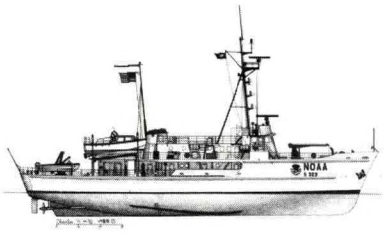
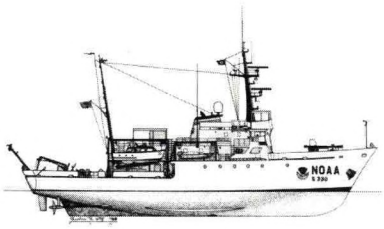
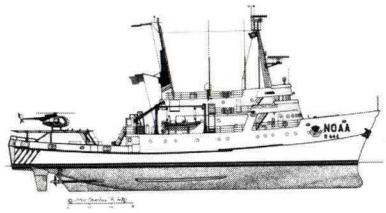
Marine Operations Center Strategic Plan 2001 - 2006

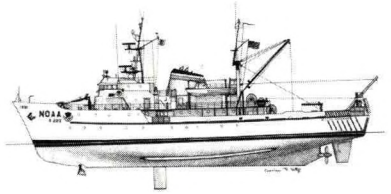
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
Marine Operations Center

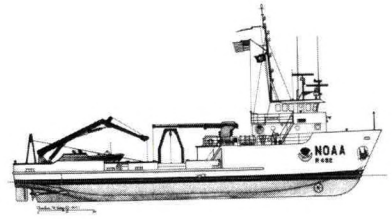
January 2001

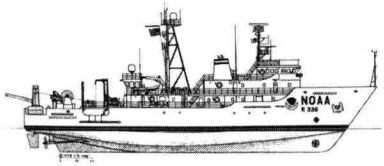












Contents

A Message from the Director

Marine Operations Center

The Marine Operations Center (MOC) faces an exciting future as the Office of Marine and Aviation Operations moves forward in this time of renewal and reinvention. The NOAA programs that depend on at-sea data collection from the NOAA fleet have received significant national attention in recent years. The prediction of El Niño events facilitated by the Atlas mooring array across the equatorial Pacific, precise and comprehensive hydrographic surveys for accurate nautical charts, and fisheries research and stock assessments to assure the sustainability of the Nation's living marine resources all depend on the Marine Operations Center for the safe, efficient operation of NOAA's fleet of research and survey ships.

Over the past five years, OMAO and MOC have been successful in modernizing and improving the condition and capabilities of the NOAA fleet. A new world-class, state-of-the-art, oceanographic research vessel, RONALD H. BROWN, was commissioned and put into service. Two former Navy T-AGOS vessels, recommissioned KA'IMIMOANA and GORDON GUNTER, have been reactivated and converted to monitor oceanographic parameters in the tropical Pacific and fish stocks and marine mammals in the Gulf of Mexico and southeast U.S. coast. The older fisheries research vessels, DELAWARE II, MILLER FREEMAN, and DAVID STARR JORDAN, have undergone major repairs to extend their operational lives and to improve their research capabilities. New equipment has been installed aboard many of the other ships to improve reliability and productivity. Now, new fisheries research vessels are becoming a reality, and funds have been added to OMAO's budget in Fiscal Year 2001 to reactivate a third T-AGOS vessel, ADVENTUROUS, to replace TOWNSEND CROMWELL. Additional funding also has been provided to begin the reactivation of FAIRWEATHER and the activation of a new, surplus NAVY YTT as a coastal research vessel. Clearly, our future looks much brighter!

This brighter future is, however, not without some serious challenges, on which MOC will focus over the next five years. The five-year MOC vision includes strengthening partnerships with our customers, the NOAA programs, and the commitment to operate a world-class fleet of research and survey vessels in compliance with new and rigorous international standards for safety and training. We are also challenged to continue to build a constituency that recognizes the importance and need for MOC's services to NOAA — a constituency that will advocate for continued improvements in fleet capacity and capability.

Finally, and most importantly, the people in MOC are the most critical component in MOC achieving this vision. The efforts over the recent past to downsize and reduce costs have put an unusual burden on all

MOC employees ashore and at sea. Family-friendly, quality-of-life issues are of much greater importance today than they were in years past. MOC is committed to addressing these issues and to fostering an environment that results in a diverse, highly skilled, motivated, satisfied, and adaptable workforce.

