



NOAA Fleet Update

**FOR
APRIL 2014**

The following update provides the status of the ships and aircraft in NOAA's fleet, including current location and planned mission(s). NOAA's ships and aircraft play a critical role in the collection of oceanographic, atmospheric, hydrographic, and fisheries data. NOAA's fleet of research aircraft and ships are operated, managed, and maintained by NOAA's Office of Marine and Aviation Operations ([OMAO](#)), which includes both civilians and the commissioned officers of the NOAA Commissioned Officer Corps ([NOAA Corps](#)), one of the seven Uniformed Services of the United States. Please click on the Table of Contents entry to be taken directly to a specific ship or aircraft. The fleet is listed based on the geographical location of their homeport/base starting in the Northeast and ending in the Pacific.



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Table of Contents

NOAA's Ships	4
<i>Ferdinand R. Hassler</i>	4
<i>Henry B. Bigelow</i>	5
<i>Okeanos Explorer</i>	5
<i>Thomas Jefferson</i>	5
<i>Nancy Foster</i>	6
<i>Ronald H. Brown</i>	7
<i>Gordon Gunter</i>	7
<i>Oregon II</i>	7
<i>Pisces</i>	7
<i>Rainier</i>	8
<i>Bell M. Shimada</i>	8
<i>McArthur II</i>	9
<i>Fairweather</i>	9
<i>Oscar Dyson</i>	9
<i>Reuben Lasker</i>	9
<i>Hi'ialakai</i>	10
<i>Oscar Elton Sette</i>	10
<i>Ka'imimoana</i>	10
NOAA's Aircraft	12
<i>WP-3D (N42RF) – "Hurricane Hunter"</i>	12
<i>WP-3D (N43RF) – "Hurricane Hunter"</i>	12
<i>Twin Otter (N46RF)</i>	13
<i>Twin Otter (N57RF)</i>	13
<i>Twin Otter (N56RF)</i>	13
<i>Twin Otter (N48RF)</i>	14
<i>Jet Prop Commander (N45RF)</i>	14
<i>Gulfstream IV (N49RF)</i>	14
<i>King Air (N68RF)</i>	14
Unmanned Systems Support	15
<i>Manta</i>	15
NOAA Partnerships	17
<i>NASA Global Hawk</i>	17
<i>National Science Foundation</i>	17
Teacher At Sea Program	18
OMAO - NOAA Dive Program	19
OMAO - NOAA Small Boat Program	20
Office of Marine and Aviation Operations	21
The NOAA Commissioned Officer Corps	22



NOAA's newest fisheries survey vessel, the Reuben Lasker, is now at its homeport in San Diego, California!

The Reuben Lasker completed her exciting journey from Virginia to California on the last weekend of March, and please see the picture above for a look at some of the sights from her trip. Upon arrival, the Reuben Lasker tied up opposite her sister vessel, the NOAA Ship Bell M. Shimada, which was in port at the time.

Be sure to stay tuned for the photos of Lasker's official commissioning ceremony in early May!

You can also follow them on www.shiptracker.noaa.gov and look for "RL"

#ship #fisheries #research #noaa

Photos: CAPT Wade Blake, NOAA; CDR Keith Roberts, NOAA; and LT Claire Surrey-Marsden, NOAA

Nancy Foster

Homeport and Commanding Officer: Charleston, SC – LCDR Nicholas Chrobak

Primary Mission Category: Oceanographic Research, Environmental Assessment

Ship Status: Underway March 25 – April 2; April 3 – 8, April 12 – 17, and April 20 – May 1

DEPART: St. Croix, VI

ARRIVE: St. Croix, VI

DEPART: St. Croix, VI

ARRIVE: Charleston, SC

DEPART: Charleston, SC

ARRIVE: Savannah, GA

DEPART: Savannah, GA

ARRIVE: Charleston, SC

First Project: Essential Fish Habitat - Caribbean

Objectives: To collect a multibeam bathymetry dataset with 100 percent seafloor ensonification, along with multibeam backscatter suitable for seafloor characterization. Fishery acoustics data will be collected to characterize broad-scale fish abundances, bio-mass, 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 (ROV). The vehicle has video and frame camera capability to depths of 300 meters and will be used for point sampling within areas mapped during this mission. A Slocum Glider G2 will be deployed during the duration of the project to collect oceanographic data and passive fish acoustics in the study region.

