



NOAA Fleet Update

APRIL 2015

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.



[Find us on Facebook for the latest news and activities.
http://www.facebook.com/NOAAOMAO](http://www.facebook.com/NOAAOMAO)



Table of Contents

Please click on the Table of Contents entry below to be taken directly to a specific ship, center, aircraft, asset, program, or information. The fleet is listed based on the geographical location of their homeport/base starting in the Northeast and ending in the Pacific.

Office of Marine and Aviation Operations (OMAO) and the NOAA Commissioned Officer Corps – In the News -	4
NOAA Corps - Basic Officer Training Class (BOTC) 125	6
OMAO’s Ships and Centers	8
<i>New Castle, NH</i>	8
NOAA Ship <i>Ferdinand R. Hassler</i>	8
<i>Woods Hole, MA (currently docks in Newport, RI)</i>	9
NOAA Ship <i>Henry B. Bigelow</i>	9
<i>Davisville, RI</i>	9
NOAA Ship <i>Okeanos Explorer</i>	9
<i>Norfolk, VA</i>	10
NOAA Ship <i>Thomas Jefferson</i>	10
OMAO’S MARINE OPERATIONS CENTER – ATLANTIC (MOC-A)	11
<i>Charleston, SC</i>	11
NOAA Ship <i>Nancy Foster</i>	11
NOAA Ship <i>Ronald H. Brown</i>	12
<i>Pascagoula, MS</i>	13
NOAA Ship <i>Oregon II</i>	13
NOAA Ship <i>Gordon Gunter</i>	13
NOAA Ship <i>Pisces</i>	14
<i>San Diego, CA</i>	14
NOAA Ship <i>Reuben Lasker</i>	14
<i>Newport, OR</i>	14
NOAA Ship <i>Rainier</i>	14
NOAA Ship <i>Bell M. Shimada</i>	14
OMAO’S MARINE OPERATIONS	15
OMAO’S MARINE OPERATIONS CENTER – PACIFIC (MOC-P)	15
<i>Ketchikan, AK</i>	15
NOAA Ship <i>Fairweather</i>	15

Kodiak, AK	16
NOAA Ship <i>Oscar Dyson</i>	16
Honolulu, HI	17
NOAA Ship <i>Hi'ialakai</i>	17
NOAA Ship <i>Oscar Elton Sette</i>	18
OMAO'S MARINE OPERATIONS CENTER – PACIFIC ISLANDS (MOC-PI).....	18
OMAO's Aircraft	19
Tampa, Florida	19
OMAO'S AIRCRAFT OPERATIONS CENTER (AOC).....	19
WP-3D (N42RF) – “Hurricane Hunter”.....	19
Jet Prop Commander (N45RF).....	20
Twin Otter (N46RF).....	20
Twin Otter (N48RF).....	21
Twin Otter (N56RF).....	21
Twin Otter (N57RF).....	21
King Air (N68RF).....	21
Gulfstream IV (N49RF).....	22
WP-3D (N43RF).....	22
Unmanned Systems Support	23
NASA Global Hawk.....	23
NASA's Global Hawk Unmanned Aircraft System (UAS) has now been geared for multiple flight test activities in April, May and June. This test period will be followed by hurricane surveillance instrumentation in July for the Sensing Hazards with Operational Unmanned Technology (SHOUT) project. The SHOUT project is a NOAA funded hurricane surveillance and research activity that is scheduled to operate from the NASA Wallops Flight Facility in August and September. NOAA Corps officer, LCDR Neuhaus, is supporting Global Hawk as a project manager and instructor pilot.	23
APH-22 Hexacopter.....	23
Manta UAS.....	24
OMAO Partnerships	25
United States Senate Committee on Commerce, Science, and Transportation.....	25
National Science Foundation.....	25
Department of Defense - U.S. Pacific Command (USPACOM).....	25
Department of Defense - U.S. Northern Command (USNORTHCOM).....	25
Department of Defense - U.S. Navy.....	26
Department of Defense - U.S. Navy.....	26
Department of Defense and NOAA's Office of Coast Survey.....	26
Department of Homeland Security - U.S. Coast Guard.....	26
Teacher At Sea Program	27
OMAO - NOAA Dive Program	28
OMAO - NOAA Small Boat Program	29
Office of Marine and Aviation Operations	30
NOAA Commissioned Officer Corps	31



Office of Marine and Aviation Operations (OMAO) and the NOAA Commissioned Officer Corps – In the News -



Below is a sampling of clips and web links to recent news items related to OMAO and the NOAA Corps.

[NOAA, Coast Guard team up to re-survey Arctic waters](#)

-Alaska Dispatch News

As Arctic commerce heats up, more ships are expected to pass by the Aleutian Islands, through the Bering Strait and north into the Chukchi Sea. The U.S. Coast Guard, which is assessing a possible designated Arctic shipping route in those waters, has teamed up with the National Oceanic and Atmospheric Administration to improve navigational knowledge about that region. For NOAA, that means using the Coast Guard's help to update navigational charts that date back as far as a century ago. "Much of our charting data in this corridor is from surveys conducted a hundred years ago," Rear Admiral Gerd Glang, director of NOAA's Office of Coast Survey, said in a statement. "So right now, we need to conduct reconnaissance of the seafloor in high traffic areas to make sure they are safe for navigation..."

