

**National Oceanic and Atmospheric Administration
National Ocean Service
PORTS & NWLON Major Application
006-48-01-15-01-3402-00-118-062
Operational Analysis
2006**

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Executive Summary

The National Physical Oceanographic Real Time System (PORTS7) and NWLON (National Water Level Observation Network) Major Application ingests, quality controls, processes, analyzes, and disseminates water level, current, and meteorological observations and products based on measurements received from the oceanographic sensors installed at PORTS and NWLON locations. The application provides operationally sound observations and monitoring capabilities coupled with operational Nowcast/Forecast modeling.

This operational analysis (OA) is an annual, in-depth review of the application’s performance based on the following:

- Customer Results
- Strategic and Business Results
- Financial Performance

- Innovation

This report focuses on the operational state of the application as of December 31, 2006, and is based on guidance developed by the Department of Commerce.

The PORTS and NWLON Major Application directly facilitates NOAA's Strategic Goals to: 1) Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation; 2) Serve society's need for weather and water information; 3) Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management; and 4) Understand climate variability and change to enhance society's ability to plan and respond. The current Major Application meets established cost, schedule, and performance parameters.

1.0 Customer Results

The PORTS and NWLON Major Application is meeting the customer's needs and is delivering the services that it intends to deliver. In 2006, the application aided users by providing water level and elevation information for successful coastal wetlands rehabilitation; continuing to provide real time data to support safe navigation at thirteen PORTS; providing real time water level data to improve storm surge forecasts generated by the NWS; expanding support for the NWS Tsunami Warning Network through expansion of eight new tsunami ready NWLON stations and development of a Tsunami web page; and supporting the Coast Guard AIS initiative which requires all ships to carry a transponder beacon. The value and success of this application in terms of meeting customers' needs mandates a continued need for this investment. Figure 1 describes the logic model employed by the application to determine its outputs and outcomes. The application provides these documented outputs and customer focused outcomes.

