

NOAA Fleet Update

July 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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OMAO in the News



[Mysterious shipwreck lies off Hatteras. Watch live as it's explored for the first time](#)

-Charlotte Observer, June 11, 2018

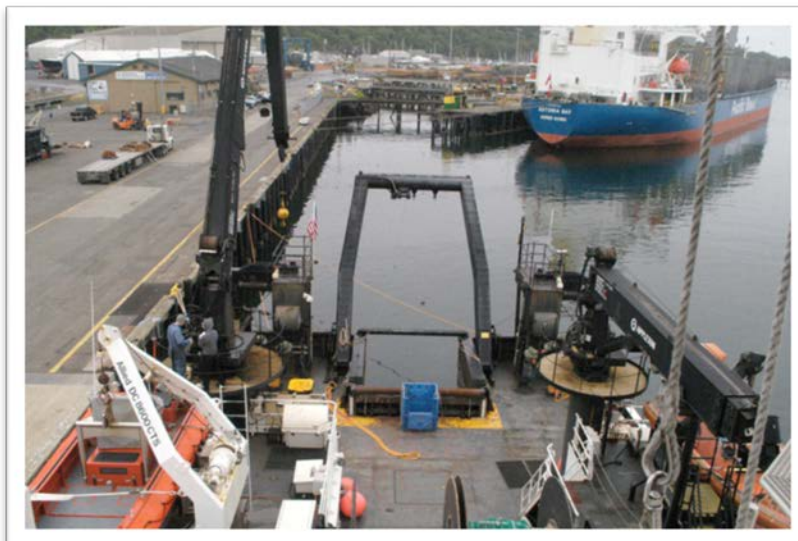
Guests of the North Carolina Aquarium on Roanoke Island can watch in real time as scientists explore an unidentified shipwreck 40 miles off Hatteras Island on June 25. The National Oceanic and Atmospheric Administration will conduct the dive with a robotic submersible craft to be launched from the research vessel *Okeanos Explorer*, aquarium officials said in a release. The shipwreck lies in about 1,000 feet of water. How and when it sank is unknown, but records show that several vessels sank in the area during World War II. During an eight-hour dive, the submersible will transmit video to the NOAA Ship *Okeanos Explorer*.



[Trawling for data: NOAA research ship surveys salmon, other ocean fish](#)

-Peninsula Daily News, June 26, 2018

A team of scientists set sail on a National Oceanic and Atmospheric Administration research vessel last week to study juvenile salmon and other fish in the Olympic Coast National Marine Sanctuary.





NOAA Commissioned Officer Corps



OMAO and the NOAA Corps are an integral part of NOAA and our officers operate OMAO's research and survey fleet of 16 ships and nine aircraft and mission areas can range from launching a weather balloon at the South Pole, conducting hydrographic or fishery surveys in Alaska, maintaining buoys in the tropical Pacific, flying snow surveys over the Midwest, or flying our "Hurricane Hunter" aircraft into, or above, hurricanes.

Interviews Have Commenced

The application window for Basic Officer Training Class (BOTC) 133 has now closed. The interview process will now commence. A selection board is expected to convene mid-August. BOTC 133 is scheduled to begin January 2019.

Applications Being Accepted

The NOAA Corps is currently accepting applications for BOTC 134, which will begin July 2019. The application deadline is January 18, 2019, to receive an interview. Additional information may be found on the [NOAA Corps website](#) and BOTC 134 applicants may start the process utilizing the online NOAA Corps E-Recruit System.



Basic Officer Training Class 132



The staff at the NOAA Corps Officer Training Center is making preparations to bring aboard 12 new Ensigns. Basic Officer Training Class (BOTC) 132 will swear in on Monday, July 23, 2018 and report to the training center on Wednesday, July 25, 2018 to begin their 19-week training program. BOTC 132 will train alongside United States Coast Guard Officer Candidates at the Coast Guard Academy in New London, Connecticut.