[Research planes to study Western gas emissions](#)

-Denver Post

Boulder-based scientists will launch a study Monday to determine how gas emissions from shale oil and natural gas basins in the western United States affect air quality. Using more than a dozen state-of-the-art chemical instruments, a team of seven scientists will measure trace gas emissions as they fly a research aircraft over production sites in various stages of development located across the West. The project, dubbed SONGNEX 2015, is expected to conduct 15 research flights out of Colorado and Texas between March and May. The collaborative study is a joint project of the Cooperative Institute for Research in Environmental Sciences at the University of Colorado and the National Oceanic and Atmospheric Administration. Sites of interest in the study include the Bakken oil fields of North Dakota, the Niobrara shale formation of northern Colorado, Wyoming and the Four Corners area...

[Saving Beautiful Endangered Killer Whales](#)

-ABC World News Tonight (Video)

And finally tonight, the man on a mission to save endangered killer whales, even he didn't expect to see this. Here's ABC's Neil Karlinsky. Reporter: 15 miles off the Oregon coast, a bobbing and blowing bundle of joy. The not so little killer whale is one big baby. Just two days old and already eight feet long and 300 pounds. Whale researchers on a three-week mission couldn't believe their eyes....

[Fourth baby for endangered Puget Sound orcas](#)

-Associated Press

The endangered population of killer whales that spend time in Washington state waters is experiencing a baby boom with a fourth baby orca documented this winter. The newborn was spotted Monday by whale-watching crews and a naturalist in the waters of British Columbia, according to the Pacific Whale Watch Association, which represents 29 whale-watching operators in Washington and British Columbia. The orca was swimming with other members of the J-pod, one of three families of orcas that are protected in Washington and Canada...

[The Electric Coral Acid Test: Scientists Study Deep-Sea 'Poster Child'](#)

-Santa Barbara Independent

Last Wednesday afternoon, a group of scientists and a handful of lucky onlookers crowded around a heap of computer monitors onboard a NOAA research vessel in between Santa Cruz and Anacapa islands. In the middle of this scrum were two men controlling a remotely operated vehicle (ROV) 500 feet beneath the boat's hull. Later in the day, an oceanographer named Peter Etnoyer would ruminate on the fact that when he was in college, researchers still believed that the deep sea consisted of dead zones devoid of life; however, the ROV's electrical eyes revealed an ecosystem teeming with fish, crustaceans, and the organism that nobody knew actually existed in the Santa Barbara Channel until recently: coral...The ROV on the *Bell M. Shimada* was designed by a nongovernmental organization called Marine Applied Research and Exploration (MARE)...

[Off Channel Islands, scientists explore coral--and our oceans' future](#)

-Los Angeles Times

Five hundred feet beneath the ocean's surface, a robotic submarine is bumping into a grove of bone-white coral in the waters off the Channel Islands. The robot — the size of two ovens placed back to back — has been sent to an underwater rocky ridge between Anacapa and Santa Cruz islands to collect samples of stony corals living, unexpectedly, in an acidifying ocean. A team of deep-sea scientists and engineers watches live footage of the collision on a suite of computer screens aboard the *Bell M. Shimada* research ship...

[NOAA ship mapping ocean floor around V.I.](#)

-Virgin Islands Daily News

ST. THOMAS - The scientific research vessel *Nancy Foster* will set out today on a two-week mission to collect data in Virgin Islands waters. The 186-foot-long *Nancy Foster* is a former U.S. Navy ship that now belongs to the National Oceanic and Atmospheric Administration and conducts oceanographic research projects for the National Centers for Coastal Ocean Science. The team of scientists aboard the *Nancy Foster* will cover a broad range of subjects, but are primarily going to be mapping the ocean floor, identifying fish populations and looking for fish spawning grounds. "It's the 12th time we've been to the U.S. Caribbean. We alternate years between Puerto Rico and the U.S. Virgin Islands," lead researcher Tim Battista said. "Our strategy is based on bringing technological capabilities not normally available in the Caribbean," Battista said. "It's informational data gap filling..."

[Port may need to expand NOAA dock](#)

-Newport (Oregon) News Times

In an effort to fulfill the needs of both NOAA and the U.S. Coast Guard, the Port of Newport may need to add two berths to its South Beach pier sometime during the next several years. Additions to the current six-berth dock may be necessary if the Coast Guard chooses Newport over Astoria this year as the future homeport for two fast response cutters (FRCs), which would begin occupancy in 2021.



NOAA Corps - Basic Officer Training Class (BOTC) 125



On May 6, Representative Joe Courtney (D CT-2) will join NOAA's Assistant Secretary of Environmental Observation and Prediction, Manson K. Brown; the Director of NOAA's Office of Marine and Aviation Operations and the NOAA Commissioned Officer Corps, Rear Admiral (two star) David Score; and officials from the United States Coast Guard at the 125th NOAA Corps Basic Officer Training Class (BOTC) graduation. The new NOAA Corps Officers will be graduating alongside the newest class of U.S. Coast Guard officer candidates at the Coast Guard Academy in New London, Connecticut. Representative Courtney will provide the keynote address and Assistant Secretary Brown will provide the commencement address. Below is a glimpse into some of BOTC 125's training.



Community Service Event on the S/V *Oliver Hazard Perry* (left). The show must go on! With offsite training in Newport, RI, April 2-12, the Platoon Executive Officer (PXO) still manages to conduct thorough daily personnel inspections(right).

[Photo: NOAA]





BOTC 125 tours Liferaft Survival Equipment in Providence, RI, to learn what happens behind the scenes for life raft inspections (left). Fire-fighting training at the U.S. Navy training facility (right).