Second Project: Savannah Harbor Expansion Project (SHEP) Savannah Ocean Dredged Material Disposal Site (ODMDS) Pre-Disposal Effects Study

Objectives: The objective of this survey is to conduct pre-SHEP construction Sediment Profile Imaging and multibeam bathymetry survey as a baseline, consistent with the requirement of the Site Management and Monitoring Plan. A post project survey will be conducted following completion of SHEP which is expected in three to four years. Final study results will be used to confirm results of a U.S. Army Corps of Engineers conducted capacity study to determine the long-term viability of the disposal site for disposal of dredged material from the Savannah Harbor Navigation Project. Results will also be shared and coordinated with a team consisting of the U.S. Army Corps of Engineers, NOAA National Marine Fisheries Service and the State of Georgia to make decisions regarding future management of the ODMDS.

Third Project: Gray's Reef National Marine Sanctuary Southeast Regional Ecosystem Assessment

Objectives: Collect ship based mapping and characterization of benthic habitats in the waters in and around Gray's Reef National Marine Sanctuary. Collected data will need to include backscatter. Continue investigations to quantify variation in space and time of the abundance of schooling prey and mid-water predators at mid-shelf reefs. This involves conducting survey lines using the EK-60 survey system. Divers will also visit these sites to groundtruth fisheries acoustic data.

1. Continue collecting data on the abundance, diversity, and distribution of both fish and invertebrates both inside and outside the Research Area in Gray's Reef. This project will include diving to assess fish and invertebrate populations around the sanctuary.
2. Service acoustic telemetry array.
3. Continue investigation of abundance and distribution of invasive lionfish within the sanctuary.
4. Continue long term monitoring of marine debris distribution, accumulation, and characterization at established sites within the sanctuary.
5. Collect photo and video imagery of the living marine resources and habitats within Gray's Reefs. These images will be used for education and outreach purposes.
6. Collect photo and video of sea turtles, as encountered, for the purpose of photo-identification of individual turtles.

Ronald H. Brown

Homeport and Commanding Officer: Charleston, SC – CAPT Joseph Pica

Primary Mission Category: Oceanographic Research, Environmental Assessment

Ship Status: Alongside in San Diego, CA. Transit to drydock for a scheduled maintenance period is expected from April 28 – May 1, 2014. Location is still to be determined.

Gordon Gunter

Homeport and Commanding Officer: Pascagoula, MS – CDR Nathan Hancock

Primary Mission Category: Fisheries Research

Ship Status: Underway March 27 – April 3, 2014 and April 7 – May 1, 2014

DEPART: Norfolk, VA

ARRIVE: Newport, RI

DEPART: Newport, RI

ARRIVE: Woods Hole, MA

Project: Atlantic Marine Assessment Program for Protected Species (AMAPPS) – Cetacean and Turtle Abundance Survey Spring

Objectives: The overall goal is to document the relationship between the distribution and abundance of cetaceans, sea turtles and sea birds within the study area relative to their physical and biological environment. To do so the specific objectives are, within the study area:

1. Determine the distribution and abundance of cetaceans, sea turtles and sea birds
2. Collect vocalizations of cetaceans using passive acoustic towed hydrophone arrays
3. Determine the distribution and relative abundance of plankton, micronekton, and benthic species
4. Collect hydrographic and meteorological data
5. Document spring baleen whale migration by deploying bottom-mounted marine autonomous recording units (MARUs)
6. When possible, collect biopsy samples and photo-identification pictures of cetaceans.

Oregon II

Homeport and Commanding Officer: Pascagoula, MS – Master Dave Nelson

Primary Mission Category: Fisheries Research

Ship Status: Alongside in Pascagoula, MS, for winter inport and dockside repair period, routine maintenance, and crew training. Sea trials are scheduled for April 23, with the field season to start in the beginning of May with the Spring Plankton survey for NOAA's National Marine Fisheries Service.