Their training will prepare them to serve as Junior Officers in the NOAA fleet, and will focus on a variety of skills and concepts ranging from leadership to nautical science and everything in between. They will have opportunities for underway training aboard a number of vessels, including USCGC *Eagle*, R/V Victor Loosanoff, and T/V Kittiwake, each providing a unique perspective of life at sea. Additionally, they will build and strengthen partnerships with their Coast Guard shipmates which will carry into the fleet.



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 utilize 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.



National

OMAO'S MARINE OPERATIONS

Mr. Troy Frost, Acting 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.

New Castle, New Hampshire

NOAA Ship *Ferdinand R. Hassler*

Commanding Officer: Lieutenant Commander Matthew Jaskoski

Primary Mission Category: Hydrographic Surveys

Temporary Location: Baltimore, Maryland

Ship Status: The ship will be in shipyard for repairs through July.

Newport, Rhode Island

NOAA Ship *Henry B. Bigelow*

Commanding Officer: Commander Jeffrey Taylor

Primary Mission Category: Fisheries Research

Depart: Newport, Rhode Island

Arrive: Newport, Rhode Island

Ship Status: The Ship is underway performing the East Coast Ocean Acidification (ECO) project, a comprehensive survey of inorganic carbon, nutrients, and other biogeochemical parameters along the East coast of the United States. The effort is in support of the NOAA Ocean Acidification Program that has as a major objective to monitor changes in inorganic carbon dynamics, due to anthropogenic carbon input and natural changes in the coastal regions. These processes are often referred to as ocean acidification. The project will increase our understanding of the controls of ocean acidification and its impacts on ocean ecosystems. Additionally the ECOA cruise seeks to better understand a unique set of processes such as freshwater discharge and intense net production known to affect the coastal carbonate cycle.

Davisville, Rhode Island

NOAA Ship *Okeanos Explorer*

Commanding Officer: Commander Eric Johnson

Primary Mission Category: Oceanographic Exploration and Research

Depart: Norfolk, Virginia

Arrive: Hamilton, Bermuda

Ship Status: Underway on Galway: Atlantic Seabed Mapping International Working Group Bermuda Mapping project. This project is the first dedicated government non-transect survey in support of the Atlantic Ocean Research Alliance/Atlantic Seabed Mapping International Working Group (AORA/ASMIWG). AORA/ASMIWG was established by the Trilateral Galway Statement Implementation Committee to identify steps required to implement a seabed mapping strategy to support the objectives of the Galway Statement. As the first U.S. led mapping effort in support of Galway Statement on Atlantic Ocean Cooperation, this project will include onboard and remote participation from Canadian and European Union students and scientists. This expedition will map an ASMIWG identified pilot project area south of Bermuda. As part of the Galway initiative, the ASMIWG used a suitability model to identify priority areas in the Atlantic Ocean, factoring in areas of public interest, sensitive marine areas, and areas with marine resource potential. The screens of the mapping acquisition systems will be broadcast 24 hours per day, and will be monitored by both onboard and onshore mapping scientists.

Norfolk, Virginia

NOAA Ship *Thomas Jefferson*

Commanding Officer: Commander Christiaan van Westendorp

Primary Mission Category: Hydrographic Surveys

Depart: Galveston, Texas

Arrive: Galveston, Texas

Ship Status: The ship will survey the approaches to Houston/Galveston, Texas, in support of NOAA's Office of Coast Survey to provide contemporary hydrographic data in order to update the nautical charting products.

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

Commanding Officer: Commander Stephanie Koes

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, South Carolina

NOAA Ship *Nancy Foster*

Acting Commanding Officer: Commander Jeffrey Shoup/Commander G. Mark Miller

Primary Mission Category: Oceanographic Research, Environmental Assessment

Depart: San Juan, Puerto Rico

Arrive: Charleston, South Carolina

Ship Status: Underway on Essential Fish Habitat project in the U.S. Caribbean to inform marine protected areas management. Scientists will collect high-resolution multibeam and acoustic fisheries data in mid-water depths to continue to characterize seafloor habitats. Fishery acoustics data will be collected to characterize broad-scale fish abundance, biomass, and utilization patterns, as well as to locate and document fish spawning aggregations. The delineation and identification of seafloor habitats will be assisted by the use of a moderate-depth remotely operated vehicle.