[Photo: NOAA]



BOTC 125 completed Damage Control training (left). LTJG Katie Priesing, OCS/USCG, joined in the training as well (right).

[Photo: NOAA]



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. <http://shiptracker.noaa.gov>

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: CDR Marc Moser

Primary Mission Category: Hydrographic Surveys

Ship Status: Alongside [USCG Shipyard in Baltimore, MD](#), for scheduled maintenance and repairs.

Woods Hole, MA (currently docks in Newport, RI)

NOAA Ship *Henry B. Bigelow*

Commanding Officer: CDR G. Mark Miller

Primary Mission Category: Fisheries Research

DEPART: Newport, RI

ARRIVE: Newport, RI

Project: Spring Multispecies Bottom Trawl Survey

Objectives:

1. Determine the spring distribution and relative abundance of fish and invertebrate species found on the continental shelf, including variable amounts of additional biological information obtained through intensive sampling effort.
2. Opportunistically test trawl gear, methods, and/or survey related equipment that may benefit the trawl survey in the future.
3. Collect oceanographic data - including Conductivity, Temperature and Depth casts and bongo tows at selected stations.
4. Collect acoustic data along project track-lines with the EK-60 and ME-70 acoustic systems.

Davisville, RI

NOAA Ship *Okeanos Explorer*

Commanding Officer: CDR Mark Wetzler

Primary Mission Category: Oceanographic Exploration and Research

DEPART: San Juan, PR

ARRIVE: San Juan, PR

Project: Caribbean Exploration (Mapping) – Leg 2 & 3

Objectives:

1. Identify and explore the diversity and distribution of benthic habitats and features in the region (e.g., deep corals and related benthic ecosystems, canyons, and seamounts)
2. Collect deep water multibeam bathymetry sonar data and ancillary sonar data with EK-60 single beam sonar and Knudsen sub-bottom profiler.
3. Conduct Conductivity, Temperature and Depth profiles and Expendable Bathymetric Thermograph operations.
4. Deploy National Ocean Service gliders.
5. Deploy Free Vehicles along Puerto Rican trench.
6. Train new personnel in all data collection and processing procedures.
7. Test new or modified mission hardware and software.
8. Maintain telepresence - single live stream video from ship to shore.
9. Test and refine ship-to-shore communications for Remote Science/Exploration Command Centers
10. Engage the general public in ocean exploration through live video and timely content posted on the Ocean Explorer website



Crew aboard NOAA Ship *Okeanos Explorer* launches a large rosette with Conductivity, Temperature and Depth profiler.

[Photo: Theresa Paulsen, NOAA Teacher-At-Sea]

Norfolk, VA

NOAA Ship *Thomas Jefferson*

Commanding Officer: CAPT Shepard Smith

Primary Mission Category: Hydrographic Surveys

DEPART: Norfolk, VA

ARRIVE: Charleston, SC

Project: Mapping approaches to Charleston, SC

Objectives:

To support safe navigation through the acquisition and processing of hydrographic survey data for updating nautical charts and by the identification and dissemination of dangers to navigation, as identified during the course of survey operations.



NOAA Ship *Thomas Jefferson*

[Photo: NOAA]

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

CAPT Anne Lynch, Commanding Officer MOC-A

MOC-A serves as a homeport for one NOAA ship, and manages the day-to-day operations and provides administrative, engineering, maintenance, and logistical support 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: LCDR Jeffrey Shoup

Primary Mission Category: Oceanographic Research, Environmental Assessment

DEPART: Charleston, SC

ARRIVE: Charlotte Amalie, USVI

DEPART: Charlotte Amalie, USVI

ARRIVE: Cozumel, Mexico

Project 1: Mapping Essential Fish habitat in the U.S. Caribbean to Inform Marine Protected Area Management

Objectives:

Collect high resolution multibeam and acoustic fisheries data in mid-water depths of approximately 10 to 2000 meters, to characterize seafloor habitats within all U.S. States, Territories, and Commonwealths. Collect a multibeam bathymetry dataset with 100% seafloor ensonification, along with multibeam backscatter suitable for seafloor characterization. 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. Multibeam data will be collected to conform to the International Hydrographic Organization accuracy standards for charting purposes. Utilize a moderate-depth Remotely Operated Vehicle, with video and frame camera capability to depths of 300 meters, to help with the delineation and identification of seafloor habitats. Deploy two Slocum Glider G2s for the duration of the project to collect oceanographic data and passive fish acoustics in the study region.

Project 2: Coral Reef Ecosystem Research (CRER)

Objectives:

1. Collect physical and biological data from planned project Conductivity, Temperature, and Depth O₂/Lowered Acoustic Doppler Profiler casts and net tow stations.
2. Collect profiling reflectance radiometer data in the upper water column.
3. Collect sea surface flow-through data set for the entire cruise period.
4. Collect a complete and continuous 150 kHz hull-mounted Acoustic Current Doppler Profiler (ADCP) data set, interfaced with directional GPS heading input, for the entire cruise period.
5. Install a 300 kHz ADCP in the ship's moon pool and collect a complete and continuous hull-mounted ADCP data set from the instrument interfaced with directional GPS heading input, at selected shallow transects throughout the survey area.
6. Deploy ~10 satellite-tracked Lagrangian drifting buoys.
7. Collect a complete and continuous bathymetric time-series from the ship's Knudsen depth sounder for the entire cruise period (with time, position, and quality flag).
8. Conduct directed sampling targeting potential Atlantic Bluefin Tuna (*Thunnus thynnus*) and other tuna species spawning areas in the Caribbean Sea including Cuban and Mexican waters.
9. Assess the occurrence, abundance, and geographical distribution of the early life stages of spring spawning fishes, especially Atlantic Bluefin Tuna, in support of annual stock assessments through the use of sub-surface Neuston net tows.
10. Measure the vertical distribution of fish larvae by sampling at discrete depths in the water column at selected locations using a 1 m Multiple Opening and Closing Net Environmental Sensing System.
11. Evaluate trophic pathways relative to the early life dynamic primarily of Atlantic Bluefin Tuna larvae with the use of stable isotope analysis of samples collected using a CALVET bongo net.