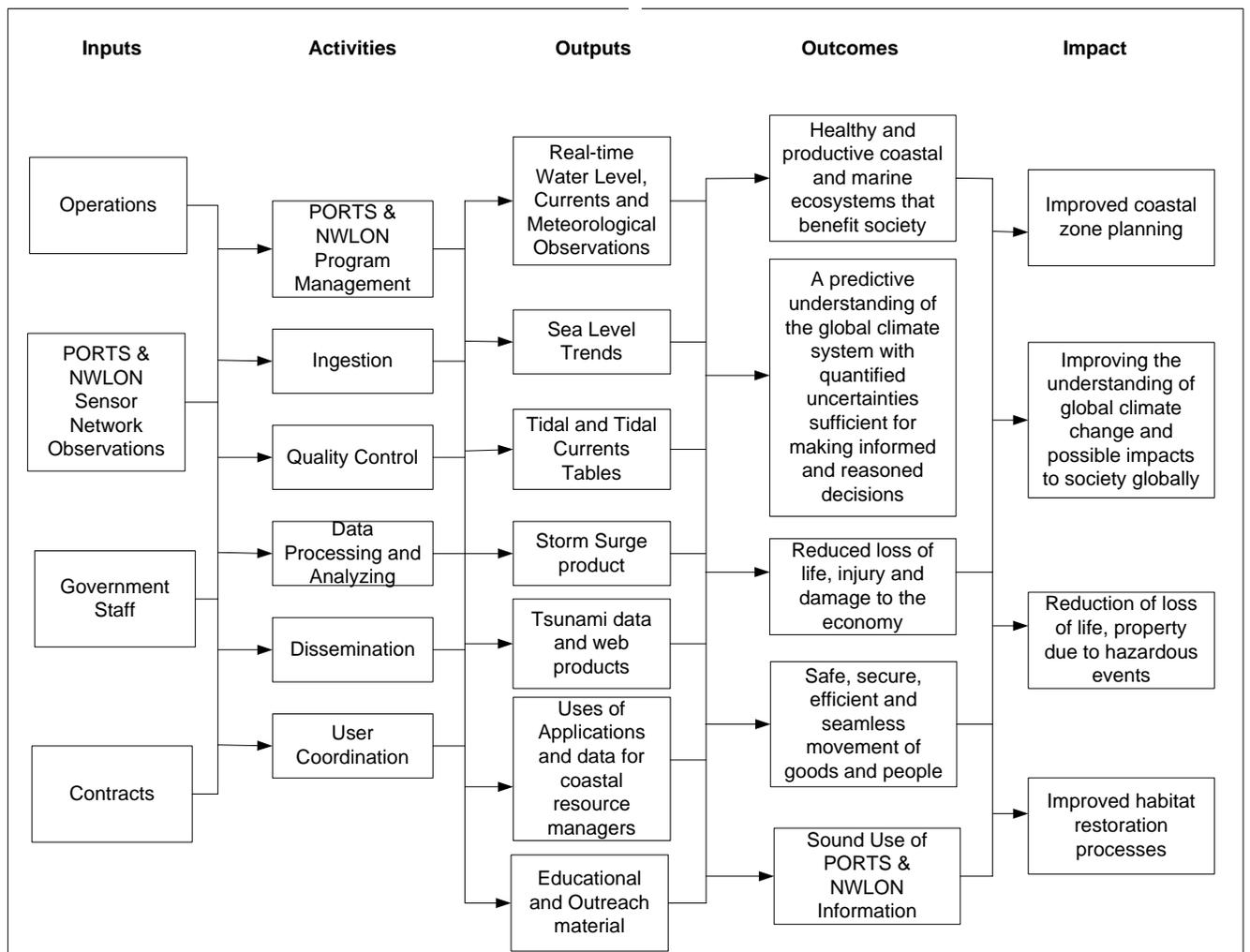


Figure 1: PORTS and NWLON Major Application Logic Model

1.1 Customer Requirements and Costs

The PORTS and NWLON application’s principal customers and stakeholders are the commercial shipping industry, the US military, and government agencies responsible for search & rescue (SAR), hazardous material spill response and planning, and environmental management and the general public in coastal communities. PORTS and NWLON information, when combined with up-to-date electronic or digital nautical charts and precise global positioning data, provides the mariner with a clearer picture of the potential dangers that can threaten navigation safety. Shipping companies seeking to improve economic productivity use navigation systems aboard ships to maximize cargo load. Real-time knowledge of the currents, water levels, winds, waves, visibility, and density of the water gained through these navigation systems can decrease the turnaround time and increase the amount of cargo moved through a port and harbor by safely utilizing all available dredged channel depth. The economic benefit is significant. For example, one foot of draft accounts for between \$36,000 and \$288,000 of increased revenue per transit for vessels in Tampa Bay. PORTS and NWLON information also benefits community preparedness and response during severe weather events. Timely information about coastal flooding and surf conditions can help coastal communities

develop better evacuation and hazard response plans, protect lives and property, and minimize impacts to sensitive habitats. Physical characteristic data such as currents, water levels, salinity, and meteorological variables in and around waterways has been used to document freshwater inflows into sensitive saltwater habitats and minimize environmental impacts from pesticide spraying, one of many sources of non-point source pollution.

PORTS installations are customer/stakeholder driven and cost shared. Before establishing a PORTS site, requirements from customers and stakeholders are gathered, documented and agreed upon to make sure their local needs will be met. This process may involve talking with site managers, harbor masters, regional resource managers, usually those interested stakeholders that will be investing in the system. The PORTS and NWLON application works with other partners, such as the NWS Tsunami Warning Centers, the NWS Weather Forecast Offices, the OAR Office of Global Programs, and coastal estuarine managers, by providing them with timely, quality controlled real-time water level information for their programs. Working with partners helps to ensure that the best value is achieved for everyone involved.

Tidal current observations are conducted at various key locations around the nation to update tidal current predictions primarily used by mariners for safe navigation. Locations are prioritized by user feedback on locations where tidal current predictions are no longer accurate due to local bathymetric changes, the age of the original observation data and other factors. User feedback is gathered through a variety of methods ranging from outreach efforts on a local level to web based reports.

Two methods used to track performance are conducting economic benefits analyses, and gathering user feedback with the customers and stakeholders at meetings, conferences, and on-site.

1.2 Performance Measures

The PORTS and NWLON Major Application supports the customer’s requirements. These measures align with the Customer Results Measurement Area within the Performance Reference Model developed by the Federal Enterprise Architecture Program Management Office (FEA-PMO). Table 1 summarizes these measures.

Table 1: Customer Results Performance Measures

Measurement Area	Indicator	2006 Baseline	2006 Actual Result	Comments
Customer Results	# of operational nowcast/forecast models	6 Operational Nowcast/Forecast Models	9 Operational Nowcast/Forecast Models	To expand product availability to the public; 3 additional nowcast/forecast models were brought on-line
Customer Results	# of annual tidal current observations	70 Annual Tidal Current observations	76 Annual Tidal Current observations	To ensure accuracy of product data; 76 tidal current observations were completed in 2006, 6 more than planned

2.0 Strategic and Business Results

The PORTS and NWLON Major Application is meeting its own goals and objectives as well as those of the agency. Program management and controls are in place to ensure the Major Application continues to meet its goals and objectives and monitor how well the PORTS and NWLON Major Application performs.