The MOC Strategic Plan that follows addresses the MOC strategic vision by aggressively identifying actions to improve fleet operation, working conditions, partnerships, and advocacy.

It is integrated into and complements the overall OMAO strategic plan.

I look forward to working with all of you over the next few years in achieving these MOC goals and objectives.

Nicholas A. Prahl
Rear Admiral, NOAA

Vision...

What we hope to achieve

To be the Nation's preferred provider of scientific ship operations and services . . .operating a world-class fleet, committed to advancing a comprehensive understanding of the environment.

Mission...

Why we exist

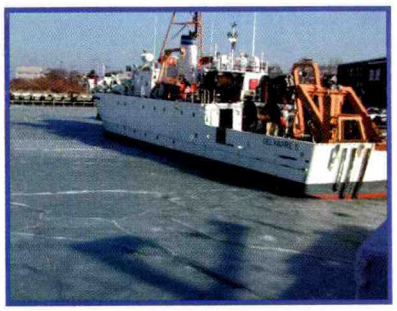
To provide the best value in safe, high quality ship operations and scientific support to NOAA and the Nation.

MOC brings a steadfast commitment to the consistency and reliability of long term data objectives and is ready to support the NOAA missions with a highly mobile and mission oriented workforce.

Core Products and Services

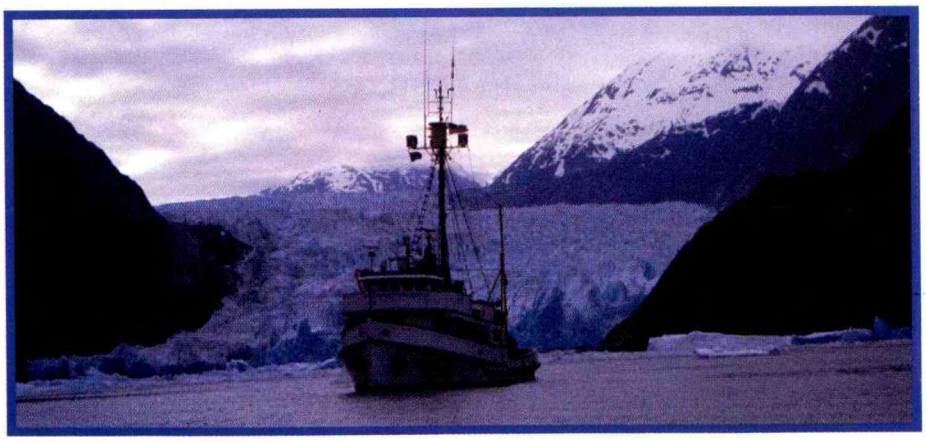
From Sea to Shining Sea

NOAA's 15 research and hydrographic survey vessels comprise the largest fleet of ships operated by a federal civilian agency. The fleet supports a wide range of operational and research missions to accomplish fisheries, nautical charting, and oceanographic and atmospheric research programs. As one of two operational arms of NOAA's Office of Marine and Aviation Operations, the Marine Operations Center is the nerve center of the NOAA fleet. It is responsible for the safe and efficient operation and maintenance of all NOAA ships.

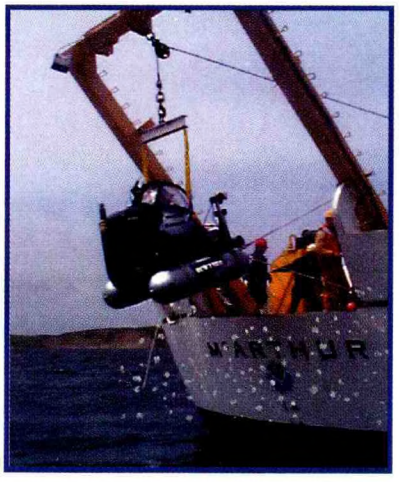


MOC's primary shore-based facilities are located in Norfolk, Virginia, and Seattle, Washington. NOAA ships are homeported in Norfolk, Virginia; Woods Hole, Massachusetts; Charleston, South Carolina; Pascagoula, Mississippi; Seattle, Washington; San Diego, California; and Honolulu, Hawaii; port offices at the alternate sites assist MOC with operations and maintenance. Regardless of location, however, all ships report to MOC concerning every aspect of their operations. With expertise in functions that cover personnel and labor support, development of data collection software, ship maintenance and repair, installation and monitoring of sophisticated electronic systems, each member of MOC's staff plays an important role in ensuring that NOAA ships offer the best and most cost effective platforms available to accomplish NOAA's various program objectives.