NOAA Ship *Ronald H. Brown*

Commanding Officer: Commander Dan Simon

Primary Mission Category: Oceanographic Research, Environmental Assessment

Depart: Mormugao, India

Arrive: Darwin, Australia

Ship Status: Underway for Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction (RAMA) project. Recover and deploy RAMA moorings, and to sample oceanic and atmospheric variables along the cruise track. RAMA moorings provide improved description, understanding and prediction of the east Africa, Asian and Australian monsoon systems. RAMA is a component of the Indian Ocean Observing System.

Pascagoula, Mississippi

NOAA Ship *Pisces*

Commanding Officer: Commander Nicholas Chrobak

Primary Mission Category: Fisheries Research

Depart: Morehead City, North Carolina

Arrive: Charleston, South Carolina

Ship Status: Underway on South East Fishery-Independent Survey (SEFIS). SEFIS conducts applied fishery-independent sampling with chevron fish traps and attached underwater video cameras, and catch rates and biological data from SEFIS are critical for various stock assessments for economically important reef fishes along the southeast U.S. Atlantic coast.

NOAA Ship *Oregon II*

Commanding Officer: Master Dave Nelson

Primary Mission Category: Fisheries Research

Depart: Pascagoula, Mississippi

Arrive: Pascagoula, Mississippi

Ship Status: Underway sampling in the northern Gulf of Mexico with Southeast Area Monitoring and Assessment Program using standard trawl sampling gear to determine the abundance and distribution of benthic fauna.

NOAA Ship *Gordon Gunter*

Acting Commanding Officer: Commander Thomas Peltzer

Primary Mission Category: Fisheries Research

Depart: Pascagoula, Mississippi

Arrive: Newport, Rhode Island

Ship Status: Underway on Bryde's Whale Survey. The primary objective of this project is to deploy various remote tag attachments on select Gulf of Mexico Bryde's whales. Secondary objectives will include the collection of acoustic recordings via deployed sonobuoys, collection of hydrographic profiles via CTD deployments, camera trap deployment and recovery cycles, passive acoustic drift buoy deployment and recovery, active acoustic surveys, and cetacean tissue biopsy sampling.

San Diego, California

NOAA Ship *Reuben Lasker*

Commanding Officer: Commander Chad Cary

Primary Mission Category: Fisheries Research

Depart: San Francisco, California

Arrive: San Francisco, California

Ship Status: Underway on West Coast Pelagic Fish Survey. This California Current Ecosystem survey is a joint project between the Fisheries Resources Division and the Marine Mammal and Turtle Division at NOAA's Southwest Fisheries Science Center (SWFSC). The overarching goal is to survey populations of coastal pelagic fish species, marine mammals, their prey, and their environment along the West Coast of the United States and Vancouver Island, Canada.

Newport, Oregon

NOAA Ship *Rainier*

Acting Commanding Officer: Captain David Zezula

Primary Mission Category: Hydrographic Surveys

Temporary Location: Sitka, Alaska

Ship Status: Underway in the Tracy Arm Inlet near the Tracy Arm Glacier in support of NOAA's Office of Coast Survey mission to provide contemporary hydrographic data in order to update nautical charting. NOAA Ship *Rainier* will be arriving in Newport this month for a mid-season repair period.

