

# **NOAA Marine and Aviation Operations**

**Strategic Plan: 2003-2008**

*For Improving Quality and Efficiency of  
NOAA's Ship and Aircraft Operations in  
Support of NOAA's Mission Goals  
and Cross-cutting Priorities*



## **FORWARD**

Today's NOAA Marine and Aviation Operations has evolved from a background of diverse elements that began with Thomas Jefferson's establishment of the Survey of the Coast in 1807. The NOAA Corps traces its roots to that point; the commissioned service today is an offshoot of the early civilian surveyors who were later commissioned during World War I as part of the U.S. Coast and Geodetic survey.

Even as our past has shaped who we are today, we in NMAO are very excited about the future, because we have entered a period of renewal and reinvention. Responsible for the safe and efficient operation and management of research and survey vessels and aircraft needed for NOAA's mission, we are up to the challenges facing us as the sea and air operational arm of the NOAA team. We are committed to supporting the agency's mission goals and cross-cutting priorities that are discussed in this strategic plan. We stand ready to support the agency's ongoing work as well as respond to the nation's call for homeland security.

As we forge ahead over the next five years and beyond, NMAO must look for innovative ways to meet the growing needs of our customers and partners while sustaining and maximizing the use of our limited resources. We have made great progress in modernizing NOAA's fleet of ships in the past two years by obtaining vessels from the Navy for conversion to research platforms, yet the need for technically advanced platforms continues to grow as agency program requirements increase to meet the public's demand for services. Budgetary constraints limit our ability to obtain and operate new ships and aircraft, while the cost of maintaining and upgrading old ones grows higher. Funds have been appropriated for two new fisheries survey vessels, but two more will be required to meet program expectations over the next decade. Obtaining replacement "hurricane hunter" aircraft capability will become a critical issue in the next 10 years as our two P-3s head into their fourth decade of service. Despite the problems inherent in an aging fleet, NMAO continues to maintain minimal down time for repairs, and prides itself on a high rate of user satisfaction. If we are to meet the challenges, we must not only keep NOAA's existing platforms operating, but also rely on the private sector and other operators to help support the agency's mission.

As many of NMAO's most experienced workers near retirement, we must be competitive enough to attract new talent to our ranks. This requires looking at internal human resource issues, from providing better, more flexible working conditions aboard our platforms and in our facilities, to rewarding superior performance. Also a challenge is rebuilding the strength of the NOAA Commissioned Corps by recruiting qualified, highly motivated young men and women to serve in the smallest of the Nation's seven uniformed services.

NMAO looks forward to building partnerships with other federal agencies and the private sector to maximize our resources and to find the most cost effective and efficient ways to achieve our mission goals. By making the most of what we have now and planning for the future, together we can accomplish more than we can standing alone.

Our five-year strategic plan was formulated and driven using input from our employees and customers. We made explicit choices about focusing over the next five years on a steadfast commitment to safe and reliable platforms and quality products and services. Furthermore, we acknowledged our success in effectively responding to customers' needs, actively partnering with others, and rapidly adapting to changing needs and conditions.

Critically important to our success are our people. This five-year plan is a commitment to focus on those goals that result in a highly motivated, highly skilled workforce. It lays the groundwork to address operational, customer, and workforce challenges. I know that with our NOAA partners, we will be successful at achieving renewal, revitalization, and continued excellence in NOAA Marine and Aviation Operations.

Evelyn J. Fields  
Rear Admiral, NOAA  
Director, NOAA Marine and Aviation Operations  
and NOAA Commissioned Officer Corps

## TABLE OF CONTENTS

|   |   |
|---|---|
| INTRODUCTION .....  | 1 |
| Mission and Values .....  | 1 |
| <br>  |   |
| NMAO ORGANIZATIONAL GOALS .....                                       | 2 |
| Goal 1: Products and Services .....                                   | 2 |
| Goal 2: Responsiveness to Customers .....                             | 4 |
| Goal 3: NMAO Workforce .....  | 5 |
| Goal 4: Partnerships .....  | 6 |
| <br>  |   |
| APPENDICES  |   |
| A: NMAO Performance Measures  |   |
| B: NOAA Ships and Aircraft and the NOAA Mission<br>Goals They Support |   |
| C: NMAO Organization Chart  |   |
| D: The NOAA Commissioned Officer Corps<br>The NOAA Diving Program     |   |