2.1 PORTS and NWLON Helps to Achieve Strategic Goals

The PORTS and NWLON Major Application directly facilitates NOAA's Strategic Goal to support the Nation's commerce with information for safe, efficient, and environmentally sound transportation. Specifically, by providing near real-time oceanographic information, products and services to mariners, navigational safety and efficiency are improved.

The PORTS and NWLON Major Application helps achieve NOAA's goal to serve society's need for weather and water information by providing real time data to support emergency responders and to improve NWS forecasts for storm surge, tsunami and other hazardous events.

The PORTS and NWLON Major Application helps achieve NOAA's goal to protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management by providing accurate tidal datums, frequency of inundation analyses, and other tools which are used to improve how habitat restoration is planned, implanted and maintained.

The PORTS and NWLON Major Application helps achieve NOAA's goal of understanding climate variability and change to enhance society's ability to plan and respond. Specifically, updating and adding new long term sea level trends support coastal zone management and long term planning for development along the coast. It also aids in understanding the state of the climate system.

2.2 Business Results

2.2.1 Program Management and Controls

The NWLON is statutorily authorized to collect, analyze, and disseminate data on tides pursuant to the 33rd United States Code, Sections 883a-883f established under the auspices of the Act of August 6, 1947 (61, Stat, 787). Each PORTS implementation is a partnership effort in consultation with the local harbor or waterway organizations and with the local community providing installation and operation costs and is guided by an agreement between the Federal Government and the local partner. PORTS is explicitly authorized through the Hydrographic Services Improvement Act of 1998. Through this United States Code and these agreements new requirements or enhancements to the PORTS and NWLON Major Application are driven.

A detailed baseline of anticipated activities and expenditures is provided on an annual basis which includes maintenance of operational systems as well as new development, expansion, and modernization. The baseline takes into consideration the planning contained within the various IT Plans and within the context of the IT Architecture Plan. Prior to submitting the detailed baseline for the coming year, it is checked for any course corrections that are needed using actual activities and costs from the previous year as a guide and benchmark. This plan is submitted for approval by the Director of the Center for Operational Oceanographic Products and Services (CO-OPS).

The PORTS and NWLON Major Application is managed by teams which meet on a weekly basis to discuss operational issues, including performance, cost, and scheduling concerns. A report of any relevant issues is made to senior management every week. Once a quarter, the baseline plan is reviewed. An analysis of any budget and performance level variances is conducted by the Information Systems Division, program manager(s) and budget control staff of CO-OPS. Significant variances that would keep a project from returning to the plan if not addressed and mitigated trigger management action. Although all causes of variances revealed in the analysis are addressed, technical issues, more often than not, cause unfavorable cost or schedule conditions. If technical deficiencies are found, alternatives for corrective action are considered including but not limited to redesign, scrap and remake, rework, etc. When considering these alternatives, the impact on cost and schedule is weighed in addition to the technical considerations. After an alternative is selected, it may become necessary for the PORTS and NWLON baseline plan to be adjusted. In some cases, a decision may be made to provide additional resources to the plan. Ultimately, the cost/benefit and price/performance factors are weighed in the decision making process to select the best response to any variance. What is most important is that the PORTS and NWLON application is monitored regularly, any and all variances are analyzed, and CO-OPS remains vigilant in refusing to address variances by simply increasing the budget, assigning more staff or extending the schedule.

2.2.2 Monitoring Cost, Schedule and Performance

Cost – Every quarter the Deputy Director meets with each Division Chief to review the quarterly budget. Monthly reports are submitted by contractors to their respective contracting Officer's Representatives (CORs) to ensure contracts are within cost and on schedule. Tools used for budget tracking (i.e. planning and execution) are CAMS (Commerce Administrative Management System), COAST (Coastal Ocean Automated System for Tracking), and AAP (Advanced Acquisition Plan).

Schedule – Microsoft Project is used to track various technical components, critical tasks and milestones of the PORTS and NWLON application. This software tool integrates the scope of work to be conducted with schedule and personnel resource elements for optimum project planning and control. Microsoft Excel is used to track cost components of the PORTS and NWLON application. This software tool tracks monthly spending, both planned and actual, for any IT-related costs. Accounting codes dedicated to IT are used.

Performance – The PORTS and NWLON application contribute to a number of corporate milestones and performance measures associated with a number of NOAA programs. Quad charts are generated on a quarterly basis to provide execution details regarding the performance parameters, schedule, budget, and any key risks that arise. This information is reported by the Program Manager of the Marine Transportation System Program, a component of NOAA's Commerce and Transportation Strategic Goal. The Program Manager reviews this information to ensure consistency with agency established budgets, program goals and policies, and mission objectives and requirements.