Pisces

Homeport and Commanding Officer: Pascagoula, MS – CDR Peter Fischel

Primary Mission Category: Fisheries Research

Ship Status: Underway April 12 – 25, 2014 and April 28 – May 9, 2014

DEPART: Pascagoula, MS

ARRIVE: Pascagoula, MS

DEPART: Pascagoula, MS

ARRIVE: Pascagoula, MS

Project: Southeast Area Monitoring and Assessment Program Reef Fish

Objectives: Conduct a survey of reef fish on the U.S. continental shelf of the Gulf of Mexico using a custom built stereo/video camera system and bandit reels. The ship's ME70 multibeam system and Simrad EK60 Echosounder will be used to map predetermined targeted areas on a nightly basis to improve or increase the reef fish sample universe.



NOAA Ship *Rainier* returning to the Marine Operations Center – Pacific in Newport, OR, after her recent drydock repair period.

Photo: CAPT Wade Blake, NOAA

Rainier

Homeport and Commanding Officer: Newport, OR – CDR Rick Brennan

Primary Mission Category: Hydrographic Surveys

Ship Status: Underway April 7 – 18, 2014 and April 21 – May 2, 2014

DEPART: Newport, OR **ARRIVE:** Kodiak, AK

DEPART: Kodiak, AK **ARRIVE:** Kodiak, AK

Project: Hydrographic Survey Operations in the North Coast of Kodiak Island, 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. This project will provide contemporary hydrographic data in order to update the nautical charting products and reduce survey backlog in the area.

Bell M. Shimada

Homeport and Commanding Officer: Newport, OR – CDR Scott Sirois

Primary Mission Category: Fisheries Research

Ship Status: Underway April 10 – May 6, 2014

DEPART: San Diego, CA **ARRIVE:** San Diego, CA

Project: California Cooperative Oceanic Fisheries Investigations – Acoustic Trawl Method/Daily Egg Production Method Survey, Fisheries Resources Division

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 San Francisco and San Diego.

McArthur II

Homeport: Newport, OR

Ship Status: The ship is currently docked in Newport, OR, in layup status.

Fairweather

Homeport and Commanding Officer: Ketchikan, AK – CDR David Zezula

Primary Mission Category: Hydrographic Surveys

Ship Status: Underway April 7 – 25, 2014 and April 28 – May 9, 2014

DEPART: Seattle, WA **ARRIVE:** Anacortes, WA

DEPART: Anacortes, WA **ARRIVE:** Kodiak, AK

Project: Hydrographic Survey Operations in the Strait of Juan de Fuca

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.

Oscar Dyson

Homeport and Commanding Officer: Kodiak, AK – CDR Jesse Stark

Primary Mission Category: Fisheries Research

Ship Status: Underway April 4, 2014 – May 1, 2014

DEPART: Kodiak, AK **ARRIVE:** Dutch Harbor, AK

Project: Ecology of Ice-associated Seals in the Bering Sea

Objectives: Conduct satellite tracking and telemetry, collect samples that are available during the process of handling, and attaching tracking tags to seals. Seals on the ice floes will be approached using project owned inflatable skiffs launched from the ship, and then captured on the ice in hand-held nets. Samples of skin, blood, hair, and whiskers will be collected, along with swabs for disease assays. Collect feces and urine when they are available. Seals with tracking tags will continue to provide data on movements, diving behavior, and haul-out timing for several months to several years following the conclusion of the project.

Reuben Lasker

Homeport and Commanding Officer: San Diego, CA – CDR Keith Roberts

Primary Mission Category: Fisheries Research

Ship Status: Underway April 14 – 20, 2014 and April 23 - 27, 2014

DEPART: Pearl Harbor, HI **ARRIVE:** Guam

Project: Operational Shakedowns

Objectives: Test all operational equipment prior to the beginning of the field season.