NOAA Ship *Bell M. Shimada*

Commanding Officer: Captain Jesse Stark

Primary Mission Category: Fisheries Research

Depart: Newport, Oregon

Arrive: San Francisco, California

Ship Status: Underway on the Applied California Current Ecosystem Studies project (ACCES). The ACCES project contributes to a regional characterization and monitoring of the physical and biological components of the pelagic ecosystems of northern Monterey Bay, Cordell Bank and Greater Farallones National Marine Sanctuaries. Data are used to relate the spatial patterns of bird and mammal distribution with oceanographic and prey patterns, identify resources at risk from anthropogenic influences, and to understand seasonal and inter-annual changes in the pelagic ecosystem. NOAA and other regulatory agencies use this information in management decisions and to protect resources in the sanctuaries. This assessment and monitoring of the pelagic system specifically meets the sanctuary's mandate to conduct long-term monitoring of the resources within the sanctuaries and provides important information for resource protection, management, and education/outreach.

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

Commanding Officer: Captain Keith Roberts

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. MOC-P also hosts visiting federal ships and University-National Oceanographic Laboratory System partners such as the Scripps Oceanographic Research Vessel Roger Revelle.

Ketchikan, Alaska

NOAA Ship *Fairweather*

Commanding Officer: Commander Mark Van Waes

Primary Mission Category: Hydrographic Surveys

Depart: Kodiak, Alaska

Arrive: Nome, Alaska

Ship Status: Underway to survey Point Hope and Vicinity from July through August. This project is being conducted in support of NOAA's Office of Coast Survey's mission to provide contemporary hydrographic data in order to update nautical charting products.

Kodiak, Alaska

NOAA Ship *Oscar Dyson*

Commanding Officer: Commander Michael Levine

Primary Mission Category: Fisheries Research

Depart: Unalaska, Alaska

Arrive: Unalaska, Alaska

Ship Status: Underway conducting the Summer Walleye Pollock survey in the Bering Sea. The data should provide an index of walleye Pollock abundance over the eastern Bering Sea shelf. The Bering Sea stock of Pollock is the focus of one of the world's largest fisheries, and these data are primarily used for annual Pollock stock assessments and to brief stakeholders on stock distribution and trends.

Honolulu, Hawaii

NOAA Ship *Hi'ialakai*

Commanding Officer: Commander Colin Little

Primary Mission Category: Oceanographic Research, Environmental Assessment

Arrive: Pago Pago, American Samoa

Depart: Pago Pago, American Samoa

Ship Status: Underway on leg two of the American Samoa - Reef Assessment and Monitoring Program (RAMP) project. Pacific RAMP, which is supported by NOAA's Coral Reef Conservation Program, is tasked with documenting and understanding the status and trends of coral reef ecosystems in the U.S. Pacific. Pacific RAMP monitors reef areas in the following regions: the Hawaiian and Mariana Archipelagos, American Samoa, and the Pacific Remote Island Areas, which include Johnston and Wake Atolls and the U.S. Line and Phoenix Islands

NOAA Ship *Oscar Elton Sette*

Commanding Officer: Commander Héctor Casanova

Primary Mission Category: Fisheries Research

Arrive: Saipan, Commonwealth of the Northern Mariana Islands

Depart: Saipan, Commonwealth of the Northern Mariana Islands

Ship Status: Underway on leg two of Mariana Archipelago Life-History Research project. The ship will commence a Marianas Cetacean Survey in early July. The Pacific Islands Fisheries Science Center's (PIFSC) Cetacean Research Program will be conducting visual surveys of cetaceans in the waters surrounding Guam and the Commonwealth of the Northern Mariana Islands as part of an ongoing effort to develop a record of cetacean occurrence in the region.

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

Commanding Officer: Captain Robert Kamphaus

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, Florida

NOAA's fleet of nine manned aircraft is based at OMAO's Aircraft Operations Center (AOC). Located at Lakeland Linder Regional Airport in Lakeland, Florida, the officers, crew, and scientists from AOC provide capable, mission-ready aircraft and professional crews to the scientific community. AOC is committed to the safe, efficient and economical use of NOAA aircraft and has more than four decades of experience developing, coordinating and successfully and safely conducting airborne environmental data gathering missions.

[P3 "Hurricane Hunter" \[Tail ID# N42RF\]](#)

The aircraft is hurricane ready and standing by for tasking.