2.3 Reviews

A comprehensive review and assessment of the current information architecture for the PORTS and NWLON Application was performed by a consulting contract with Northrop Grumman in FY2003. The assessment noted two distinct data flows, a PORTS data flow and a NWLON data flow. It found that these two data flows sufficiently supported the original goals of PORTS and NWLON when each was an individual program, but that the capacity to leverage the information available through

both data flows as they exist now in an attempt to meet the increasing information needs of the business requirements of today since the merger of the two programs is severely limited. It was therefore recommended that the capacity of the current information architecture be restructured to better accommodate the business user requirements that span both data flows. Based on the assessment, a decision was made to proceed with the recommended changes to the architecture. As the requirement analysis and the development of proposed solutions progressed, it became apparent that the level of effort required to complete the re-engineering of the information architecture exceeded available resources. As a result, an information architecture team was established and focused on the procurement of contract services to perform the re-engineering efforts. An award was made to Project Performance Corporation (PPC) in August, 2006. The scope of the re-engineering effort shall include: 1) development of applications for collecting and managing inventory and field configuration information for PORTS and NWLON measurement equipment and locations; 2) development of a new database model that consolidates the water level and current metadata into a single database; 3) development of new applications to ingest, quality control, analyze, and distribute the data to simplify the processes, ensure consistent processing across all data, and support anticipated data growth; and 4) phased implementation of these changes.

2.4 Security

The PORTS and NWLON system is accredited under requirements spelled out in NOA 212-13 (03/17/03) and the DOC IT Security Program and Minimum Implementation Standards (2005) that are based on OMB and NIST guidance. System Security Plans, Risk Assessments, and Contingency Plans were certified and approved for the PORTS and NWLON Major Application in August 2006. Management, operational, and technical security controls are adequate to ensure the confidentiality, integrity and availability of information.

2.5 Performance Measures

The PORTS and NWLON Major Application supports the strategic and business requirements. These measures align with the Mission and Business Results, Processes and Activities, and Technology Measurement Areas within the Performance Reference Model developed by the Federal Enterprise Architecture Program Management Office (FEA-PMO). Table 2 summarizes these measures.

Table 2: Business Results Performance Measures

Measurement Area	Indicator	2006 Baseline	2006 Actual Result	Comments
Mission and Business Results	# of NWLON stations	187 NWLON Stations	196 NWLON Stations	To expand area of coverage for which water level information can be provided; 8 additional NWLON stations were installed in 2006

Measurement Area	Indicator	2006 Baseline	2006 Actual Result	Comments
Processes and Activities	% of operational effectiveness	0% real-time field access to station configuration information by field crew	75% real-time field access to station configuration information by field crew	To maximize field crew capability and productivity by implementing a web-based real-time access to station configuration information
Technology	# of data collection platforms using Xpert technology	62 Xpert Data Collection Platforms	120 Xpert Data Collection Platforms	To maximize capabilities of data collection platforms; 58 additional NWLON stations were updated to Xpert technology, 8 more than planned

2.6 Other

The PORTS and NWLON application has a requirement that 80% of the real-time data that it is capable of obtaining be acquired, be of good quality, and be displayed in real-time. Currently, 87.3% of real-time data is meeting these performance metrics. The application also has a requirement that 95% of the near real-time data that it is capable of obtaining be acquired, be of good quality, and be displayed in real-time. Currently, 97.7% of near real-time data is meeting these performance metrics.

3.0 Financial Performance

3.1 Current Performance vs. Baseline

The current PORTS and NWLON financial performance, as shown in Figure 2, compares the actual cost of the program compared to an annual spending plan.