Hi'iialakai

Homeport and Commanding Officer: Honolulu, HI – LCDR Daniel Simon

Primary Mission Category: Oceanographic Research, Environmental Assessment

Ship Status: Underway April 4 – 13, 2014, April 17 – May 7, 2014

DEPART: Guam **ARRIVE:** Saipan

DEPART: Saipan **ARRIVE:** Saipan

Project: Mariana Reef Assessment and Monitoring Project (RAMP)

Objectives: The ship will support assessment and monitoring operations in the waters surrounding Wake Island, Guam, and the Commonwealth of the Northern Marianas (CNMI). The scientific objectives of this project are to:

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 Wake Island, Guam and CNMI.
2. Deploy, retrieve and/or service an array of Subsurface Temperature Recorders, Sea Surface Temperature Buoys, Autonomous Reef Monitoring Structures, Calcification Accretion Units, and Bioerosion Monitoring Units to allow remote long-term monitoring of oceanographic and environmental conditions affecting the coral reef ecosystems of Wake Island, Guam and the CNMI. This effort is in support of the Coral Reef Ecosystem Integrated Observing Systems.
3. Monitor nearshore physical and ecological factors associated with ocean acidification and general water quality.

Oscar Elton Sette

Homeport and Commanding Officer: Honolulu, HI – LCDR Stephanie Koes

Primary Mission Category: Fisheries Research

Ship Status: Underway April 5 – 19, 2014 and April 26 – May 12, 2014

DEPART: Pearl Harbor, HI **ARRIVE:** Pearl Harbor, HI

DEPART: Pearl Harbor, HI **ARRIVE:** Guam

Project: Comparison of Fishery-Independent Sampling Methods for Main Hawaiian Islands Bottomfish

Objectives: This research project will target areas (grid cells) where density of Deep-7 bottomfish is expected to be high. Target areas will be selected based on spatial surveys conducted during prior research projects and in-situ sampling. During SE-14-02 sampling will follow a traditional stratified-random sampling protocol, to begin testing an operational fishery-independent survey.

Ka'imimoana

Homeport: Honolulu, HI

Ship Status: The ship is currently docked in Newport, OR, in layup status.



Have you watched the live video from the NOAA Ship *Okeanos Explorer*? They have seen some really amazing things at the bottom of the ocean!

Come explore the ocean deep with us -- Live footage from the Remote Operated Vehicle (ROV) exploration can be seen from April 12-29, typically between 8:00AM-5:00PM on <http://oceanexplorer.noaa.gov/okeanos/welcome.html>.

NOAA's Aircraft



Sunset reflecting on one of our Twin Otter aircraft after surveying marine mammals off the coast of New England.

Photo: Christin Khan, Northeast Fisheries Science Center

WP-3D (N42RF) – “Hurricane Hunter”

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – TBD

Current Mission: Engine testing

Dates of Operations: Through the end of April

The aircraft will be undergoing retrofitting and testing of a Rolls Royce upgrade to the aircraft's engines. This upgrade will likely have a considerable effect on improving the efficiency of the engines.

WP-3D (N43RF) – “Hurricane Hunter”

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – CDR Mark Sweeney

Temporary Base: Liberia, Costa Rica

Current Mission: Ecological Synthetic Aperture Radar (EcoSAR)

Dates of Operation: Until early April

Aircraft is conducting the NASA EcoSAR project, which will utilize a P-Band Synthetic Aperture Radar system. The system will provide fine scale measurements of terrestrial and coastal ecosystem structure and biomass. The data will aid in understanding the carbon uptake and release by forested ecosystems which will help close the gap in understanding the global carbon cycle, an important element in climate change studies. Mission flights from Costa Rica will occur the first week of April.

Twin Otter (N46RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – LT Ron Moyers
Temporary Base: Atlantic City, NJ
Current Mission: South East Atlantic Marine Assessment Program for Protected Species (AMAPPS) project. Until early May

Aircraft is conducting the AMAPPS. This multi-year survey will serve multiple objectives with respect to marine mammal conservation: provide distribution and abundance of all species of cetaceans, seals, and sea turtles for the spring which will be used to develop spatially and temporally-specific density maps that will be available to other agencies and the public; provide photo-identification records on Right whales; and provide sightings of dead whales. The AMAPPS survey is a cooperative effort between NMFS's Northeast and Southeast Fisheries Science Centers.