To increase public awareness of NOAA's mission, most of the ships routinely hold open houses and host tours for school and other groups. MOC's most exciting educational outreach effort is its highly successful Teacher at Sea program, where teachers spend two to three weeks aboard a NOAA ship working side by side with scientists and crew. Teachers then incorporate this hands-on experience into their classroom curricula, giving their students the benefit of what they've learned in the "real" scientific world.



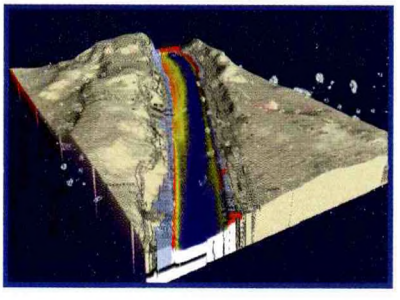
Ship Operations



NOAA Corps officers and civilian masters command NOAA ships and help implement the research being conducted on board. Civilian wage mariners play an essential role in keeping the ships running in top form and assisting scientists in deploying and maintaining their special equipment.

Before a ship leaves the pier to embark on a research cruise, a great deal of resource and logistical planning takes place at MOC. The ship must be appropriately staffed with officers and civilian mariners with the training and skills to do the job. In addition to handling all the administrative work associated with personnel issues, MOC determines other resources and supplies needed on board during a cruise. MOC also works with program managers and principal investigators to develop project instructions and the ship's schedule, and to outfit the ship with the special equipment needed to support the mission. Safety and health issues are addressed to ensure optimal shipboard conditions. Port stops must be arranged; foreign stops, in particular, require extensive coordination, permits, and pre-planning. The extensive work that goes into these logistics, though sometimes daunting, pays off by enabling a smoothly executed mission despite difficult operational challenges. NOAA Ship RONALD H. BROWN, for example, recently completed a very successful year-long cruise that circumnavigated the globe, made port calls in nine countries, and hosted 250 scientists from more than a dozen nations and 50 scientific organizations. With the support of MOC, scientists aboard BROWN added to the world's body of knowledge about global climate variability.

Data Collection



NOAA ships provide efficient, highly specialized platforms from which scientists can collect their data. MOC provides the electronic systems and technical services that make data collection possible, from the Doppler radar found on RONALD H. BROWN (the only one in the U.S. domestic fleet) to the side scan sonar systems used by NOAA's three hydrographic survey ships to map the ocean floor. Hydroacoustic systems aboard two fisheries research ships enable scientists to actually see schools of fish on a sonar screen and count them for precise stock assessments.

MOC extends support beyond electronic hardware as well. By targeting what NOAA scientists need, MOC has come up with creative ways to better support the agency's research efforts. For example, several years ago MOC software engineers developed and installed on NOAA's oceanographic research ships the Scientific Computer System, or SCS, which integrates ocean and atmospheric sensor data into one central computer system on board the ship. This allows scientists to analyze the data in real time, as the research is in progress, and make immediate decisions based on that data. Working closely with fisheries scientists, MOC successfully completed testing of the Fisheries Scientific Computer System (FSCS) for our fisheries vessels. Once implemented

in 2001, FSCS will enable scientists to enter fisheries data electronically as they sort and analyze fish samples from a survey trawl rather than record the data manually for later entry into a database. Instead of having to wait two to three months for fisheries assessment data to be processed and to begin the analysis, fishery scientists and managers will have almost immediate access to survey findings. This could have a profound impact on the timeliness of management decisions; e.g., closing or reopening fishing grounds, setting harvest quotas, or establishing the number of allowable fishing days for commercial vessels.

Ship Maintenance and Repair

MOC's marine engineers provide management and marine engineering support for the short- and long-term maintenance, repair, and upgrade of the NOAA fleet. From mission equipment installation, to major repairs to extend the service life of a ship, to vessel conversion, MOC handles the operation from the initial plan to final readiness. For all vessel repair contracts, MOC develops and provides the procurement specifications and oversees the job for troubleshooting and quality control. MOC is ultimately responsible for monitoring the condition of the fleet and the fleet's compliance with federal and international regulations and standards.

