

NOAA National Data Centers (NNDC) FY08OA Analysis

The operational analysis (OA) is an annual, in-depth review of NNDC program's performance based on the following:

- Customer Results
- Performance Measures
- Strategic and Business Results
- Financial Performance
- Innovation

The focus on this analysis will include a review FY08 performance, measures and results highlighting significant achievements/ performances. An historical review/ comparison of FY07OA will also be conducted to highlight significant information and contributions.

The NNDC supports e-Government initiatives by focusing on deployment of all the features provided through the use of Internet standards, which streamlines the finding, accessing, and delivery of data and information from the nation's environmental archives. The current steady state program meets established cost, schedule, and performance parameters. The NNDC is not a typical program, but an umbrella initiative for planning and management of data center resources.

1.0 Customer Results

NNDC impacts all economic sectors of the nation and is instrumental in the preserving of long-term data records of environmental conditions. Customers include insurance and energy companies, engineers, community planners, public safety providers, farmers, lawyers, and the general public. The nation is a stakeholder; other customers include federal agencies including:

- National Aeronautics and Space Administration (NASA)
- State and local governments
- Students from all levels of academia.

NNDC provides essential information to key decision makers in multiple industries (construction, agriculture, etc) contributing to an estimated cost savings of billions of dollars annually.

The NNDC program is fully meeting the customers' needs and the data centers are delivering the data, services, and products as outlined in the NOAA and NESDIS operational plans. The value of these centers has been well documented and mandates a continued need for this investment. The cost to the customer is as low as it could be for the results delivered. There are no alternative sources in the public or private sector that can perform the functions of the NNDC.

The NNDC program continues to provide its customers with on-line data free of charge. The data centers also provide value added products for a nominal fee. These products can be ordered on-line or by phone. Phone support is made available to ensure that customers find the right product.

1.1 Performance Measures

NNDC supports many types of NOAA customers and products in addition to the core mission of ingest and archive of climate, geophysical, and oceanographic data. NNDC projects continue to exceed their goals and objectives in the number of products produced and data made available on-line. The economic contributions of the NNDC to the nation are significant.

NCDDC has overseen the continued evolution of the Regional Ecosystem Data Management (REDM) system, which provides access to data and information through the cataloging, formatting, archiving, and dissemination of data streams in collaboration with federal and state agencies, regional observing system associations, academic researchers, and non-governmental organizations.

In addition to REDM, NODC and NCDDC produced the NOAA Extreme Weather Information Sheet (NEWIS) for the 2008 Atlantic hurricane season.

NCDC's total number of new products developed and placed on-line in FY 2008 was 124 – more than double the performance measure/target of 60.

Customer support at NODC by the increase in the number of Unique Host connectivity, files downloaded, and amount of ocean data downloaded via the NODC on-line access system.

Data that was made available to customers through NGDC. The number of distinct hosts has been reduced but data available has increased by 25% over this past year.

2.0 Strategic and Business Results

The NOAA National Data Centers Information Technology (IT) infrastructures are configured to accommodate the e-Government initiative by focusing on the storage, access, and delivery of data and information from the nation's environmental archives. These data are available to the global community by Internet access, phone calls, and written request. Data and products are available in various forms to include CD-ROM, DVD, posters, publications, subscriptions and on-line access. All data interactions are now capable of being performed without human intervention using e-Commerce conventions. Development and improvement of end-to-end system resources and systems management is handled through oversight of contractor support.

2.1 Program Management and Controls

The NNDC program is guided by the Office of Management and Budget (OMB), DOC, and NOAA guidelines and policies. Oversight is provided by NESDIS, including the NESDIS Information Resource Management Team (IRMT) and the NESDIS Chief Information Officer (CIO).

Prior to IT purchases, the IRMT reviews the purchase for best business practices. NOAA-wide contracts such as NOAA IT Electronic Store (NITES) and Blanket Purchase Orders are queried for product availability. IT purchases follow the capital asset planning process and are incorporated into the NNDC Exhibit 300. NNDC IT support comes from integrated teams consisting of contractors and federal employees. Details of the support contracts can be found in

the individual data center yearly acquisition plans. All IT purchases over 25K are reviewed by the NESDIS CIO office to ensure the planning and budgeting process has been followed.

2.2 Monitoring Cost, Schedule and Performance

Cost. The cost for NNDC programs is monitored in monthly reports submitted to the data centers' financial officers containing financial information such as estimated and actual costs versus projected cost. Monthly budget reviews are held with the program manager, Contracting Officer's Representatives (CORs), and contract managers to ensure contracts are within cost and on schedule. The NESDIS IRMT also reviews purchase orders for IT assets to ensure compliance with the "to be" architecture and that items purchased are using standard NOAA contracts.

Schedule. The data centers' annual operating plans are used to track key milestones. A plan is currently in effect to reflect the final appropriation and allotment decisions. NESDIS continues to conduct monthly reviews.

Performance. Performance management is addressed at the individual data centers through their internal reviews and then briefed by the center directors to the NESDIS director and staff. Specific performance measures listed in the NNDC Exhibit 300 are reviewed and updated.

2.3 Security

All NNDC systems have approved System Security Plans, Risk Assessments, and Contingency Plans in place. Data Centers are classified as Business Essential. Operational and technical security controls are in place to ensure the confidentiality, integrity, and availability of information.

NNDC systems are managed by Information Systems Security Officers (ISSOs) and meet once a month to discuss security issues. The ISSOs ensure that desktop and network security is implemented in accordance with DOC and NOAA guidelines.

2.4 Performance Measures

NNDC has exceeded many of their annual performance measure projections, such as data delivered on-line to customers. Increase in NCDC data delivered on-line from just over 10 GB/quarter in FY 1995 to over 80 TB/quarter in FY 2008. The similar increase in data available on-line from FY 1995 through FY 2008, with 1.8 petabytes of data and products now accessible on-line.

There are no other organizations capable of doing this work better, more efficiently, or at a lower cost. Details can be found in the NNDC OMB 300 Alternative Analysis section.

3.0 Financial Performance

During 2008, the NNDCs stayed within a ten percent variance. The NNDC funding requirements are listed in each data centers' AMC.

The NNDC annual spend plan reports and compares the actual cost of the program compared to a pre-established cost baseline. Program costs consist of labor and benefits for federal and contract employees and financial performance practices vary slightly between project and data center.

The NNDC is a steady state umbrella program that derives its budget from a combination of ORF support accounts for NCDC, NODC, NGDC, NCDDC, NVDS, and CDMP. Each office has a financial staff that reports monthly to NESDIS Headquarters for variances of more than ten percent.

4.0 Innovations to Meet Customer Needs

The following projects and efforts demonstrate how the NOAA data centers meet customer needs and make better use of technology to achieve existing and future requirements.

NOAA Virtual Data System (NVDS) - provides several major services as a "system of systems".
National Coastal Data Development Center (NCDDC)

National Coastal Data Development Center- continues to provide support to a broad range of customers through a variety of interfaces and technologies.

National Oceanographic Data Center (NODC) - Enhanced Web site design and Web applications

NODC Supports High-level NOAA Projects; High Resolution Sea Surface Temperature at NODC Exceeds 15 TB; Improved access to World Ocean Database 2005 (WOD05); Climate Database Modernization Program (CDMP)

National Geophysical Data Center (NGDC)- provided many new and improved data sets and information products during FY 2008 to support NOAA national and international programs to save lives, manage environmental resources, and turn raw data into useable and easily understandable information.