## **INTRODUCTION**

### **NOAA's Mission Goals and Priorities and How NMAO Supports Them**

NOAA Marine and Aviation Operations (NMAO) is one of the significant operational arms of NOAA. Through its headquarters office in Silver Spring, Md.; Marine Operations Centers in Norfolk, Va., and Seattle, Wash.; and Aircraft Operations Center at MacDill Air Force Base in Tampa, Fla., NMAO operates, manages, and maintains the ships and aircraft used by NOAA programs to accomplish the agency's mission goals. The Seattle-based NOAA Diving Program, also part of NMAO, supports line office and NMAO divers on NOAA's ships and within shore-based programs, such as the National Marine Sanctuaries Program. Civilians and officers of the NOAA Commissioned Corps, the nation's seventh uniformed service, comprise NMAO. These dedicated professionals support NOAA's goals across all divisions of the agency. NOAA Corps officers rotate assignments every two to three years, "cross-fertilizing" NOAA programs on shore with the operational and management experience they gain while serving aboard NOAA ships and aircraft. Since NOAA's inception in 1970, NOAA Corps officers have served throughout the NOAA line offices, helping to provide a unifying element across all parts of the agency.

#### **NMAO's Mission**

The mission of NOAA Marine and Aviation Operations is to provide the best value in safe, high quality ship and aircraft operations and scientific support to NOAA and the Nation.

Our highly visible ships, aircraft and personnel stand ready to carry out NOAA's mission to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet the Nation's economic, social, and environmental needs.

#### **NMAO's Vision**

Our vision is to be NOAA's source of expertise in sea and air operations and technical integration ... highly adaptable and ready to meet the changing needs of NOAA and the Nation.

NMAO supports all the goals and cross-cutting priorities identified in the NOAA Strategic Plan by operating, managing, and maintaining the infrastructure required to carry them out under the Monitor and Observe strategy. Briefly, NOAA's four overarching goals are: Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management; understand climate variability and change to enhance society's ability to plan and respond; serve society's needs for weather and water information; and support the Nation's commerce with information for safe, efficient, and environmentally sound transportation. NOAA's cross-cutting priorities are: integrated global environmental observation and data-management system; environmental literacy, outreach and education; sound, state-of-the-art research; international cooperation and collaboration; homeland security; and organizational excellence (leadership, human capital, facilities, information technology, and administrative products and services).

*The NMAO strategic plan focuses on goals to improve infrastructure (ships and aircraft) and human capital, which fall under the NOAA cross-cutting priority of organizational excellence. NMAO also seeks to improve its responsiveness to customer needs and develop partnerships relative to platform support of those needs.*

Please see Appendix A for NMAO's performance measures. See Appendix B, *NOAA Ships and Aircraft and the NOAA Mission Goals They Support*, for a table that shows which NOAA platforms support each NOAA goal.

## **NMAO ORGANIZATIONAL GOALS**

As an operational arm of NOAA, NMAO's strategic plan includes goals in the areas of products and services (platform operations and technical integration), customer satisfaction (accountability, planning and feedback), workforce retention (ensuring best operation of platforms), and public and private partnerships (meeting NOAA objectives and customer needs). These goals are designed to better support the line offices in their efforts to achieve NOAA's stated mission goals under the Monitor and Observe strategy.

**Goal 1: Products and Services** *Provide the best value in ship, aircraft and technical integration services.*

This goal focuses on improving platform performance and cost efficiency by reducing the overall age of the fleet, and providing more capabilities and better technology. Currently, NOAA ships provide 3,670 operating days for NOAA programs while 4,680 days are met through outsourcing. NOAA line offices have identified another 3,900 days of support that are required yet go unmet due to resource limitations. The total requirement, which is now 12,250 days, is expected to grow to almost 15,000 days by 2008. Similarly, aircraft support requirements are expected to increase from 8300 flight hours to 9600 hours by 2008. NMAO and NOAA line offices have prepared plans for both ships and aircraft that identify support requirements for the next 10 years and propose ways to meet those requirements. The plans address shortfalls in ship and aircraft support in terms of ship days and flight hours and propose a mix of in-house and outsourced platforms to meet the needs. Ship and aircraft replacement

strategies are also addressed to ensure NOAA's fleet of platforms remains modern, capable, and efficient. These plans will be submitted to the Department of Commerce and Office of Management and Budget with NOAA's FY 2005 budget request, and will be modified to reflect Department and OMB guidance. Many of the platform support elements of those plans are reflected in this strategic plan.