MOC recently completed the conversion of a Navy T-AGOS vessel to a fisheries research ship. The newly commissioned GORDON GUNTER is fully equipped with trawling and other specialized equipment, making use of the vessel's original acoustically quiet characteristics to conduct fisheries and marine mammal studies. Understanding the capabilities of the ship and the needs of the scientists enabled MOC engineers to deliver a vessel that best fits the requirements of the mission.

Several components of NOAA operate and are responsible for small vessels that are not part of the NOAA fleet. MAO and MOC provide maintenance and inspection services for these small boats to ensure they are in good repair and meet rigorous safety standards.

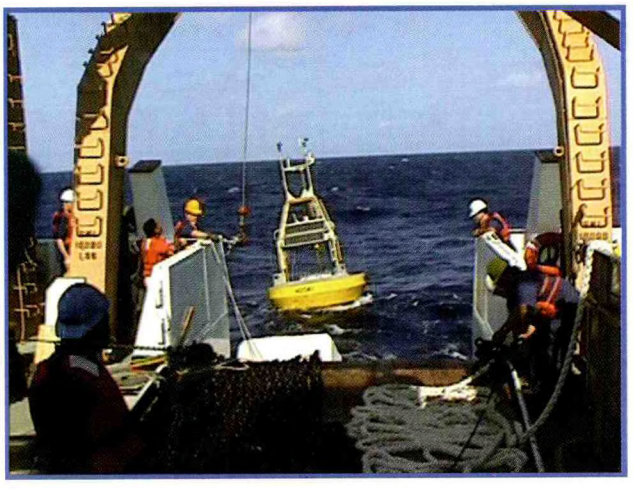
NOAA Diving Program

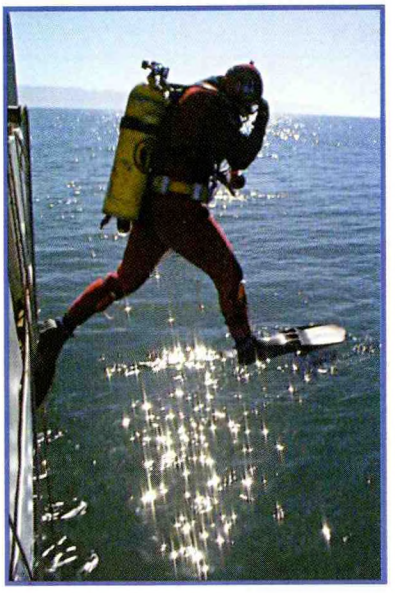
As the Nation's ocean science agency, NOAA has many programs that require research below the ocean's surface. Underwater research and experiments are conducted by NOAA scientists, engineers, and technicians who are trained and certified to dive by the NOAA Diving Program (NDP). The NDP, under the auspices of MOC, is responsible for overseeing and managing NOAA diving personnel, equipment, and activities to ensure that all diving operations are performed in a safe and efficient manner. Nationally recognized, the NDP trains personnel from many local, state, and federal agencies.

NOAA divers work in waters throughout the Nation in conditions that vary from the crystal clear water of a pristine marine sanctuary to the murky and polluted water of a congested harbor. On any given day, NOAA divers deploy and retrieve scientific instruments, document the

behavior of fish and other marine animals, perform emergency and routine ship repair and maintenance, assess the impact of man on the environment, or locate and chart submerged objects.

The NDP averages more than 10,000 dives per year, consistently maintaining an excellent diving safety record. With more than 300 divers, NOAA has the largest complement of divers of any civilian federal agency.





Customers, Partners, and Stakeholders

Customers

MOC's primary customers are NOAA's line offices, the biggest users of ships and aircraft. MOC operates hydrographic survey ships for nautical charting for the National Ocean Service. Coastal vessels conduct research for NOS as well, often working within the national marine sanctuaries. The National Marine Fisheries Service relies on NOAA ships for fishery stock assessments and research, living marine resource studies, and marine mammal surveys. Oceanographic research ships are required by the Office of Oceanic and Atmospheric Research for global climate variability research, El Niño/La Niña forecasting and other climate and weather studies, and biological and oceanographic research. The National Environmental, Satellite, Data, and Information Service operates the nation's satellites; instrumentation aboard the satellites is groundtruthed and calibrated using both oceanographic ships and aircraft. In addition, data collected aboard NOAA platforms is archived by NESDIS. NOAA divers are currently assigned to NWS, NMFS, NOS, and OAR.