NOAA Ship *Ronald H. Brown*

Commanding Officer: CAPT Robert Kamphaus

Primary Mission Category: Oceanographic Research, Environmental Assessment

DEPART: Papeete, Tahiti - French Polynesia

ARRIVE: Honolulu, HI

Project: P16N CLIVAR/CO₂ Repeat Hydro – Leg 1

Objectives:

This project will be a decadal reoccupation of repeat hydrography section P16N as part of the GO-SHIP (Global Ocean Ship-Based Hydrographic Investigation Program)/CO₂/hydrography/tracer program. The goal of the effort is to occupy a set of hydrographic transects with full water column measurements over the global ocean to study physical and hydrographic changes over time and better assess changes in the ocean's biogeochemical cycle in response to natural and/or man-induced activity on the decadal time-scale. Near surface seawater (temperature, salinity, pCO₂, ADCP, IOP, Fluorometry) and atmospheric measurements (CO₂, CFCs, aerosols) will be made along the cruise track. More details on the GO-SHIP program can be found at: <http://ushydro.ucsd.edu/>

Pascagoula, MS

NOAA Ship *Oregon II*

Commanding Officer: Master Dave Nelson

Primary Mission Category: Fisheries Research

DEPART: Pascagoula, MS

ARRIVE: Pascagoula, MS

Project: Experimental Bottom Longline Survey

Objectives: Conduct an experimental bottom longline survey with varying bait, gangion material, and depth sampled on the U.S. continental shelf in the north east Gulf of Mexico. A Remotely Operated Underwater Vehicle (ROV) will be deployed and flown along the longline gear during daylight hours (6am-6pm) to help determine what species are present versus what species are caught. Additionally, GoPro video cameras equipped with lasers will be attached to the longline mainline to function as a back-up for the ROV.

NOAA Ship *Gordon Gunter*

Commanding Officer: Master Donn Pratt

Primary Mission Category: Fisheries Research

Ship Status: Alongside Pascagoula, MS, for scheduled maintenance, repairs and crew rest, then transiting to Newport, RI, in preparation for next month's Northern Right Whale project.



NOAA Ship *Gordon Gunter*, as seen from NOAA's Twin Otter aircraft.

[Photo: NOAA]

NOAA Ship *Pisces*

Commanding Officer: CAPT Michael Hopkins

Primary Mission Category: Fisheries Research

Ship Status: Alongside Pascagoula, MS, for scheduled maintenance, repairs, scientific data processing, crew rest, and training.

San Diego, CA

NOAA Ship *Reuben Lasker*

Commanding Officer: LCDR John Crofts

Primary Mission Category: Fisheries Research

Ship Status: The ship is alongside in San Diego, CA, due to voltage and harmonic issues within the propulsion motors and will remain alongside as solutions are developed.

Newport, OR

NOAA Ship *Rainier*

Commanding Officer: CDR E.J. Van Den Ameele

Primary Mission Category: Hydrographic Surveys

DEPART: Newport, OR

ARRIVE: Juneau, AK

Project: Chatham Strait, AK

Objectives: To support safe navigation through the acquisition and processing of hydrographic survey data for updating nautical charts and by the identification and dissemination of dangers to navigation, as identified during the course of survey operations.

NOAA Ship *Bell M. Shimada*

Commanding Officer: CDR Brian Parker

Primary Mission Category: Fisheries Research

DEPART: Port Hueneme, CA

ARRIVE: San Francisco, CA

Project: Spring Coastal Pelagic Species (CPS) Survey

Objectives: Survey the distributions and abundances of pelagic fish stocks, their prey, and their biotic and abiotic environments in the area of the California Current between Cape Mendocino, California and the Southern California Bight for the Spring Acoustic Trawl Method/Daily Egg Production Method CPS Survey.

1. Continuously sample pelagic fish eggs using the Continuous Underway Fish Egg Sampler (CUFES). The data will be used to estimate the distributions and abundances of spawning hake, anchovy, mackerel, and spawning Pacific sardine.
2. Continuously sample multi-frequency acoustic backscatter using the EK-60. The data will be used to estimate the distributions and abundances of coastal pelagic fishes (e.g., sardine, anchovy, and mackerel), and krill species.

3. Continuously sample sea-surface temperature, salinity and chlorophyll-a using a thermosalinometer and fluorometer. These data will be used to estimate the physical oceanographic habitats for target species.
4. Continuously sample air temperature, barometric pressure, and wind speed and direction using an integrated weather station.
5. Sample profiles of seawater temperature, salinity, oxygen and chlorophyll-a.
6. Sample plankton using a California Cooperative Oceanic Fisheries Investigations' (CalCOFI) Bongo Oblique at prescribed stations. These data sets will be used to estimate the distributions and abundances of ichthyoplankton and zooplankton species.
7. Sample the vertically integrated abundance of fish eggs using a Pairovet net at prescribed stations. These data sets will be used to quantify the abundances and distributions of fish eggs.
8. Sample profiles of currents using the Acoustic Doppler Current Profiler only when conducting station work, so as not to interfere with underway EK-60 operations.
9. Sample fish near the surface at nighttime by conducting 2-5 surface trawls at stations or at random sites each night. The data will be used to estimate the reproductive parameters, distributions and demographics of sardine, anchovy and mackerel.