NOAA's platform data-collection requirements are integrally linked to the state of the technology that supports the very diverse scientific mission of the agency. As the NOAA ships and aircraft age, the platform technology, as well as the data-collection technology aboard the platforms, becomes outdated, and becomes more expensive to keep operational. In some cases, spares cannot be found to replace old components. For NOAA to meet its data collection and quality requirements, resources will be needed to continually stay abreast of changes to our data-collection systems.

Another important part of NMAO's strategic plan is its focus on improving its safety program. NOAA ships voluntarily comply with evolving International Maritime Organization (IMO) requirements for safe operation of ships. NOAA ships are not explicitly required to meet IMO safety standards; however failure to comply can result in NOAA ships being refused entry or exit from foreign ports. The International Safety Management Code (ISM), or more formally the International Management Code for Safe Operation of Ships and Pollution Prevention, is to provide an international auditable standard for shoreside and shipboard management practices affecting ship safety and pollution prevention. IMO has adopted conventions on vessel crew-member qualifications and watch-standing procedures known as Standards of Training, Certification and Watchkeeping for Seafarers (STCW). STCW is a significant issue and expense for NOAA. As part of ISM, retroactive and new Safety of Life at Sea requirements include Emergency Escape Breathing Apparatus for all hands aboard and installation of Automated Vessel Identification Systems.

NOAA ship crews will be trained in all aspects of safe vessel operations consistent with internationally accepted standards. NOAA vessel operating protocols will be documented and certified by the independent American Bureau of Shipping (ABS) as will each NOAA ship crew member's training level. While this safety program will not mitigate all the risks of operating at sea, it will ensure the risks are minimized.

*Strategies:*

Build four new fisheries survey vessels (FSVs) to replace aging vessels and augment the fleet. Three FSVs will be replacement vessels; one will be an addition to the fleet. There are currently no fishery vessels in the private sector that can meet NOAA's requirements for simultaneous oceanographic and biological sampling, and that can be dedicated for calibrated long-term, time-series data collection.

Acquire Navy vessels, which are on average less than half the age of many NOAA ships, to undergo conversion to research and survey vessels. These will replace old ships with obsolete technology with more capable, cost-efficient platforms. In some cases, converted ships will

augment the existing NOAA fleet to meet expanded program requirements. During conversion, technologies will be updated to meet today's needs.

Utilize a mix of NOAA and contract vessels to better meet program demands for increased number of operating days.

Provide every NOAA wage mariner training in the International Maritime Organization's conventions on vessel crew-member qualifications and watch standing procedures known as Standards of Training, Certification and Watchkeeping for Seafarers (STCW). Also, retroactive and new Safety of Life at Sea (SOLAS) requirements need to be met, including providing Emergency Escape Breathing Apparatus for all hands aboard and installing Automated Vessel Identification Systems on each ship.

Meet expanding program requirements for diving operations by providing high-level training, certification, and support of NOAA divers through the NOAA Diving Program.

Enhance NMAO's cost competitiveness in operations and service delivery by utilizing alternative delivery sources to meet mission and business objectives, and by maintaining a high level of efficiency for NOAA platforms. Restrain escalating medical costs for NOAA Corps officers and wage mariners, while providing quality health care, by providing them with prescription cards that limit to federally-prescribed rates, revising PHS officer mix to lower grades, and setting up clinics to do routine visits and physicals.

**Goal 2: Responsiveness to Customers** *Be NOAA's focal point for all vessel and aircraft operations and technical integration, including outsourcing support.*

This goal focuses on improvement of service to NOAA customers by providing all vessel and aircraft operations, including integration of technology on NOAA platforms and charter vessels, and including outsourcing management and a small boat safety program. Currently, NOAA's ship and aircraft outsourcing efforts are conducted by a mix of NMAO and line office mechanisms using vastly different contracting and safety standards. NMAO will work with NOAA line offices to streamline and standardize requirements for outsourcing. Similarly, small craft are operated and maintained by NOAA line offices without the benefit of operating or safety standards. NMAO will work closely with the line offices to set standard safety protocols and risk management strategies.

*Strategies:*

Become the "one-stop shop" for ship and aircraft outsourcing for all the line offices, thereby reducing NOAA's overall outsourcing management costs. Maintain a current database of proven vessel and aircraft providers who meet NOAA's safety requirements.

Implement a small boat safety program that includes risk assessment and operating manuals for each boat. NMAO will conduct safety inspections of all small boats that are operated and managed by the line offices.



Through surveys, evaluate customer satisfaction with fleet allocation process and with platform and NMAO personnel performance after each mission. Expand and improve customer involvement in planning, budgeting, and operations.

