
Mission: Scheduled Inspection and Maintenance

During October/November, NASA Global Hawk 872 deployed to Kaneohe Bay MCAS in Hawaii to support a Department of Defense program titled Risk Reduction Pathfinder. This was a first time for Global Hawk to have operated from the Hawaiian Islands. NASA 874 Global Hawk is currently in refurbishment. System tests have progressed well and the aircraft is being prepared for engine run tests next. A Functional Check Flight is planned for the beginning of 2018. Global ARCHER planning continues as a result of the NOAA Arctic Domain meetings that occurred in early February 2017. A Global ARCHER working group is currently defining the instrument set to be used for the first missions being planned for later in 2018.

APH-22 Hexacopter

Location: Bellows Air Force Station, Hawaii
Mission: APH-22 Training

The Pacific Islands Fisheries Science Center utilizes the airfield at Bellows Air Force Station on the island of Oahu to conduct training and proficiency flights. This allows APH-22 operators to maintain proficiency for future operations at a reduced cost. Training flights are also approved from NOAA small boats.

Location: Cape Shirreff, Antarctica
Mission: SWFSC Field Operations

The Southwest Fisheries Science Center (SWFSC) is using the APH-22 hexacopter to measure wildlife response to UAVs. These missions will consist of repeated flights at a set of controlled altitudes to quantify behavioral responses of overflights on wild animal populations during breeding and non-breeding periods. In addition, a study to define the relationship between mass, size and shape as determined from vertical aerial photographs for pinnipeds will be continued. Finally, colony-wide census flights will be conducted to monitor penguin chick production.

Location: Atlantic Northeast
Mission: Emergency Response, Turtles, and Seals

The North East Fisheries Science Center (NEFSC) seeks to use the APH-22 hexacopter to respond to entanglements and other unplanned situations involving marine mammals. Photographs will be collected for the purpose of aiding emergency stranding response, event documentation, and photo ID. Unmanned Aerial System (UAS) technologies will also be used to conduct surveys for marine turtles. The intent is to assess the feasibility of using small unmanned rotorcraft to search for turtles in their marine environment both at surface and subsurface. Turtles that are discovered either by the APH-22 or by on-vessel observers will be photographed by the APH-22 and then tagged and or sampled as part of an ongoing study. Turtles may be photographed post-release with the APH-22 to document post-release behavior. NEFSC will also use the APH-22 to conduct surveys of seal haul out sites. Photographs will be collected for the purpose of obtaining local population numbers, documenting seals with evidence of fishery interactions, and collecting photo ID data of seals with brands, wounds, and other distinguishing marks.

Location: Seattle, Washington
Mission: Sand Point APH-22 Training

The Marine Mammal Laboratory (MML) will continue training flights in the Sand Point area in Seattle, WA. MML has several objectives for the use of the APH-22 hexacopter UAS throughout Alaska. These trips tend to occur in the summer and sometimes fall seasons. In between surveys in the field, it is important that pilots maintain currency and proficiency. The Sand Point location will significantly reduce the travel time required and provide more opportunities to meet training requirements.

APH-17 Hexacopter / APH-22 Hexacopter / APO-42 Octocopter

Location: Descanso Ranch, California
Mission: APO-42/APH-22/APH-17 Training

Southwest Fisheries Science Center will be conducting test flights and training flights for their various platforms. Flights will be conducted under recently introduced Federal Aviation Administration Part 107 rules for Small Unmanned Aircraft Systems and will consist of flight maneuvers, operating in all the control modes, emergency procedures, takeoffs, landings and photogrammetry.

SenseFly eBee RTK

Location: Various Locations
Mission: Training and Operations

East coast training is expected to continue at the National Geodetic Survey's Corban, VA facility in preparation for mapping missions expected throughout the year.

SenseFly eBee RTK and APH-22 Hexacopter

Location: Muskeget Island, MA
Mission: Gray Seal Survey

The Northeast Fisheries Science Center (NEFSC) and the Remote Sensing Division (RSD) will be conducting continuing research on grey seal populations in the north east. NEFSC and RSD seek to utilize both an eBee RTK and an APH-22 platform to conduct simultaneous surveys in the field. The eBee will survey the entire island at a higher altitude, while the APH-22 will be operating at lower altitudes over discreet aggregations. The utilization of both platforms concurrently will increase the efficiency in which data is collected.

FireFLY6 PRO

Location: Tampa, FL
Mission: Initial Training

The Pacific Islands Fisheries Science Center (PIFSC) will receive initial manufactures training on the FireFLY6 PRO produced by BirdsEyeView Aerobotics. The FireFLY6 PRO is a portable vertical takeoff and landing Unmanned Aircraft System coupled with a rear-mounted propeller enabling forward flight. Projected projects for this platform include: habitat and coast line mapping on Oahu, small boat operations in Hawaii, shipboard operations throughout the Pacific Islands Region and remote island surveys, along the Hawaiian Archipelago.