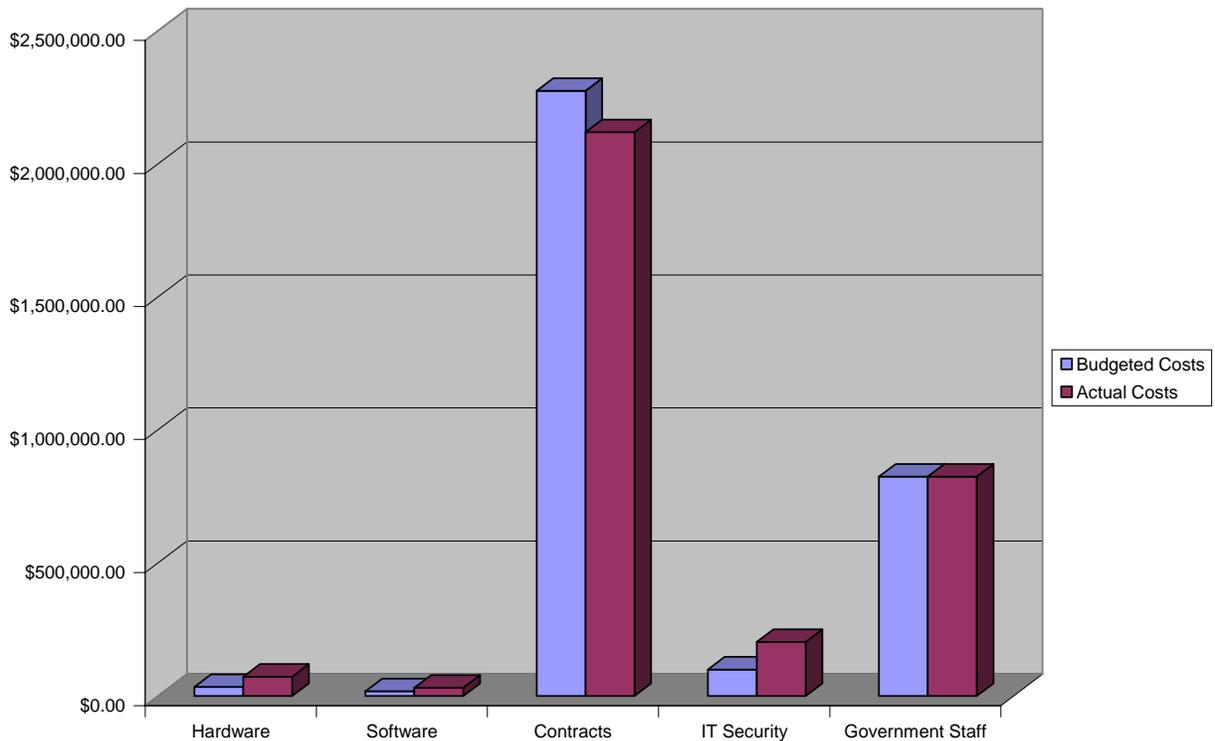


Figure 2: Budget vs. Actual Costs

3.2 Performance Measures

During the reporting year, financial performance of the PORTS and NWLON Major Application is achieved through divisional monthly reviews and quarterly reviews with the Deputy Director of CO-OPS in examining quarterly variance measurements of what was planned for in the yearly spending plans and what was actually spent. By creating spending plans prior to the beginning of each fiscal year, it is possible to track spending for each month down to the object class level. In addition, by submitting anticipated major procurements early in the planning process, it is possible to track spending more closely.

3.3 Cost Benefit Analysis

An economic benefit report was completed in 2005 which showed the economic benefits derived from the Tampa Bay PORTS. The report describes estimated benefits in terms of dollars to the extent possible, and also describes non-quantifiable benefits.

Sources of economic benefit from Tampa Bay PORTS information include:

- Greater draft allowance/increased cargo capacity and reduced transit delays for commercial maritime transportation (water level information)
- Reduced risk of groundings/collisions for maritime traffic (currents and wind information)
- Enhanced recreational use of Tampa Bay by boaters, windsurfers, etc. (winds, weather forecasts, and other information)

- Improved environmental/ecological planning and analysis, including hazardous material spill response

The estimates suggested that \$2.4 to \$4.8 million in direct annual economic benefits can be attributed to PORTS data in the Tampa Bay area with a reasonable degree of confidence. Another \$2.2 million in annual benefits are less easily traced but may be linked to PORTS; and an additional \$2.2 million could potentially be realized with the full utilization of PORTS data. Thus, the best estimate of the 2005 realized quantifiable benefit from Tampa Bay PORTS data is \$4.4 to \$7.0 million. This estimate is best interpreted as a lower bound on total benefits flowing from PORTS data, since not all uses of PORTS data can be quantified.

Most of these benefits are in the nature of avoided costs (increased producer surplus, or profit) for commercial operations and avoided costs or increased consumer surplus, including non-market benefits, for recreational users of the Bay.

3.4 Financial Performance Review

Financial performance is typically subjected to a periodic review for reasonableness and cost efficiency. Monthly budget reviews are held with the program manager, CORs and contract managers to ensure contracts are within cost and on schedule. Quarterly budget reviews are held between the Divisional Chief and the Deputy Director to ensure that project spending is reasonable. Monthly reports from contractors are required to ensure the Government has the information it needs to evaluate cost performance. A detailed review of work and priorities is undertaken if cost is significantly above base lined values. Also, any necessary corrective actions are also identified and implemented.