**Goal 3: NMAO Workforce** *Recruit and retain a highly adaptable, technically competent and diverse workforce.*

Our most important asset is our workforce and workforce issues are also our greatest challenge. This goal focuses on the need to improve recruitment and retention of NOAA Corps officers, civilian wage mariners, and GS technical and management personnel. The greatest mission needs and deficiencies in NMAO are: 1) reaching the strength of the NOAA Commissioned Corps needed to meet the operational requirements of all NOAA platforms and to serve NOAA programs; 2) having the necessary resources to meet rising health care costs for officers and wage marine employees; 3) retention of qualified shipboard employees, in particular wage marine employees, who are most affected by the demanding, rigorous schedules that often keep them away from home for long stretches of time; and 4) improving habitability on our aging platforms. Wage mariners pose the greatest challenge, as salaries, benefits, and leave are generally better in the private sector, and NOAA mariners are away from home for extended periods of time. Retention improvements would provide mariners with satellite TV and 24/7 Internet-at-Sea, enhancing crew morale by providing up-to-the-minute news, sports, and entertainment. Access to e-mail is an important connection with loved ones as is access to merit promotion information such as Commerce Opportunities On Line. Access to e-mail also promotes operational effectiveness. Quality of life for mariners translates directly into NOAA's ability to conduct its mission and collect quality data on the high seas and in coastal areas. Retention, as an issue, cannot be stressed enough as a current deficiency and management challenge that needs to be addressed within the NOAA fleet.

Wage marine turnover is currently at about 25% per year; a level that is both costly and results in some ineffective operations due to low skill levels. NMAO's goal is to reduce this level to 15% per year through improved work life management, improved habitability on NOAA ships, and more attractive tours at sea that allow some time with families.

*Strategies:*

Increase NOAA Corps recruitment efforts by participating in more school career fairs and conferences, and through public outreach. Produce a new and improved recruiting video that promotes NOAA and the NOAA Corps.

Develop recruitment tools, such as video/CDs, which show the benefit of working for NOAA, to mass produce for distribution to maritime academies, unions, and other venues to attract wage marines.

Improve quality of life for ship and aircraft employees by a better balance between work requirements and personal needs, and better shipboard habitability. Requires funding for augmentation pools. Provide Internet-at-Sea and satellite TV capabilities, if funded. Replacing the oldest ships with new or converted ships will substantially improve habitability.

Share responsibility for individual career development and training between management and the individual employee through commitment of 1.5% of base pay for training and identification/clarification of career paths for civilians and officers.

Improve internal processes that support NMAO personnel by ensuring every employee has ongoing and timely access to critical information; ensuring fairness and equity of promotion and reward processes; increasing employee involvement in shaping NMAO's future; and eliminating inefficiencies in recruitment, including specialty areas, and medical clearances.

**Goal 4: Partnerships** *Expand public and private partnerships to best meet customer needs and NOAA business objectives.*

This goal focuses on meeting the needs of NOAA programs in the most cost-effective, efficient means possible. NOAA is one of several federal agencies that operate ships and aircraft for research and survey purposes. There is much synergy to be had by developing and maintaining strong working relationships with these other federal partners and academic organizations.

NMAO works closely with other federal organizations on the Federal Ocean Facilities Council (FOFC), which provides a forum to coordinate scheduling and technology upgrades to federal ship and aircraft fleets. NMAO also works closely with the academic fleet operators. NOAA's blue water oceanographic ship, RONALD H. BROWN, is scheduled along with other coastal and oceanographic ships as part of the University National Laboratory System fleet. NMAO is currently working with the Department of Interior's Office of Aircraft Services to standardize aircraft charters to help ensure safety is a primary focus.

*Strategies:*

Minimize federal duplication of effort through collaboration with the National Science Foundation, Federal Oceanographic Facilities Coordinating Council, U.S. Coast Guard, Environmental Protection Agency, Federal Emergency Management Administration, and Office of the Federal Coordinator for Meteorology.

Pool resources with the academic sector, University National Oceanographic Laboratory System (UNOLS), to help expand our data collection capabilities, while making maximum use of our NOAA platforms and reducing duplication of effort.

Develop relationships with ship and aircraft contractors to draw upon as qualified resources for outsourcing when this is the most efficient and cost-effective way to meet program needs.

Develop external NMAO advocates through public and education outreach through the Teacher at Sea program, platform open houses (security allowing), students aboard brief cruises when possible, speaking engagements, media opportunities, congressional staff briefings, professional associations, and other available venues.