Twin Otter (N57RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – LT David Cowan
Temporary Base: Hyannis, MA
Current Mission: Northeast Right Whale Survey. Atlantic waters off of ME and MA.
Dates of Operation: Until June 30, 2014

This survey will serve multiple objectives with respect to marine mammal conservation: 1) provide locations of 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.

Twin Otter (N56RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – CDR Jeff Hagan
Current Mission: Light Detecting and Ranging (LIDAR) Evaluation for Coastal Mapping
Dates of Operation: Until early June

The aircraft is conducting an evaluation of a topometric-bathymetric Light Detecting and Ranging (LIDAR) system for the Remote Sensing Division of the National Geodetic Survey. The system can scan coastlines and simultaneously measure ground heights above the surface as well as the depths below, near the shoreline. The data could potentially be used to update nautical charts.

Twin Otter (N48RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – LT John Rossi

Current Mission: Snow Survey in various locations

Dates of Operation: TBD

Aircraft will conduct Snow Survey operations, locations to be determined.

Jet Prop Commander (N45RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – LCDR Cathy Martin,
LCDR Patrick Didier, and LT Paul Hemmick

Current Mission: Calibration Flights / Snow Survey

Dates of Operation: TBD

The aircraft is conducting Snow Survey operations for NOAA's National Operational Hydrologic Remote Sensing Center, utilizing an Airborne Gamma Radiation detector to make airborne Snow Water Equivalent (SWE) and soil moisture measurements in the Midwest. Airborne SWE measurements are used by NOAA's National Weather Service (NWS) Weather Forecast Offices and NWS River Forecast Centers when issuing river and flood forecasts, water supply forecasts, and spring flood outlooks. Survey locations will be determined based on taskings.

Gulfstream IV (N49RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL

Current Mission: Paint Work

Aircraft will be undergoing maintenance and paint work until the end of May.

King Air (N68RF)

Homeport and Aircraft Commander: MacDill Air Force Base, Tampa, FL – CAPT Al Girimonte /
CDR Mark Sweeney

Current Mission: Various locations for coastal mapping

Dates of Operation: Continuous operations

Coastal Mapping mission flights are expected to resume in the second week of April. Possible mission locations during April are: Corpus Christi to Brownsville, TX; Cape Lookout, NC; Clearwater Beach, FL; Charleston, SC; and San Francisco Bay, CA. This on-going mission, run by the Remote Sensing Division of the National Geodetic Survey, works to provide a regularly-updated national shoreline for supporting marine navigation, defining territorial limits, and managing coastal resources. Stereo photogrammetry and Light Detecting and Ranging (LIDAR) are used to produce a digital database for a national shoreline.

Unmanned Systems Support

OMAO is rapidly becoming a leader in utilizing Unmanned Aircraft Systems (UAS) for the collection of environmental intelligence. The NOAA UAS Program Office, OMAO UAS Program Manager and Aircraft Operations Center have employed the use of the RQ-20A Puma and MD4-1000 Quadcopter platforms to date. Additional platforms include the aerial launched Coyote, APH-22 Hexacopter and Manta platforms. OMAO supported UAS operations have increased substantially as UAS are used to support multiple agency objectives including marine debris detection, marine animal surveys, seabird surveys and joint operations with federal and state partners.

Manta

Location: Yakima Test Range, WA
Dates: April 7-11, 2014
Mission: Marine Mammal Surveys

NOAA's Pacific Marine Environmental Laboratory (PMEL) is conducting flight and payload testing of the Manta UAS. The missions take place in the restricted airspace of the Yakima Training Center Military Reservation in Yakima, WA. NOAA/PMEL has been granted exclusive use of this restricted airspace (R-671A) for this mission. The aircraft will be flown around the airfield up to 11,000 feet AMSL. The goals of the mission are to:

1. Demonstrate the air-worthiness of the two rebuilt Mantas through a series of maneuvers and extended flights around the runway.
2. Demonstrate the capabilities of the new payloads. The aerosol payload will be compared with ground-based instruments located at the runway. The radiometer will be evaluated by flying two minute level legs every 1000 feet up to the maximum altitude and then back down.
3. Train scientific and ancillary personnel in the operation of the payloads under flight conditions.