4.0 Innovation to Meet Future Customer Needs

The following projects have been implemented in FY2006, or are being implemented in FY2007 to address future challenges, better meet customer needs, make better use of technology, and lower operating costs.

4.1 Number and Types of Users

The number and types of users continue to rise at the local, state and national levels as the importance of oceanographic information for coastal projects increases as well. Users of the PORTS and NWLON application primarily are ships underway and navigating through major U.S. harbors, U.S. Coast Guard, estuarine managers and other federal environmental agencies.

As the number and types of users increase, their demand for denser coverage, new sensors, timeliness of data and new applications also increases. These issues pose interesting challenges for the PORTS and NWLON application to grow to meet users' needs. Issues that will have to be addressed are:

- How best to determine areas for improved coverage?
- How to meet the regional or local marine observational needs?
- How to improve data ingestion and delivery to users in a timely manner?
- How to ensure the data is adhering to established quality control measures?

Project to Address Challenge: *Expansion of area coverage for which water level and current data is provided by installing additional PORTS and NWLON stations*

To meet user's needs, it is desired that by 2015 there will be approximately 500 NWLON station observing systems (300 stations associated with NWLON and 200 cooperative regional and local stations) and to operate and maintain PORTS services at the top 150 U.S. seaports.

The challenge in expanding the coverage of the PORTS and NWLON application is in creating partnerships with regional and local harbor or waterway organizations, with the local community and implementation partnership effort based on extensive collaboration to identify and satisfy user needs in order to improve safety and derive economic benefits. PORTS comes in a variety of sizes and configurations, each specifically designed to meet local user requirements, and to take into account very real geographic and hydrologic differences between waterways. In the past, these types of partnerships have been very successful and will be continued to be pursued. To improve the coverage of NWLON stations, efforts are currently underway to identify those areas with under-coverage (not enough sensors in an area) and over-coverage (too many water level sensors too close together in an area). By identifying these areas, corrections can be made with local resource managers for improving coverage in an area.

Project to Address Challenge: *Expansion of on-line product suite*

Because of the speed in which it is easier to update web base software versus paper products, it will be necessary for traditional paper products, such as Tidal and Tidal Current tables and charts to be made available online. There will be challenges with bringing these paper-based products to the web in an efficient and reliable manner. In addition to bringing traditional products on line, new capabilities will be developed to allow any user to design their own PORTS and NWLON display web page that would have the data picture products that they would like to see arranged in a way they would like to view them, along with the ability to store these preferences to allow the tailored display to be rebuilt on demand.

By allowing users to create their own specific web based products containing the data and graphics that fit their specific need will be an innovative area of development. To help overcome these challenges, working with new, secure web technologies and working with external partners during beta-testing of these new capabilities will help ensure the on-line products for PORTS and NWLON will meet data users' needs.

Project to Address Challenge: *Maximize capabilities of data ingestion and data storage*

Meeting the needs for rapid data ingestion and data retrieval is vital for a real time system. To overcome these challenges for the PORTS and NWLON application, separation of the ingestion and quality control processes from the data retrieval processes will improve data reliability and delivery. This can be achieved by separating all data processing from a single operation database to a dedicated operational database (data ingestion and quality control processes) and a data warehouse (data retrieval processes). This will improve ingestion efficiency and delivery of the data to the users.

Project to Address Challenge: *Increase data available to the public that has been quality controlled*

The need to integrate the IT infrastructure, applications, and processes has become paramount to appropriately support the new CO-OPS business model. Through the implementation of improved database designs and applications that support: increasing volumes and varieties of data, consolidating metadata, streamlining how data is acquired, ingested, processed and stored in databases, and improvement of services for the users, CO-OPS' will meet its mission goals more efficiently and effectively.

4.2 New Technological Growth Areas

CO-OPS growth in new areas (National HF Radar Program, Harmful Algal Bloom Forecasting, etc.) will require monitoring infrastructure and modeling enhancements. CO-OPS is assuming the lead for providing the NOS contribution for the operational coastal component of the U.S. Integrated Ocean Observing System (IOOS). Expanding the suite of sensors (parameters and quantity) will require a corresponding expansion in CORMS real-time quality control, commercial communications, data and information management, and product development. Expanding the number and function of operational models will require additional partnerships with both the academic and scientific consulting communities.

4.3 Improving IT infrastructure

CO-OPS must maintain computational equilibrium with other IT intensive organizations. Further, the office network infrastructure must allow seamless capability to fully utilize computational capacity. CO-OPS will stay current with IT hardware and software technology in general and solicit and engage specialists in IT fields such as AI that can apply the technology to solve real world operational problems.