OMAO'S MARINE OPERATIONS

Mr. Troy Frost, (Acting) Director of Marine Operations

OMAO's Marine Operations oversees operations of the three regional Centers, including the Marine Operations Center-Pacific, Marine Operations Center-Atlantic, and Marine Operations Center-Pacific Islands.

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

CAPT Douglas Baird, Commanding Officer MOC-P

MOC-P serves as a homeport for two NOAA ships, and manages the day-to-day operations and provides administrative, engineering, maintenance, and logistical support 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.

Ketchikan, AK

NOAA Ship *Fairweather*

Commanding Officer: CDR David Zezula

Primary Mission Category: Hydrographic Surveys

DEPART: Seattle, WA

ARRIVE: Kodiak, AK

Project: Shumagin Islands, AK

Objectives: To support safe navigation through the acquisition and processing of hydrographic survey data for updating nautical charts and by the identification and dissemination of dangers to navigation, as identified during the course of survey operations.

Kodiak, AK

NOAA Ship *Oscar Dyson*

Commanding Officer: CDR Arthur “Jesse” Stark

Primary Mission Category: Fisheries Research

DEPART: Kodiak, AK

ARRIVE: Dutch Harbor, AK

Project: EcoFOCI Spring Moorings

Objectives:

Perform hydrographic and zooplankton studies in the Bering Sea, recover 7 moorings and redeploy two, and conduct sampling in tandem with an autonomous Saildrone.



NOAA Ship *Oscar Dyson* returning to port.

[Photo: LT Frydrych, NOAA]

Honolulu, HI

NOAA Ship *Hi'ialakai*

Commanding Officer: CDR Daniel Simon

Primary Mission Category: Oceanographic Research, Environmental Assessment

DEPART: Pago Pago, AS

ARRIVE: Honolulu, HI

Project: American Samoa - Reef Assessment and Monitoring Program (RAMP)

Objectives:

1. Conduct ecosystem monitoring of the species composition, abundance, percent cover, size distribution, recruitment, and general health of the fishes, corals, other invertebrates, and algae of the shallow water (< 35 m) coral reef ecosystems of Johnston Atoll, the Phoenix Islands, the Territory of American Samoa, and the Line Islands.
2. Deploy, retrieve, and/or service an array of Subsurface Temperature Recorders, Sea Surface Temperature Buoys, Autonomous Reef Monitoring Structures, Calcification Accretion Units, Bioerosion Monitoring Units, Ecological Acoustic Recorders, moored Acoustic Doppler Current Profilers (ADCP), as well as anchored arrays consisting of a portable underwater collector, ADCP, a Conductivity, Temperature, Depth (CTD) recorder and a thermistor string to allow remote long-term monitoring of oceanographic and environmental conditions affecting the coral reef ecosystems of Johnston Atoll, the Phoenix Islands, the Territory of American Samoa, and the Line Islands. This effort is in support of the Coral Reef Ecosystem Integrated Observing Systems.
3. Monitor near-shore physical and ecological factors associated with ocean acidification and general water quality, including analysis of seawater for nutrients, chlorophyll concentration, salinity, temperature, dissolved oxygen, transmissivity, total alkalinity, and dissolved inorganic carbon. These parameters will be measured via the collection of water in Niskin bottles CTD casts. Shallow-water CTDs will be conducted from small boats to a depth of ~30 m.
4. Collect shallow water coral cores to examine calcification/growth rates in recent decades and assess potential early impacts of ocean acidification. Coring operations will be conducted opportunistically (as a scientific dive).
5. Shipboard ADCP surveys around reef ecosystems to examine physical and biological linkages supporting and maintaining the island ecosystems.
6. Collect oceanographic data utilizing ship-based measurement systems ADCP, ThermoSalinoGraph, and the Scientific Computer System during all transits for the duration of the project.
7. Conduct investigations of marine microbial communities, including the collection of specimens via water sampling and benthic grab samples.
8. Determine the existence of threats to the health of these coral reef resources from anthropogenic sources, including marine debris.

NOAA Ship *Oscar Elton Sette*

Commanding Officer: CDR Stephanie Koes

Primary Mission Category: Fisheries Research

DEPART: Pearl Harbor, HI

ARRIVE: Pearl Harbor, HI

DEPART: Pearl Harbor, HI

ARRIVE: Apra Harbor, Guam

Project 1: North Pacific Subtropical Front Survey

Objectives:

1. Describe the physical environment of the North Pacific tuna and swordfish fishing grounds through routine Conductivity, Temperature, Depth (CTD) casts and continuous Acoustic Doppler Current Profiler and thermosalinograph measurements.
2. Assess the influence of physical dynamics on the density, distribution and composition of micronekton in the region by monitoring the biological backscatter using the EK-60 echosounder system. Characterize the micronekton faunal composition and densities as the forage base for larger pelagic nekton.
3. Assess the influence of the physical dynamics on the biological productivity in the region through CTD-mounted fluorometer measurements and extracted chlorophyll and accessory pigment determinations.
4. Conduct stern Cobb trawl operations targeting the depths of high sonic scattering layers to better our understanding of echosounder signals collected by the EK-60 echosounder and of the micronekton faunal community composition.