Customers outside NOAA include:

UNOLS (university fleet)

U.S. Coast Guard

National Transportation Safety Board

U.S. Navy

National Aeronautics and Space Administration

Federal Emergency Management Agency

Stakeholders

Individuals and organizations that are affected by or have an interest in products and services produced using NOAA platforms–such as nautical charts, climate/weather forecasts, and fishery stock assessments–include:

NOAA leadership

NOAA Corps

Wage mariners

Department of Commerce

Office of Management and Budget

Congress

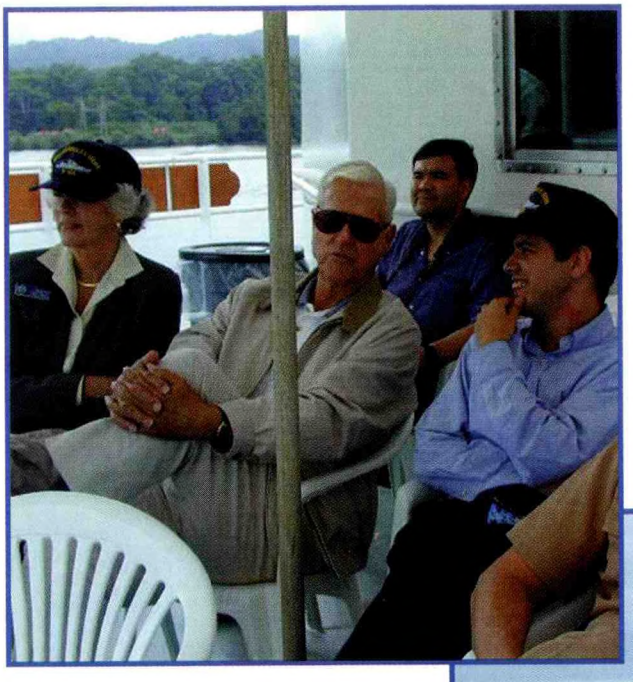
Civil servants

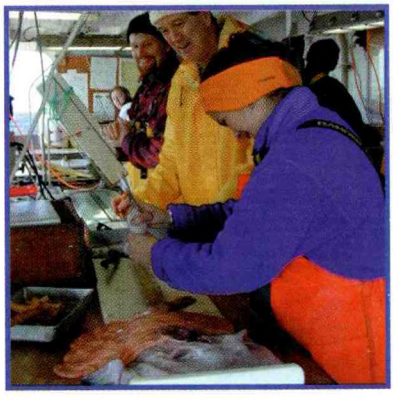
Maritime organizations, institutions, industry and service providers

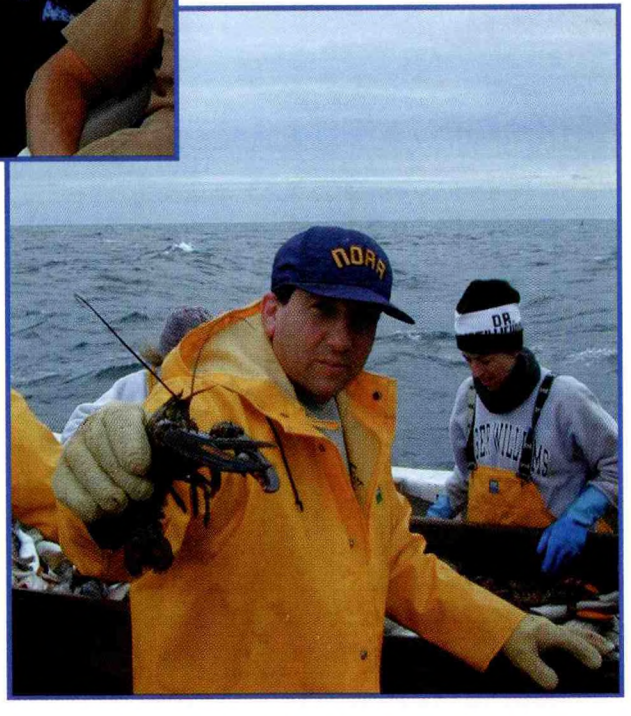
Department of Defense

Professional organizations and societies

American public







Partners: MOC works with the following organizations to accomplish mutual goals and/or share resources:

NOAA programs

UNOLS (university fleet)

Private sector

Unions

U.S. Coast Guard

National Transportation Safety Board

U.S. Navy

U.S. Public Health Service

Strategic Goals and Objectives

Goal 1.0 Fleet Operations

Operate and maintain world-class fleet by providing best value services.