[P3 "Hurricane Hunter" \[Tail ID# N43RF\]](#)

Currently down for re-winging in Naval Air Station Jacksonville, Florida. The aircraft is due out of maintenance in October, 2018; instrumentation and outfitting at AOC will follow. The aircraft will be mission ready in May 2019.

[G-IV "Hurricane Hunter" \[Tail ID# N49RF\]](#)

Who: Officers and crew of OMAO/NOAA Corps

What: Oshkosh Airventure Air Show

When: July 22-25 pending hurricane flight tasking

Where: Wittman Regional Airport in Oshkosh, Wisconsin

Why: The EAA (Experimental Aircraft Association) sponsored [Oshkosh Airventure](#) is the largest air show and fly-in in the United States. The G-IV will be on display for the public to view and chat with the pilots (no tours inside).

[Jet Prop Commander \[Tail ID# N45RF\]](#)

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's National Ocean Service, National Geodetic Survey Grav-D Program](#).

What: Gravity for the Redefinition of the American Vertical Datum (GRAV-D)

When: July 1-20

Where: Training flights out of AOC in Lakeland, Florida.

When: July 21 - September 1

Where: Based at Pasco, Washington, the aircraft will conduct flights over Washington, Oregon, Idaho, and Montana.

Why: Grid pattern flight lines will be flown at 20,000 feet over the Northwest United States while collecting GPS and inertial data to update the U.S. vertical datum. A vertical datum is a base measurement point (or set of points) from which all elevations are determined.

King Air [Tail ID# N68RF]

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's National Ocean Service, National Geodetic Survey's Coastal Mapping Program](#).

What: Coastal Mapping

When: Present - July 25

Where: Based out of Cleveland, Ohio, and Duluth, Minnesota, with flights planned over Ohio, Michigan, and Wisconsin.

Why: Coastal mapping flights provide critical baseline data to help accurately map the U.S. shoreline. The data is important for national security, maritime shipping, and navigation.

Twin Otter [Tail ID# N46RF]

Training flights planned out of AOC in Lakeland, Florida.

Twin Otter [Tail ID# N48RF]

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's National Marine Fisheries Service \(NMFS\), Northeast Fisheries Science Center \(NEFSC\)](#).

What: North Atlantic Right Whales

When: Present - July 31

Where: Based out of Moncton, New Brunswick, Canada. The survey area will cover coastal waters off the Maritime Provinces.

Why: The objectives of this project are to provide real time sighting information to commercial shipping interests in an effort to reduce ship collisions, to better understand the distribution and abundance, and to collect photographic images. With as few as 400 remaining, surveillance flights to track their migration patterns are important for conservation and recovery efforts.

Twin Otter [Tail ID# N56RF]

Project 1:

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's National Marine Fisheries Service \(NMFS\), Alaska Regional Office \(ARO\)](#).

What: Steller Sea Lions

When: Present - July 11

Where: Based out Dutch Harbor and Adak, Alaska, with flights over Alaska.

Why: As part of the *Marine Mammal Protection Act*, the purpose of this project is to monitor the western population stock and recovery efforts of Steller Sea Lions from Endangered Species status.

Project 2 and 3

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's National Marine Fisheries Service \(NFMS\)](#), [Alaska Regional Office \(ARO\)](#).

What: Harbor Seals

When: July 13 - July 16

Where: Based out Anchorage, Alaska, with flights over Alaska.

Why: As part of the *Marine Mammal Protection Act*, the purpose of this project is to monitor the western population stock and recovery efforts of Harbor Seals from Endangered Species status.

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's Office of Atmospheric Research \(OAR\)](#) and [Pacific Marine Environmental Laboratory \(PMEL\)](#).

What: Arctic Heat

When: July 29 - August 4

Where: Based out of Kotzebue, Alaska. Survey area includes the Beaufort and Chukchi Seas.

Why: The purpose of this project is to perform near-surface data collection that will lead to improvements in weather and sea-ice forecasting in the Pacific Arctic.