Project 2: Cetaceans of the Commonwealth of the Northern Mariana Islands (CNMI) and Mariana Trench Marine National Monument (MTMNM)

Objectives:

1. Recover and deploy a High-Frequency Acoustic Recording package at Wake Island during the transit to Guam.
2. Survey and sample cetacean species near each island area to understand connectivity of cetacean populations within the Mariana Archipelago. Visual survey and sampling will consist of behavioral observations, photographs, biopsy sampling, and satellite tagging. Acoustic monitoring will be conducted from the ship and will consist of a variety of array transects and tests, including acoustic calibration of the towed array.
3. Collection of oceanographic data including CTD and Expendable Bathythermograph (XBT) casts, and thermosalinograph and echosounder measurements throughout the project.

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

CDR Matthew Wingate, Commanding Officer MOC-PI

MOC-PI serves as a homeport for two NOAA ships, and manages the day-to-day operations and provides administrative, engineering, maintenance, and logistical support for the ships in NOAA's Pacific Islands' fleet.



OMAO's Aircraft



Tampa, Florida

OMAO'S AIRCRAFT OPERATIONS CENTER (AOC)

CAPT Harris Halverson, Commanding Officer AOC

The AOC, located at MacDill Air Force Base, 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.

WP-3D (N42RF) – "Hurricane Hunter"

Aircraft Commander:

N/A

Current Mission:

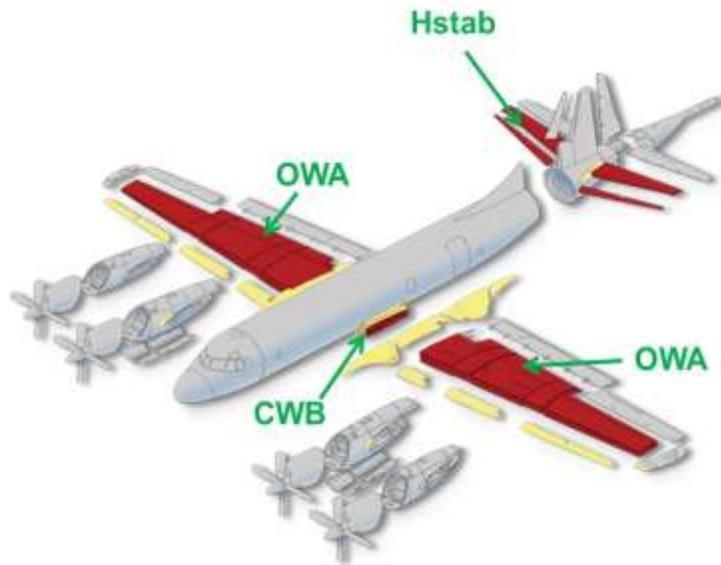
Scheduled Maintenance - Until April 2016

The aircraft is at the Naval Air Station Jacksonville, Florida undergoing an extensive refurbishment period which will include replacing the wings and upgrading various components. This effort will extend the useful life of the aircraft for another 15-20 years.

Re-winging of N42RF commenced March 9, 2015 and is scheduled to finish in May 2016.

Re-wing Kit Consists of:

- Outer Wing Assembly (OWA)
- Center Wing Box (CWB)
- Horizontal Stabilizer (Hstab)
- Installation



Jet Prop Commander (N45RF)

Aircraft Commander:

LTJG Kevin Doremus

Current Mission:

Various locations for Snow Survey / Soil Moisture Surveys

Aircraft will conduct Snow Survey operations for the National Operational Hydrologic Remote Sensing Center (NOHRSC). The project utilizes an Airborne Gamma Radiation detector to make airborne Snow Water Equivalent (SWE) and soil moisture measurements. Airborne SWE measurements are used by NWS Weather Forecast Offices and NWS River Forecast Centers when issuing river and flood forecasts, water supply forecasts, and spring flood outlooks. Survey locations are determined based on NOHRSC tasking.

Twin Otter (N46RF)

Aircraft Commander:

LT John Rossi/LT Michael Marino

Current Mission:

Various Locations for Snow Survey / Soil Moisture Surveys

Aircraft will also conduct Snow Survey and Soil Moisture operations for the National Operational Hydrologic Remote Sensing Center, as described above.



View from a Twin Otter aircraft as it conducts soil moisture survey missions.

[Photo: ENS Bonner, NOAA]

Twin Otter (N48RF)

Aircraft Commander: LTJG Sandor Silagi/ENS Kerry Schneider
Temporary Base: Boulder, CO
Current Mission: Fugitive Emissions Project – San Juan Basin, NM

Aircraft will conduct the Fugitive Emissions project for the Chemical Sciences Division of NOAA's Earth System Research Laboratory. This study aims to understand the atmospheric impact of rapidly expanding oil and gas operations. Measurements of key atmospheric trace gases (CO₂, CO, CH₄, C₂H₆, O₃, and many more) along with black carbon will be made from the NOAA Twin Otter. The primary area of operation will be in the San Juan basin in New Mexico. The project will also include researchers from the University of Colorado, and University of Michigan.

Twin Otter (N56RF)

Aircraft Commander: LT Francisco Fuenmayor
Temporary Base: San Juan, Puerto Rico
Current Mission: Coastal Mapping LiDAR (AMAPPS)/Coastal Mapping

Aircraft is conducting a Coastal Mapping mission for the Remote Sensing Division of the National Geodetic Survey. This effort will utilize a Light Detecting and Ranging (LiDAR) system to scan the coastlines. The system can determine both the height of terrain on the beach and the depth of the near-shore waters. This data will aid in producing a digital database of our national shoreline. Working areas will be around Puerto Rico for the month.