MOC has consistently maintained a high rate of user satisfaction from its customers, and takes great pride in providing safe, well-maintained, and technically capable ships to achieve program mission goals.

Due to the reality of an aging fleet of ships, however, MOC will continue to seek new ways to increase efficiency and improve our products and services — through better balancing program service needs with vessel maintenance, upgrade, and safety requirements; by integrating new technologies into existing systems to increase data collection capabilities; and by providing our personnel with the training they need to meet operational requirements as well as our customers' evolving technical support needs. We will also ensure that our personnel and our platforms conform to national and international standards.

By the year 2005, MOC expects to complete the conversion and reactivation of two surplus Navy vessels as well as the deactivated NOAA Ship FAIRWEATHER. In addition, in FY 2005 two new state-of-the-art Fisheries Research Vessels (FRV) will be in service with 2 additional FRV's coming into the fleet in 2006 and 2007.

Objectives

1.1 Improve fleet reliability.

- **1.1.1** Improve the balance between customer service, fleet repair and maintenance objectives.
- **1.1.2** Implement rigorous quality assurance procedures.
  - **1.1.2.1** Fully conform to ISO/ISM/ABS standards.
  - **1.1.2.2** Support MAO in improving fleet inspection process.
  - **1.1.2.3** Improve data quality measures.

1.2 Implement availability measures for NOAA ships.

1.3 Demonstrate excellence in safe research vessel operations.

- **1.3.1** Obtain ISM and ISO certification within 2 years.
- **1.3.2** Become an international training model for STCW.
- **1.3.3** Increase visibility at international forums.
- **1.3.4** Comply with OSHA and U.S. Coast Guard regulations in NOAA's Dive program.

1.4 Enhance the capacity and capabilities of the NOAA fleet to

respond to customer evolving needs and delivery of quality data.

1.4.1 By 2005 activate, staff, and operate 4 additional vessels.

1.4.2 Be at the forefront of ship data collection and transfer capabilities.

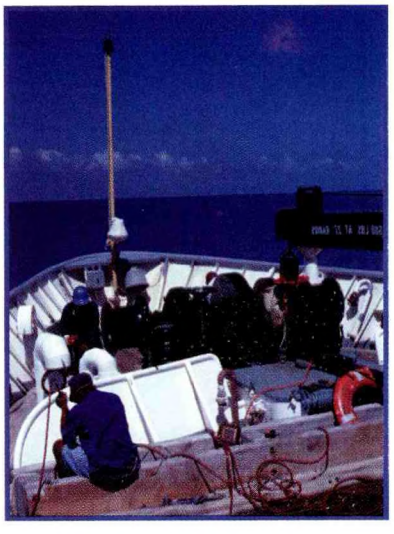
1.4.3 Promote advocacy for new coastal oceanographic survey vessels.

1.4.4 Identify and document evolving fleet requirements.

1.4.5 Adapt and/or establish shore-side facilities to meet existing and new platform requirements.

Goal 2.0

Workforce



Foster an environment that results in a diverse, highly skilled, motivated, satisfied, and adaptable workforce.

Among our most important assets is our workforce. It has become increasingly difficult to compete with the private sector to recruit and retain qualified ship employees because of the demanding, rigorous schedules that often keep our employees away from home for long stretches of time. MOC is currently working to identify various means to improve the quality of life for our employees, from creating more flexible scheduling options that allow them to spend more time with their families, to improving living conditions aboard vessels.

MOC is examining the existing personnel regulatory regime and identifying needed changes to enable the organization to more successfully recruit and retain motivated and qualified employees.

Recruiting efforts will be stepped up to meet the need for additional personnel to staff new ships as well as personnel to implement crew augmentation/rotation schedules aboard existing vessels. In addition, MOC will create opportunities for internships or rotations from academia and other science organizations aboard NOAA ships.

One of the hallmarks of an effective organization is its ability to look ahead at what could be rather than react to what is. MOC will offer career enhancement opportunities through advance training and mentoring, as well as a responsive ear to employee ideas and input. Creativity and innovation will be recognized and rewarded, fostering a proactive environment that encourages forward movement.