HQ-55 Hybrid VTOL/FWD Flight Quadrotor

Location: Tucson, AZ
Mission: Initial Training

Two members of the Aircraft Operations Center (AOC) Unmanned Aircraft Systems (UAS) Section will receive initial manufactures training on the Latitude Engineering HQ-55. The HQ-55 is a long endurance vertical takeoff and landing UAS platform that can switch to forward flight. The goal is to build on last year's successful demonstration flights to produce an asset capable of taking off and recovering on the limited deck space of a NOAA ship.



OMAO Partnerships



United States Senate Committee on Commerce, Science, and Transportation

Location: Washington, District of Columbia
Detail: LCDR Wendy Lewis, NOAA Commissioned Officer Corps
LT Zachary Cress, NOAA Commissioned Officer Corps

LCDR Lewis is currently on detail to the Committee with the staff of the Chair, Senator John Thune (R-SD), where she is assisting on activities pertaining to oceans, atmosphere, and fisheries policy, as well as other matters within the Committee's jurisdiction. LT Cress will report in January 2018.

National Science Foundation

Location: South Pole, Antarctica
Mission: LT Gavin Chensue, NOAA Commissioned Officer Corps

Members of the NOAA Commissioned Officer Corps carry out NOAA's mission in remote locations across the globe. LT Chensue is assigned to Antarctica where he serves as the Station Chief for NOAA's Atmospheric Research Observatory (ARO) at the Amundsen-Scott South Pole Station. The ARO at the Amundsen-Scott South Pole Station is a National Science Foundation facility used in support of scientific research related to atmospheric phenomena.

Department of Defense - U.S. Pacific Command

Location: Honolulu, Hawaii
Embedded Liaison: CAPT Barry Choy, NOAA Commissioned Officer Corps

The U.S. Pacific Command (USPACOM) area of responsibility encompasses approximately half the earth's surface and more than half of its population. The 36 nations that comprise the Asia-Pacific include: two of the three largest economies and nine of the ten smallest; the most populous nation; the largest democracy; the largest Muslim-majority nation; and the smallest republic in the world. The region is a vital driver of the global economy and includes the world's busiest international sea lanes and nine of the ten largest ports. By any meaningful measure, the Asia-Pacific is also the most militarized region in the world, with seven of the world's ten largest standing militaries and five of the world's declared nuclear nations. Under these circumstances, the strategic complexity facing the region is unique. CAPT Choy is linked closely with the activities within the region allowing for identification of opportunities and cooperation between USPACOM and NOAA, and better overall government function situational awareness in the region.

Department of Homeland Security - U.S. Coast Guard

Location: Washington, DC
Embedded Liaison: CDR G. Mark Miller, NOAA Commissioned Officer Corps

As the NOAA liaison to the United States Coast Guard (USCG), CDR Miller maintains a current and comprehensive knowledge of interagency activities and policies related to the USCG and NOAA. He identifies potential conflicts or benefits issues for analysis and evaluation, conducts appropriate assessments and studies, and serves as the interface between NOAA and the USCG. CDR Miller initiates, designs, and implements strategies through federal agency liaison and coordination that results in cooperative arrangements for maritime security, oceanographic research, hazardous materials spill response, and many other activities.

Department of Defense - U.S. Navy

Location: Washington, DC

Embedded Liaison: CDR Jason Mansour, NOAA Commissioned Officer Corps

CDR Jason Mansour serves as NOAA liaison to the Oceanographer of the Navy and is an important interface between the U.S. Navy and other U.S. federal agencies, including NOAA. As NOAA Liaison, CDR Jason Mansour serves as the Head of the Interagency Policy Branch of the International and Interagency Policy Division, Office of the Oceanographer of the Navy, located at the U.S. Naval Observatory. The mission of this Division is to coordinate and execute the Oceanographer of the Navy functions related to policy and programs involving international and/or interagency oceanography. Oceanography includes meteorology, oceanography, mapping, charting and geodesy, astronomy, and precise time, and time interval.

Location: Stennis Space Center, Mississippi

Embedded Liaison: LTJG Laura Dwyer, NOAA Commissioned Officer Corps

Embedded in the Navy's Naval Oceanography Mine Warfare Center, LTJG Laura Dwyer works side by side with Navy officers operating Unmanned Underwater Vehicles worldwide and is currently stationed at Stennis Space Center. This collaboration will provide knowledge and experience that will keep NOAA on the cutting edge of this emerging technology as well as strengthen the partnership between NOAA and the Navy.