4.4 Funding Levels

Recent trends in government spending indicate that agencies should not expect significant increases in their budgets. This, coupled with the requirement to accommodate more users and incorporate evolving technology, will force the program to find efficiencies and to do more with the same amount of resources.

Project to Address Challenge: *Leveraging external resources*

There are countless benefits with doing business in concert with partners. Shared ownership of an activity leverages the resources (including intellect) of all partners. In addition, non-Federal partners have license to influence the legislative process. Partnerships are resource intensive. Considerable effort goes into the partnership process. CO-OPS strengthens core capabilities through additional partnership links with outside groups including private organizations. CO-OPS is a highly leveraged organization that is in the business of partnering with other parties to meet the needs of a broader user community. The strategy for the future includes building upon and enhancing the existing NOS operational infrastructure and culture which has emphasized cross-program and cross-NOAA integration. CO-OPS mission growth has been accomplished through advances in technology and outsourcing, while streamlining the number of personnel required maintaining the internal core workforce capability.

Annex A

System Interconnections/Information Sharing

System Name	Organization	Type of Interconnection	ISA/ MOU MOA	Agreement Date	FIPS 199 Category	C&A Status	Authorizing Official
NOAA6002 National Ocean Service (NOS) Messaging and Collaboration System	National Ocean Service (NOS)	General Support System; NOS Enterprise Email and Intranet Web Server System. It is a trusted connection and is located in a Government facility with both government and contractor personnel operating the IT systems. This system provides enterprise email and LDAP directory services for all NOS users. This system provides collaboration services to NOS organizations that can be in the form of web sites and/or Microsoft SharePoint sites.		March 21, 2004			Mitch Luxenburg (NOS, Associate Assistant Administrator for Management (Acting))
NOAA6001 NOS Assistant Administrator/Management and Budget office (AAMB) Local Area Network (LAN)	National Ocean Service (NOS)	General Support System; Network (LAN) NOS SSMC Campus Backbone, AAMB LAN, and Secure Public Information Network (SPIN) (i.e., secure web farm network). Trusted connection. Located in a Government facility with both government and contractor personnel operating the IT systems.		March 29, 2004			Mitch Luxenburg (NOS, Associate Assistant Administrator for Management (Acting))

System Name	Organization	Type of Interconnection	ISA/ MOU MOA	Agreement Date	FIPS 199 Category	C&A Status	Authorizing Official
NOAA0200 NOAA Network Operations Center (NOC)	National Oceanic and Atmospheric Administration (NOAA)	General Support System. NOAA SSMC Campus backbone operated by the NOAA NOC. Trusted connection. Located in a Government facility with both government and contractor personnel operating the IT systems. This system provides campus level infrastructure including LAN, WAN, and MAN networking, secure networking segments, and Internet access. This system provides campus level network monitoring, network management, NOAA enterprise VPN management and administration, campus level network help desk support and services.		September 30, 2004			John Kyler (NOC Manager)
NOAA0100 NOAA Computer Incident Response Team (N- CIRT) Network	National Oceanic and Atmospheric Administration (NOAA)	General Support System. NOAA operated security monitoring for all Internet/Internet2 connection located in Silver Spring Metro Campus (SSMC) and NOAA wide computer incident response capabilities. Trusted connection. Located in a Government facility with both government and contractor personnel operating the IT systems. This system provides limited intrusion detection and monitoring services for NOAA networks scattered throughout the country. This system provides a centralize computer incident response support and reporting for all of NOAA.		September 30, 2004			Becky Vasvary- Gaujot (Director, NOAA Office of IT Security)

System Name	Organization	Type of Interconnection	ISA/ MOU MOA	Agreement Date	FIPS 199 Category	C&A Status	Authorizing Official
NOAA0300 NOAA Message Operations Center (MOC)	National Oceanic and Atmospheric Administration (NOAA)	General Support System; NOAA Enterprise wide Messaging, LDAP Directory, and Calendar is operated by the NOAA MOC. It is a trusted connection and is located in a Government facility with government and contractor personnel operating the IT systems. This system provides NOAA wide email (as requested), LDAP Directory services, calendar (as requested), and help desk services for supporting these functions.		September 30, 2004			John Kyler (Acting Chief, Enterprise Network Services Division)
NOAA3100 Pacific Marine Environment al Laboratory Local Area Networks	NOAA/OAR Pacific Marine Environmental Laboratory (PMEL)	General Support System; Office of Oceanic and Atmospheric Research's Pacific Marine Environmental Laboratory Campus Backbone Network located in Seattle, Washington providing local campus, Internet access, and computer security monitoring. It is a trusted connection and is located in a Government facility with government and contractor personnel operating the IT systems. This system provides infrastructure and networking services to the Seattle Campus. This system provides intrusion detection and network monitoring to all organizations connected to this network.		September 30, 2004			Eddie Bernard (Director, PMEL)