Objectives

2.1 Improve the quality of life for shipboard personnel.

2.1.1 Tailor sea/shore rotations to meet ship specific and individual needs and opportunities.

2.1.2 Improve habitability on ships.

2.2 Align MOC staffing with mission, vision and goals.

2.2.1 Eliminate impediments to recruitment and retention of satisfied and motivated employees.

2.2.2 Accelerate recruitment actions to meet staffing objectives for

2.2.2.1 New ships.

2.2.2.2 Small boats.

2.2.2.3 Augmentation.

2.3 Advance training opportunities in

2.3.1 New technology.

2.3.2 Transition to new platforms.

2.3.3 Management and supervision.

2.3.4 Professional development.

2.4 Transform MOC from a reactive to a proactive culture, which values innovation, creativity, responsiveness and adaptability.

2.4.1 Advance training.

2.4.2 Promote employee awards and recognition.

2.4.3 Implement long term planning and collaboration at all levels.

2.4.4 Effect succession planning for ships and shoreside personnel.

2.4.5 Build a mentoring program.

2.5 Promote opportunities for internships or rotations to MOC from academic institutions, maritime academies and other government agencies.

Goal 3.0 Customers as Partners

Become a highly valued and full partner with NOAA line offices.

MOC will work more closely with our NOAA customers to understand their ongoing needs and obtain regular feedback so we can continually improve our services. We will also initiate a process whereby customers can be more involved in planning, budgeting, and platform operations to ensure that project goals are being met in accordance with their expectations. Other initiatives will include putting performance benchmarks and measures into place, and producing an annual report of deliverables. To help offset increasing operating costs, MOC will also explore other possible funding sources.

3.1 Enhance collaborative decision making with NOAA partners with regard to

3.1.1 Budgets.

3.1.2 Vessel operations, maintenance, repair, modernization, crew and scientist training.

3.1.3 Performance measures.

3.1.4 Long-term needs and requirements.

3.2 Demonstrate competitiveness as the preferred provider of ship operations and support.

3.2.1 Produce an annual report of deliverables.

3.2.2 Establish benchmarks for performance.

3.2.3 Improve internal efficiencies on a continuous basis to reduce costs while maintaining quality.

3.2.4 Explore additional funding streams to offset operating costs.

Goal 4.0 MOC Advocacy

Build strong, long-term support and advocacy for NOAA marine operations.

To meet budget and other challenges that lie ahead, it is especially important for MOC to develop strong advocates within the NOAA leadership, the line offices and their constituencies, who can keep Congress informed about the agency's short- and long-term funding requirements for marine operations. Currently, MOC does not have the long-term funding necessary to ensure that our operational requirements will be met, either through major refurbishment of old platforms, converting existing ones obtained from other government agencies, or building new platforms to replace old ones. Such funding will help us better plan when to decommission aging ships and replace them with newer, more cost-efficient and technically capable platforms – thereby ensuring maximum use of all NOAA research assets.

Creating greater public awareness, through outreach efforts and participation in professional associations, of the significance of MOC's role in supporting NOAA research will help keep our organization strong so that we may better serve NOAA and, ultimately, the Nation.

Objectives

4.1 Solidify long term funding for fleet maintenance, repairs and modernization.

4.1.1 Expand State of the Fleet briefings and collaborations.

4.1.2 Improve collaborative budget formulation process with partners.

4.2 Expand advocacy for MOC operations focusing on:

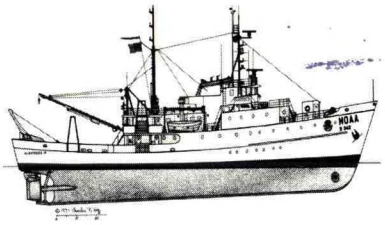
4.2.1 NOAA line offices.

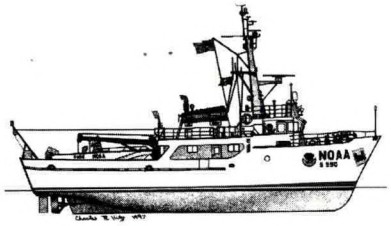
4.2.2 NOAA/DOC leadership.

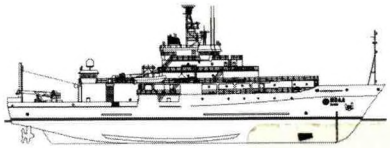
4.2.3 Congress.

4.2.4 Maritime industry and organizations.

4.3 Promote public awareness of the MOC mission to support NOAA's contributions to the Nation.







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D. James Baker, Ph.D
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