Twin Otter [Tail ID# N57RF]

Who: Officers and crew of OMAO/NOAA Corps along with scientists from [NOAA's National Ocean Service, National Geodetic Survey's Coastal Mapping Program](#).

What: Coastal Mapping

When: Present - September 30

Where: Gulf Coast of Florida and Intracoastal Waterway. Bases are TBD.

Why: These flights provide critical baseline data to help accurately map the U.S. shoreline. The data is important for national security, maritime shipping, and navigation.

UAS Section

The Unmanned Aerial System (UAS) Section provides nationwide 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 United States National Airspace System, special use airspace, and foreign airspace. AOC conducts a thorough review of all projects by applying established risk management procedures to UAS 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.

OMAO'S AIRCRAFT OPERATIONS CENTER (AOC)

Commanding Officer: Captain Timothy Gallagher

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.



Unmanned Systems Support



Nationwide

Globalhawk

During June the NASA Global Hawk project has continued their project planning and development for the UAV Based Range Project (UAVBR). Global Hawk personnel have made visits to the Western Service Center in Seattle and Oakland Oceanic to further discuss the upcoming project and its impacts. Visits to Hawaii will follow in late July to discuss divert Letters of Agreement and Hawaii airspace usage. Discussions have also started with the Department of Defense (DoD) policy board to move forward with the creation of a temporary flight restriction. Global Hawk 872 is being maintained in a flight ready status in preparation for summer DoD flight test activities with instrument upload and testing to take place this summer. Global Hawk 874 has completed both its taxi test and first flight with additional flights scheduled in July for aircraft shakedown and pilot proficiency.

APH-22 Hexacopter

Location: Catalina Island, CA

Mission: SWFSC Dolphin Photogrammetry

The SWFSC collected aerial images to estimate the size, body condition and nutritional status of dolphins in the vicinity of Catalina Island. UAS photogrammetry may also be conducted opportunistically on other species, including whales, pinnipeds, or turtles.

Location: Atlantic Northeast

Mission: NEFSC Training Areas

The NEFSC has been approved to conduct proficiency training and manufacturer training at the following locations; Woods Hole Pier Massachusetts, Griswold Point Connecticut, and Waquoit Bay National Estuarine Research Reserve. These locations will allow the pilots within NEFSC to remain proficient with the APH-22 and to fine tune flight operations to increase their success for future operations.

Location: Oahu, Hawaii

Mission: PIFSC Hawaiian Monk Seal Research Program

Offshore Islets of Oahu are important haul out locations for Hawaiian monk seals. These are only accessible via small boat and often have hazardous boat landing conditions. Utilizing the APH-22 will increase our ability to survey and respond to seals on offshore islets.

Location: Hawaiian Archipelagos, Hawaii

Mission: PIFSC Hawaiian Monk Seal Research Program

Population assessment of Hawaiian monk seals at Nihoa and Mokumanamana. If conditions allow, the APH-22 will be launched and controlled from a small boat and flown to the island to photograph and document Hawaiian monk seals on shore. The APH-22 has the potential to greatly increase our ability to assess the population of monk seals at these sites when swell conditions do not allow small boats to land people on shore.

Location: Oahu, Hawaii

Mission: PIFSC APH-22 Training

The PIFSC utilizes the airfield at Bellows Air Force Station on the island of Oahu and recently coordinated at new training location at the Kawainui Model Airplane Field 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: Seattle, Washington and Aleutians

Mission: Marine Mammal Laboratory (MML) Sand Point APH-22 Training

The MML will continue training flights in the Sand Point area in Seattle, Washington in preparation for deployment to the Aleutian Islands. 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-28 Hexacopter

Location: Seattle, Washington and Alaska

Mission: APH-28

The MML will add the APH-28, a new UAS, to conduct marine mammal surveys in remote areas of the Aleutian Islands. Training was conducted in early June followed by deployment to Alaska. This new aircraft has increased flight time that will enable scientist to collect more data per flight.

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

Location: Descanso Ranch, California

Mission: APO-42/APH-22/APH-17 Training

SWFSC will be conducting test flights and training flights for their various platforms. Flights will be conducted under 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, Virginia facility in preparation for mapping missions expected throughout the year.