Below is a photo of penguin colonies in Antarctica taken from a hexicopter UAS (above). This has been the second year of survey conducted by NOAA's National Marine Fisheries Service, Southwest Fisheries Science Center, supported by OMAO's Aircraft Operations Center and staffed by a team that includes a NOAA Corps officer (pilot).

This shot is from about 200 feet. One of the things scientists haven't been able to get in the past is good coverage of the nesting sites before the chicks are born. Nest counts are a standard that is used to track the populations and then subsequent chick counts reflect survivorship.



NOAA Partnerships

NASA Global Hawk

Location: Guam
Dates: Ongoing
Mission: Airborne Tropical Tropopause Experiment (ATTREX)

The project is currently in Guam, conducting a series of measurement campaigns using the long-range NASA Global Hawk (GH) unmanned aircraft system (UAS) to study the coldest parts of the Earth's tropopause over the tropical Western Pacific. ATTREX utilizes a multitude of instruments geared toward measuring various aspects of the environment to better understand the processes in the Tropical Tropopause. The Global Hawk and its support staff will remain in Guam until mid-March conducting operations out of Andersen Air Force base. Two flights have been completed with plans for 3-4 additional flights. Payload principal investigators are from NASA, NOAA, and academia. Operations staff for the NASA Global Hawk includes NOAA Corps and civilian personnel.

National Science Foundation

Location: Antarctica
Dates: Ongoing
Mission: NOAA's Atmospheric Research Observatory

Members of the [NOAA Commissioned Officer Corps](#) carry out NOAA's mission in remote locations across the globe. One officer is even assigned to the South Pole station in Antarctica where he serves as the Station Chief for NOAA's Atmospheric Research Observatory (ARO) at the Amundsen-Scott South Pole Station.

Teacher At Sea Program

The mission of the National Oceanic and Atmospheric Administration's (NOAA) 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 2014 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/>

The following NOAA Ships will have Teachers At Sea onboard in the month of April:

NOAA Ship *Gordon Gunter*

Name: Ms. Kimberly Gogan

School: High School science teacher from Newport Middle and High School in Newport, NH

Cruise: AMAPPS and Turtle Abundance Survey - April 7 - 27, 2014

Blog: <http://teacheratsea.noaa.gov/2014/gogan.html>

NOAA Ship *Rainier*

Name: Ms. Denise Harrington

School: 2nd grade teacher from South Prairie Elementary in Tillamook, OR

Cruise: Hydrographic Survey – April 9 - 18, 2014

Blog: <http://teacheratsea.noaa.gov/2014/harrington.html>

NOAA Ship *Nancy Foster*

Name: Ms. Jamie Morris

School: High School science teacher from Miami Palmetto Senior High School in Pinecrest, FL

Cruise: Grays Reef National Marine Sanctuary Survey – April 19 - May1, 2014

Blog: <http://teacheratsea.noaa.gov/2014/morris.html>

NOAA Ship *Henry B. Bigelow*

Name: Mr. Chris Henricksen

School: 5th grade teacher from Mark Twain Elementary in Westerville, OH

Cruise: Spring Bottom Trawl Survey – April 29 – May 10, 2014

Blog: <http://teacheratsea.noaa.gov/2014/henricksen.html>

OMAO - NOAA Dive Program

OMAO manages and implements the 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, WA. More info: http://www.ndc.noaa.gov/gi_program.html



NOAA diver examining, cataloging, and conducting scientific research on a wreck.

Photo: Robert Schwemmer, NOAA National Ocean Service

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/>



A fisheries vessel sits alongside a dock in the West Lagoon of Palmyra Atoll.