Teacher at Sea Program



The mission of the [Teacher at Sea](#) (TAS) program is to give teachers a clearer insight into our ocean planet, a greater understanding of maritime work and studies, and to increase their level of environmental literacy by fostering an interdisciplinary research experience. The program provides a unique environment for learning and teaching by sending kindergarten through college-level teachers to sea aboard NOAA research and survey ships to work under the tutelage of scientists and crew. Then, armed with new understanding and experience, teachers bring this knowledge back to their classrooms. Since its inception in 1990, the program has enabled more than 800 teachers to gain first-hand experience of science and life at sea. By participating in this program, teachers enrich their classroom curricula with knowledge that can only be gained by living and working side-by-side, day and night, with those who contribute to the world's body of oceanic and atmospheric scientific knowledge. Please access former teacher at sea [blogs](#) which document their missions at sea and offer a wealth of information about the research being conducted as well as personal stories.

- **Applicants for the 2018 field season will be notified in February of acceptance into the program**
- In 2017, 29 teachers representing 20 states participated in the Teacher at Sea Program. To learn about the teachers, read their blogs, and more, please visit <http://teacheratsea.noaa.gov/#/2017/>.





OMAO - NOAA Diving Program



OMAO manages and implements [NOAA's Diving Program](#) (NDP), which trains and certifies scientists, engineers, and technicians from federal, state, tribal governments, and the private sector to perform the variety of tasks carried out underwater to support NOAA's mission. NDP also has cooperative diving agreements with over 100 government agencies and academic institutions. NOAA has more than 400 divers who perform over 14,000 dives per year. The NDP is headquartered at the NOAA Diving Center at the NOAA Western Regional Center in Seattle, Washington.

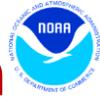


U.S. Coast Guard Petty Officer Glenn assists NOAA Corps diver ENS Wilkinson as she prepares to enter the water. NOAA Corps divers from the Marine Operations Center – Pacific in Newport, Oregon helped the Coast Guard crew members from Station Depoe Bay remove rocks from a boat slip that were causing propeller damage to vessels.

[Photo: BM2 Luevano/USCG]



OMAO Small Boat Program



OMAO manages NOAA's [Small Boat Program](#) and sets policy and provides safety inspections for almost 400 small boats operated by the various Line and program offices throughout NOAA, which support fisheries laboratories, dive support, nautical charting, ocean and Great Lakes research, and more.



NOAA small boats support many diverse operations across the country.

[Photos: NOAA]



Office of Marine and Aviation Operations



Providing Environmental Intelligence for a Dynamic World

The personnel, ships, and aircraft of NOAA 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 our natural resources. The NOAA 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. NOAA's roots trace back to 1807, when President Thomas Jefferson ordered the first comprehensive coastal surveys. Those early surveys ensured safe passage of ship-borne cargo for a young nation. As the needs of the nation have grown, so too have OMAO's responsibilities. Today, 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 has the largest fleet of federal research and survey ships in the nation. The fleet ranges from large oceanographic ships capable of exploring and charting the world's deepest ocean, 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 aircraft are equipped with an unprecedented 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 jet, these 'hurricane hunter' 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, Turbo Prop 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.



The NOAA fleet provides immediate response capabilities for unpredictable events. For example, in October 2016, NOAA's WP-3D (N43RF) and G-IV (N49RF) conducted 21 operational missions in seven days into Hurricane Matthew gathering vital data used to improve hurricane track and intensity forecasts. Rapid response by NOAA Ship *Ferdinand R. Hassler* to survey for underwater debris and shoaling that could prove dangerous to deeper draft vessels expedited the opening of the Ports of Charleston and Savannah by the U.S. Coast Guard following the passage of Hurricane Matthew. After the storm, NOAA's King Air (N68RF) flew 14 missions to collect post-storm damage and flooding imagery from Florida to Virginia in coordination with FEMA.

While manned aircraft and sea-going vessels have been, and will continue to be, a primary source of environmental data, 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. OMAO's ongoing challenge is to meet the growing demand for in situ scientific data while providing the highest level of service. To better serve the needs of the Nation, NOAA is examining the composition of the fleet through an exhaustive and 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 work force 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. For example, NOAA Corps officers are currently assigned to work in the Department of Defense, National Science Foundation, and the U.S. Senate among others where they lend their expertise and service. 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 the Federal family is critical to ensuring the long-term capability and success of the federal ocean infrastructure. Our partners' success is our success. The men and women of OMAO and the NOAA Corps provide environmental intelligence for a dynamic world as they serve our nation every day from the farthest seas to the highest skies.