Twin Otter (N57RF)

Aircraft Commander: LCDR Jason Mansour
Temporary Base: US Coast Guard Air Station Cape Cod, MA
Current Mission: Northeast Right Whale Survey - New England waters

This survey will: 1) provide locations of North Atlantic Right whales to mariners, 2) provide description of Right whale distribution to support the implementation of seasonal and dynamic area management, 3) provide annual photo-identification records on Right whales, as well as detailed vertical photogrammetry in selected periods, 4) provide information on the distribution and abundance of marine mammals and marine turtles in the winter, spring, summer and fall seasons, 5) provide sightings of dead whales, 6) provide information on the distribution of shipping and fishing gear, and 7) census seal populations along the New England coast.

King Air (N68RF)

Aircraft Commander: CAPT Adam Dunbar / LT Tanner Sims
Current Mission: Various Locations – Continuous Coastal Mapping

King Air is conducting Coastal Mapping mission flights in various locations. The Coastal Mapping work is an on-going mission, run by the Remote Sensing Division of the National Geodetic Survey (NGS), with the goal of providing a regularly-updated national shoreline for supporting marine navigation, defining territorial limits, and managing coastal resources. Stereo photogrammetry and a Light Detecting and Ranging System (LiDAR) are used to produce a digital database for a national shoreline. The King Air will be conducting operations along the U.S. eastern seaboard and along the Gulf of Mexico.

Gulfstream IV (N49RF)

Aircraft Commander: N/A
Current Mission: Scheduled Maintenance

Aircraft is in scheduled maintenance until the end of the month.

WP-3D (N43RF)

Aircraft Commander: CDR Mark Sweeney/LCDR Justin Kibbey
Temporary Base: Boulder, CO / Various locations
Current Mission: Research at the Nexus of Climate and Air Quality: Shale Oil and Natural Gas (SONG-NEX)

The aircraft will be conducting the Research at the Nexus of Climate and Air Quality: Shale Oil and Natural Gas project, or SONG-NEX. The project will base out of Boulder, CO but will also operate in other locations in the Midwest. The objectives of this air chemistry study are to quantify the emissions in the western U.S. from shale basins, coal mines in Wyoming, urban areas and any wildfires - should they occur during the project. The research will advance our knowledge of emissions that contribute to both climate change and air quality degradation.



NOAA WP-3D N43RF taking off from Rocky Mountain Metropolitan Airport, Broomfield, CO.

[Photo: Terry Lynch]



Unmanned Systems Support



NASA Global Hawk

Location: Edwards Air Force Base (AFB), CA

Mission: Multiple Flight Test Activities

NASA's Global Hawk Unmanned Aircraft System (UAS) has now been geared for multiple flight test activities in April, May and June. This test period will be followed by hurricane surveillance instrumentation in July for the Sensing Hazards with Operational Unmanned Technology (SHOUT) project. The SHOUT project is a NOAA funded hurricane surveillance and research activity that is scheduled to operate from the NASA Wallops Flight Facility in August and September. NOAA Corps officer, LCDR Neuhaus, is supporting Global Hawk as a project manager and instructor pilot.

APH-22 Hexacopter

Location: San Simeon, CA

Mission: Piedras Blancas Grey Whale

The objective of this study is to assess the body condition and nutritional status of reproductive female gray whales based on measurements of length and width from vertical aerial photographs collected using an unmanned aircraft system (UAS). Estimates of length will inform long-term growth trends and minimum size at sexual maturity for this population. Widths will be used to infer current nutritional status and to establish a baseline of condition for reproductive females within this population. In addition to the size and shape data captured in these vertical images, this will be the first attempt to identify individual gray whales from the air. Whales photographed from the air will be photographed concurrently from shore to test the feasibility of comparing vertical to oblique images. Because most photo-identification images of gray whales are oblique images of the dorsal flank taken from small boats or from shore, this feasibility experiment is important for ground truthing purposes. If proven to be feasible, vertical images can be integrated with photo-identification catalogues of gray whales from both the eastern and western North Pacific.



Hexacopter taking off.

[Photo: Vancouver Aquarium and NOAA]

Manta UAS

Location: Svalbard, Norway

Mission: Manta Air-Sea-Ice and Biogeochemistry Experiment

The objective of this mission is to further understand the distribution of black carbon in the Arctic atmosphere and the deposition of black carbon on snow and ice surfaces. Two Mantas will be flown in tandem as well as a UAS owned by the Norwegian Northern Research Institute. The Manta is planned to be equipped with several payloads to include an Aerosol Payload, Visual and Infrared Imaging Payload, Hyperspectral Imaging Payload, Laser Altimeter and Meteorological Payload, Broadband Long-Wave and Solar Radiation Payload, and a Dropsonde-MicroBuoy payload.