Photo: 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 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 9 specialized aircraft. Together, OMAO and the NOAA Corps support nearly all of NOAA's missions.

NOAA has the largest fleet of federal 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 turboprop "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 snowpack surveys for spring flood forecasts.

The NOAA fleet provides immediate response capabilities for unpredictable events. For example, after Hurricane Sandy, NOAA ships *Thomas Jefferson* and the newly commissioned *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 2011, OMAO's Aero Commander and Jetprop Commander aircraft conducted snow surveys, which increased the accuracy of National Weather Service's flood forecasting during a record year of snow and floods. In 2010, the NOAA fleet and the NOAA Corps played a major role in the response to the BP Deepwater Horizon oil spill, conducting extensive studies in the Gulf of Mexico to monitor the health of the ecosystem. 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. As NOAA's fleet continues to age, maintenance costs steadily increase. Operational costs have increased as well, driven largely by rising fuel costs. We are working to address these challenges by increasing operating efficiencies while maintaining our commitment to safety. 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 are also continuing our effort 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. We transitioned our basic NOAA Corps officer training class to 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.

Finally, we continue to expand our partnerships with other federal agencies. We are proud of our longstanding and fruitful working relationships with the U.S. Air Force, U.S. Coast Guard, U.S. Navy, and U.S. Public Health Service and through the Interagency Working Group on Facilities and Infrastructure, continue facilitating cross-agency cooperation for the federal fleet of research and survey ships. 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 NOAA Commissioned Officer Corps



– Supporting NOAA’s Science, Service, and Stewardship –

The NOAA Commissioned Officer Corps (NOAA Corps) is one of the seven uniformed services of the United States 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 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 2012 after Hurricane Sandy, seafloor sonar surveys completed by NOAA ships and small boats helped reopen Baltimore and Virginia ports, quickly restarting commerce and allowing Navy ships to return to port. New York and New Jersey ports were reopened, enabling emergency supplies to reach some of the hardest-hit areas. Maritime traffic resumed more quickly because NOAA embedded regional navigation managers within command centers.
- Hours after Sandy, NOAA planes and scientists conducted aerial surveys of the affected coastlines and immediately published the photos online, allowing emergency managers and residents to examine the damage even before ground inspections were permitted. These surveys are also vital to FEMA assessment teams and other on-the-ground responders and those managing oil spill clean-up and damage assessment. Over 3,000 miles of coastline have been surveyed, and over 10,000 images processed to document coastal damage and impacts to navigation.
- In 2011, OMAO’s Aero Commander and Jetprop Commander aircraft conducted snow surveys, which increased the accuracy of National Weather Service’s River Forecast Centers flood forecasting during a record year of snow and floods.
- 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 3 days after the storm.

- More than 80 officers, or a quarter of the Corps' total strength, were re-assigned and/or deployed to support the Deepwater Horizon disaster response in the Gulf in 2010.
 - Eight NOAA-owned vessels, or the entire Atlantic fleet, were also deployed to the Gulf of Mexico for spill response, as well as several aircraft.
- Corps officers who run NOAA's Ships support fish stock and marine mammal assessments, marine ecosystem studies, ocean exploration, coral reef preservation and protection, and mapping and charting around the United States and the Arctic, and more.
- Corps officers who run NOAA's Aircraft collect environmental and geographic data essential to studying climate change, assess marine mammal populations, survey coastal erosion, investigate oil spills, and improve hurricane and winter storm forecasts as they pilot the WP-3D Orion hurricane hunters and other aircraft that fly through, and above the storms to obtain critical forecasting data.

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



NOAA Commissioned Officer Corps Candidate Bryan Pestone is seen here briefing his fellow NOAA Officer Candidates alongside U.S. Coast Guard Officer Candidates for the training cruise aboard United States Coast Guard Barque EAGLE in New London, CT. NOAA Corps Officer Candidates complete their training at the U.S. Coast Guard Academy in the same type of program as USCG officer candidates.

Photo: Coast Guard Barque EAGLE official facebook page
<https://www.facebook.com/CoastGuardCutterEagle?fref=photo>