NOAA Commissioned Officer Corps



– Honor, Respect, Commitment –



The NOAA Commissioned Officer Corps (NOAA Corps) is one of the United States' seven Uniformed Services and as commissioned officers serve with the 'special trust and confidence' of the President. NOAA Corps officers are an integral part of the National Oceanic and Atmospheric Administration (NOAA), an agency of the U.S. Department of Commerce. With an authorized strength of 321 officers, the NOAA Corps serves throughout the agency's Line and Staff Offices to support nearly all of NOAA's programs and missions. The combination of commissioned service and scientific expertise makes these officers uniquely capable of leading some of NOAA's most important initiatives. The NOAA Corps is part of NOAA's Office of Marine and Aviation Operations (OMAO) and traces its roots back to the former U.S. Coast and Geodetic Survey, which dates back to 1807 and President Thomas Jefferson. The U.S. Coast and Geodetic Survey Corps was founded in 1917 to provide officers to command U.S. coastal survey ships and field survey parties locally and abroad. In 1970, NOAA was created to develop a coordinated approach to oceanographic and atmospheric research and subsequent legislation converted the commissioned officer corps to the NOAA Corps. The NOAA Corps today provides a cadre of professionals trained in engineering, earth sciences, oceanography, meteorology, fisheries science, and other related disciplines. Corps officers operate NOAA's ships, fly aircraft, manage research projects, conduct diving operations, and serve in staff positions throughout NOAA. The NOAA Corps celebrates its Centennial year in 2017.

Benefits of the NOAA Corps to the Nation

The combination of commissioned service with scientific and operational expertise, allows the NOAA Corps to provide a unique and indispensable service to the nation. Discipline and flexibility are inherent in the NOAA Corps personnel system. Officers are trained for positions of leadership and command in the operation of ships and aircraft; in the conduct of field projects on land, at and under the sea, and in the air; in the management of NOAA observational and support facilities; as members or leaders of research efforts; and in the management of various organizational elements throughout NOAA. NOAA Corps officers must be technically competent to assume positions of leadership and command in NOAA and Department of Commerce programs and in the Armed Forces during times of war or national emergency. NOAA Corps officers enable NOAA to fulfill mission requirements, meet changing environmental concerns, take advantage of emerging technologies, and serve as environmental first responders. For example:

- In 2017, NOAA aircraft flew over 600 hours in support of storm reconnaissance, surveillance, research, and emergency response for Hurricanes Harvey, Irma, Jose, Maria, and Nate. NOAA Ship *Thomas Jefferson* conducted post-storm surveys of waterways of Puerto Rico following Hurricane Maria to help re-open the ports for maritime delivery of critical supplies to the island.
- In 2016, NOAA aircraft conducted research and reconnaissance missions into Hurricane Matthew, and post-storm flooding reconnaissance missions from Florida to Virginia with FEMA. NOAA Ship *Ferdinand Hassler* conducted post-storm surveys within of the ports of Charleston and Savannah within 48 hours to re-open the ports to maritime commerce, worth more than \$5M per hour.
- After Hurricane Sandy in 2012, NOAA Ships *Thomas Jefferson* and *Ferdinand R. Hassler* conducted emergency bathymetric surveys to locate possible submerged navigational hazards in the ports of New York and Virginia. These surveys enabled the ports to reopen quickly. Aerial images of storm-stricken regions, taken by NOAA aircraft, helped residents and emergency workers to quickly assess the condition of houses, bridges, and vital infrastructure.
- In 2010, the NOAA fleet and the NOAA Corps played a major role in the response to the BP *Deepwater Horizon* oil spill in the Gulf of Mexico. NOAA's entire Atlantic fleet and over a quarter of the total strength of the NOAA Corps were deployed to the Gulf following the spill, developing mission plans and assisting response efforts.





Please find more information at the following links:

OMAO – <http://www.omaο.noaa.gov>

NOAA Corps - <http://www.omaο.noaa.gov/learn/noaa-commissioned-officer-corps>

OMAO 101 - <http://www.legislative.noaa.gov/policybriefs/OMAO%20101%20052317.pdf>

NOAA Fleet Update – Find the latest at - <http://www.legislative.noaa.gov/policybriefs.html>

Reports and Informational Slide Decks:

[OMAO Fleet Recapitalization Slide Deck – Building NOAA's 21st Century Fleet](#)

[OMAO Fleet Recapitalization Questions and Answers \(Q&As\)](#)

[NOAA Fleet Independent Review Team Final Report](#)

[The NOAA Fleet Plan: Building NOAA's 21st Century Fleet](#)

Other OMAO Sites:

OMAO Marine Operations – <http://www.omaο.noaa.gov/learn/marine-operations>

OMAO Aircraft Operations – <http://www.noaacorps.noaa.gov/>

NOAA Diving Program – <http://www.noaacorps.noaa.gov/>

OMAO on Facebook - <https://www.facebook.com/NOAAOMAO>

OMAO on Twitter - http://www.twitter.com/NOAA_OMAO

NOAA Ship Tracker - <https://shiptracker.noaa.gov/> (restricted to only .gov or .mil users)