FireFLY6 PRO

Location: Oahu, Hawaii

Mission: PIFSC Proficiency Training

The Kawainui model airplane field will be used approximately monthly to perform proficiency flights for PIFSC operators. The main objective will be to practice hand launches, recoveries and locating targets. These flights are essential in providing the necessary skills needed for successful operations.

HQ-55 Latitude

Location: Lakeland, Florida

Mission: Research

The HQ-55 Latitude is a new vehicle currently in development for NOAA. This new vehicle is expected to come online later in 2018.

Blackswift S-2

Location: Oak Ridge, Tennessee

Mission: Research

The Blackswift S-2 is a new vehicle currently in development for NOAA. This new vehicle is expected to come online in July 2018.



OMAO Partnerships



OMAO and the NOAA Commissioned Officer Corps provide key services and leadership to a number of federal agencies and external partners to help them meet their mission – and ours - and to better leverage federal resources.

United States Senate Committee on Commerce, Science, and Transportation

Location: Washington, DC

Detail: Lieutenant Zachary Cress

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

National Science Foundation

Location: South Pole, Antarctica

Embedded Liaison: Lieutenant Cherisa Friedlander

Members of the NOAA Commissioned Officer Corps carry out NOAA's mission in remote locations across the globe. LT Friedlander is assigned to Antarctica where she 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: Captain 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 Defense - U.S. Northern Command

Location: Boulder, Colorado

Embedded Liaison: Captain David Zezula

The U.S. Northern Command (USNORTHCOM) area of responsibility includes air, land and sea approaches and encompasses the continental United States, Alaska, Canada, Mexico and the surrounding water out to approximately 500 nautical miles. It also includes the Gulf of Mexico, the Straits of Florida, and portions of the Caribbean region to include The Bahamas, Puerto Rico, and the U.S. Virgin Islands. The commander of USNORTHCOM is responsible for theater security cooperation with Canada, Mexico, and The Bahamas. CAPT Zezula is linked closely with the activities within the region allowing for identification of opportunities and cooperation between USNORTHCOM and NOAA, and serves as a liaison between fostering greater situational awareness of NOAA response activities to natural disasters and Arctic activities.

Department of Homeland Security - U.S. Coast Guard

Location: Washington, DC

Embedded Liaison: Captain Kurt Zegowitz

As the NOAA liaison to the United States Coast Guard (USCG), CAPT Zegowitz 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. CAPT Zegowitz 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: Commander Jason Mansour

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: Lieutenant Laura Dwyer

Embedded in the Navy's Naval Oceanography Mine Warfare Center, LT 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.

Teachers sailing in July:

- 07/01/2018 - 07/22/2018 - Joan Shea-Rogers (Lanphier High School, Springfield, Illinois) will sail on a Pollock Survey in and out of Dutch Harbor, Alaska, on NOAA Ship *Oscar Dyson*.
- 07/01/2018 - 07/22/2018 - Lee Teevan (Booker T. Washington High School, Norfolk, Virginia) will sail on a Pollock Survey in and out of Dutch Harbor, Alaska, on NOAA Ship *Oscar Dyson*.
- 07/01/2018 - 07/10/2018 - Pamela Schaffer (Will C. Wood Middle School, Alameda, California) will sail on the Sanctuaries ACCESS Survey in and out of San Francisco on NOAA Ship *Bell M. Shimada*.
- 07/09/2018 - 07/20/2018 - Taylor Planz (Harlem High School, Harlem, Georgia) will sail on a Hydrographic Survey in and out of Nome, Alaska, on NOAA Ship *Fairweather*.
- 07/09/2018 - 07/26/2018 - David Tourtellot (Lee's Summit Elementary, Lee's Summit, Missouri) will sail on a Hydrographic Survey from Galveston, Texas, to Corpus Christi, Texas, on NOAA Ship *Thomas Jefferson*.
- 07/10/2018 - 07/23/2018 - David Knight (University High School, Irvine, California) will sail on the Southeast Fishery-Independent Survey in and out of Morehead City, North Carolina, on NOAA Ship *Pisces*.
- 07/10/2018 - 07/19/2018 - Jeff Peterson (The College Preparatory School, Oakland, California) will sail on a Groundfish Survey in and out of Pascagoula, Mississippi, on NOAA Ship *Oregon II*.
- 07/12/2018 - 08/04/2018 - Meredith Salmon (Peddie School, Hightown, New Jersey) will sail on a Bermuda Mapping Survey from Norfolk, Virginia, to Hamilton, Bermuda, on NOAA Ship *Okeanos Explorer*.
- 07/19/2018 - 08/04/2018 - Michelle Greene (Lamar High School, Lamar, South Carolina) will sail on a Cetacean Biology Survey from Woods Hole, Massachusetts, to Newport, Rhode Island, on NOAA Ship *Gordon Gunter*.