OMAO Partnerships



United States Senate Committee on Commerce, Science, and Transportation – Chair, Senator John Thune (R-SD)

Location: Washington, DC

Detail: LCDR Wendy Lewis, NOAA Commissioned Officer Corps

LCDR Lewis is currently on detail to the Committee where she 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: Antarctica

Mission: LTJG Jesse Milton, NOAA Commissioned Officer Corps

Members of the [NOAA Commissioned Officer Corps](#) carry out NOAA's mission in remote locations across the globe. LTJG Milton 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 (USPACOM)

Location: Honolulu, HI

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 Defense - U.S. Northern Command (USNORTHCOM)

Location: Boulder, CO

Embedded Liaison: CAPT Mark Moran, NOAA Commissioned Officer Corps

U.S. Northern Command (USNORTHCOM) partners to conduct homeland defense, civil support, and security cooperation to defend and secure the United States and its interests. NORTHCOM's 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 that include The Bahamas, Puerto Rico, and the U.S. Virgin Islands. CAPT Moran serves as the liaison for the NOAA Corps, helping to plan, organize, and execute homeland defense and civil support missions.

Department of Defense - U.S. Navy

Location: Washington, DC

Embedded Liaison: CDR Christiaan van Westendorp, NOAA Commissioned Officer Corps
CDR van Westendorp 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 van Westendorp 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.

Department of Defense - U.S. Navy

Location: Stennis Space Center, MS

Embedded Liaison: LT Jonathan French, NOAA Commissioned Officer Corps
Embedded in the Navy's Naval Oceanography Mine Warfare Center, LT French works side by side with Navy officers operating Unmanned Underwater Vehicles worldwide and is currently deployed to the Arabian Gulf. 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.

Department of Defense and NOAA's Office of Coast Survey

Location: Silver Spring, MD

Embedded Liaison: LT Russell Quintero, NOAA Commissioned Officer Corps
NOAA's National Ocean Service Office of Coast Survey (OCS) is the lead federal provider of nautical charts and hydrographic survey data of the U.S. Exclusive Economic Zone. Meeting this responsibility requires active cooperation and coordination with federal partners in the Departments of Defense and Homeland Security with which NOAA shares responsibility for U.S. navigational products and services. LT Quintero tracks, coordinates, and adds value to existing activities involving OCS subject matter experts and partners, seeks and develops additional opportunities for collaboration, and increases visibility and access to these activities and partnerships for OCS leadership.

Department of Homeland Security - U.S. Coast Guard

Location: Washington, DC

Embedded Liaison: CAPT Jeremy Adams, NOAA Commissioned Officer Corps
As the NOAA liaison to the United States Coast Guard (USCG), CAPT Adams 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 Adams 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.



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 600 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. Below is a list of the NOAA Teachers at Sea for the current monthly update for the 2015 Field Season. Once they have embarked on their cruise, you can gain access to their blogs which document their missions at sea and offer a wealth of information about the research being conducted as well as personal stories. More info: <http://teacheratsea.noaa.gov>

2015 Season Stats: 22 teachers will be sailing on different projects

NOAA Ship *Henry B. Bigelow*

Name: Ms. Emily Whalen

School: Next Charter School – Derry, NH

Cruise: Spring Bottom Trawl Survey, April 27, 2015 – May 10, 2015

Blog: http://teacheratsea.noaa.gov/#/2015/Emily*Whalen/blogs

2014 NOAA Teacher-at-Sea Year in Review Report - <http://teacheratsea.noaa.gov/about/highlights.html>



TAS Theresa Paulsen launches an XBT from the deck of NOAA Ship *Okeanos Explorer*.

[Photo: NOAA]



OMAO - NOAA Dive Program



OMAO manages and implements NOAA's Dive 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. http://www.ndc.noaa.gov/gi_program.html.



ENS Vandine properly suited up and prepared to serve as standby diver during a training dive at the NOAA Dive Center in Seattle, WA.

[Photo: Greg McFall, NOAA]



OMAO - NOAA Small Boat Program



OMAO 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. More info: <http://www.sbp.noaa.gov/>



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 "Hurricane Hunter" 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 hurricane surveillance jet, these aircraft greatly improve our physical understanding of hurricanes and enhance the accuracy of tropical cyclone forecasts. NOAA's light aircraft also play a vital role in monitoring our environment. Our King Air, Commander and Twin Otter aircraft support marine mammal population studies, shoreline change assessments, oil spill investigations, and water resource/snowpack surveys for spring flood forecasts.

The NOAA fleet provides immediate response capabilities for unpredictable events. For example, in November 2014, our aircraft flew missions over upstate New York after the record snow falls of up to seven feet and conducted airborne Snow Water Equivalent (SWE) and soil moisture measurements. Airborne SWE measurements are used by NOAA's National Weather Service when issuing river and flood forecasts, water supply forecasts, and spring flood outlooks.

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. 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.

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 among the Federal family is critical to ensuring the long-term capability and success of the federal ocean infrastructure. Our partners' success is our success. 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 nation's seven uniformed services and 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 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. 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.

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. 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 November 2014, our aircraft flew missions over upstate New York after the record snow falls of up to seven feet and conducted airborne Snow Water Equivalent (SWE) and soil moisture measurements. Airborne SWE measurements are used by NOAA's National Weather Service when issuing river and flood forecasts, water supply forecasts, and spring flood outlooks.
- 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.
- After Hurricane Irene in 2011, the NOAA Ship *Ferdinand Hassler* and team completed 300 lineal nautical miles of survey work in less than 48 hours providing a Damage Assessment that enabled the U.S. Coast Guard to re-open ports and restore more than \$5M per hour in maritime commerce less than three days after the storm.
- In 2010, the NOAA fleet and the NOAA Corps played a major role in the response to the BP Deepwater Horizon oil spill. 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.

Find out more about the NOAA Corps, its mission and history at <http://www.noaacorps.noaa.gov/>.