System Name	Organization	Type of Interconnection	ISA/ MOU MOA	Agreement Date	FIPS 199 Category	C&A Status	Authorizing Official
NOAA6201 CO-OPS Silver Spring LAN	National Ocean Service (NOS)	General Support System; CO-OPS operated LAN located in Silver Spring Metro Campus (SSMC). It is a trusted connection and is located in a Government facility with government and contractor personnel operating the IT systems. The NOAA6201 provides underlying enabling infrastructure for NOAA6205, such as user workstations for analyzing and processing data.		May 28, 2000			Michael Szabados (Director, CO- OPS)
NOAA5004 Data Collection System Automatic Processing System	National Environmental Satellite and Data Information Systems (NESDIS)	General Support System; NOAA5004 receives all GOES transmissions and retransmits the data to DOMSAT sites, as well as pushes the data to NOAA8870. It is a trusted connection and is located in a Government facility with government and contractor personnel operating the IT systems.		December 31, 2003			Kathleen Kelly
NOAA8870 National Weather Service Telecommun ication Gateway	National Weather Service (NWS)	General Support System; NOAA8870 is the conduit over which all NWS data is transmitted. NOAA6205 provides water level and ancillary data to the NWS via NOAA8870. It is a trusted connection and is located in a Government facility with government and contractor personnel operating the IT systems.		December 31, 2003			Larry Curran
Verizon Internet/Back bone FTS2001	MCI	General Support System					

Annex B

The following management control processes are implemented:

Operational Monitoring – The Continuous Operational Real-time Monitoring System (CORMS), a sub-system within the PORTS and NWLON Application, is primarily intended to provide quality assurance and monitoring of sensor data before application of the data by real-time and near real-time users. It is a decision support system which provides data communications, data analysis, system monitoring and notification support to a variety of users. CORMS provides seven days a week, twenty four hours a day monitoring and quality control of sensors and data in order to insure the availability, accuracy, and quality of tide, water level, current, and other marine environmental information. CORMS is intended to identify invalid and erroneous data and information before application of the data by the real-time and near real-time users. The Center for Operational Oceanographic Products and Services (CO-OPS) is responsible for the quality of the real-time data provided to local users in support of navigational safety. The system provides 24 x 7 personnel coverage.

Weekly Status Meetings – Twice a week, the Operations Manager meets with other divisional representatives within CO-OPS to gather information of the operational readiness of the PORTS and NWLON measurement systems in the field and the components within the PORTS and NWLON application. The information provided may address issues relating to station outages, data availability, data quality control and station repair status. In addition to these meetings, the Operations Manager provides senior management with weekly briefings on the operational readiness of the PORTS and NWLON system.

Configuration Control and Management – Configuration control is the systematic process of maintaining the formally established baseline identification and regulating all changes to the baseline. Configuration control is achieved through an ordered process of proposal, evaluation, approval or disapproval, and implementation of approved changes to a configuration item (CI) after a configuration baseline has been established. Configuration control maintains the integrity and continuity of the design, engineering, and cost trade-off decisions which are recorded, communicated, and controlled. Configuration control prevents unauthorized, unnecessary, or marginal changes, while expediting the approval and implementation of those that offer significant benefits. Changes to the CO-OPS baseline is monitored and implemented by the groups and policies listed: CO-OPS Web Committee (CWC), Software Configuration Control, Configuration Audits and Reviews, Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA). Depending on the size and complexity of the system under control, other audits may be conducted to help ensure complete traceability of the requirement throughout the life cycle.

Configuration and Management (CM) is applied over the life cycle of a product (hardware and software) and provides visibility and control of its performance and functional and physical attributes. CM verifies that a product performs as intended and is identified and documented in sufficient detail to support its projected life cycle. Implementation of CM procedures and guidance is done in such a way as to complement other CO-OPS processes already established such as the planning and financial processes; systems integration management (SIM); and operational systems and technical architecture developments. The CM which is followed is the Department of Energy's Systems Engineering Methodology.

Monthly Budget Reviews – Monthly budget reviews are held with Division Chiefs, product managers, project managers and CORs to ensure products and their associated projects are within budget and on schedule. Monthly reports from contractors and their project managers are required to ensure that the Government is receiving the information and deliverables as stated in the contracts helps the Government with cost performance evaluations.

Quarterly Organizational Budget Reviews – Quarterly budget reviews are held between the organizational budget manager and the Division Chiefs to ensure that each division is meeting their quarterly objectives, their projects are on time and within costs and to identify any resources that may or may not be needed.