- 07/25/2018 - 08/15/2018 - Emily Cilli-Turner (University of Washington-Tacoma, Tacoma, Washington) will sail on a Pollock Survey in and out of Dutch Harbor, Alaska, on NOAA Ship *Oscar Dyson*.
- 07/26/2018 - 08/10/2018 - Stephen Kade (O.L. Smith Middle School, Dearborn, Michigan) will sail on a Shark/Red Snapper Longline Survey from Pascagoula, Mississippi, to Canaveral, Florida, on NOAA Ship *Oregon II*.



OMAO - NOAA Diving Program



Seattle, Washington

NOAA Diving Center and 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 (NDC), which is located at the NOAA Western Regional Center in Seattle, Washington.

NOAA Diving Center is supporting the NOAA Ship *Hi'ialakai* in the American Samoa Reef Assessment and Monitoring Program research mission. Throughout the mission, NOAA divers engage in dives in extremely remote areas. NDC supports the mission by providing a hyperbaric chamber, a chamber operator and a divemaster for the duration of the 3-month trip.



Chamber Operators [Photos: NOAA]

In June, NDC provided the Tethered Communication's Dive Training at Thunder Bay National Marine Sanctuary to a group of divers from the National Centers for Coastal Ocean Science and Thunder Bay National Marine Sanctuary. This one-week class is a mobile-training to support dive units in specific techniques for their mission dives.

Upcoming and recent missions include:

- NOAA Diver and Divemaster Class in September in Seattle, Washington
- NOAA Ship *Hi'ialakai* chamber operator and divemaster support
- NOAA UHMS Physicians Training in Diving Medicine in October in Seattle, Washington



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 & 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, during the 2017 Hurricane season 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. 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. 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) 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), 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 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.
- 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.





OMAO/NOAA Corps Resources



OMAO Sites

[OMAO](#)

[NOAA Corps](#)

Two Pagers, Reports, and Informational Slide Decks

Monthly NOAA Fleet Update - The latest version may always be found on the [Office of Legislative and Intergovernmental Affairs website](#) [<http://www.legislative.noaa.gov/policybriefs.html>].

Monthly Aircraft Flights and Mission Info Summary - The latest version may always be found on the [Office of Legislative and Intergovernmental Affairs website](#) [<http://www.legislative.noaa.gov/policybriefs.html>].

[Tornado Formation, Intensity, and Path for the Southeast United States: Research Flight and Mission Info Recap](#) - 2018

[Hurricane Irma Flight and Mission Info Recap](#) - 2017

[Hurricane Maria Flight and Mission Info Recap](#) - 2017

[OMAO two pager with Recent Mission Highlights – 2018](#)

[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 Web Resources

[OMAO Marine Operations](#)

[OMAO Aircraft Operations](#)

[OMAO on Facebook](#)

[Hurricane Hunters on Facebook](#)

[OMAO on Twitter](#)

[Hurricane Hunters on Twitter](#)

[OMAO Ship Tracker](#) - (restricted to only .gov or .mil users)