National Oceanic and Atmospheric Administration

Strategic Information Technology Plan

2009-2016

NOAA Office of the Chief Information Officer

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NOAA Strategic Information Technology Plan

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Purpose

The purpose of the NOAA Information Technology Strategic Plan (SITP) is to: describe the future direction of NOAA's investment in Information Technology (IT), define specific goals, objectives, key activities, and provide a basis for assessing progress in NOAA's IT program. The SITP aligns IT strategy with NOAA business goals and strategy together with the Department of Commerce IT strategic planning. The guiding documents include the NOAA Strategic Plan FY 2009-2014, the Annual Guidance Memorandum for FY 2011 - 2015, and the DOC Strategic IT Plan 2009-2013. The SITP is used to trace NOAA business strategy to IT initiatives. This document is forward-looking in that it focuses its attention on currently funded developmental initiatives or planned initiatives identified for future funding. Specific details on each of these initiatives may be found in Office of Management and Budget (OMB) Exhibit 300 documents or NOAA Program Operating Plans.

The previous SITP version was published in February 2008. This version adds a new Mission Support Sub-Goal for Environmental Modeling, and notes the pending creation of a National Climate Service. The SITP is logistically positioned in the annual cycle of IT governance artifacts to use the Operational IT Plan and IT investment Operational Analyses as input. The SITP guides development of the NOAA 2012-2016 Program Operating Plans (POPs) for NOAA's Planning Programming Budgeting and Execution System. Appendix 1, a diagram of IT Governance as an annual cycle, visually depicts the SITP, IT, and PPBES processes at NOAA.

The Importance of Information Technology in NOAA

NOAA's mission is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. The fulfillment of this mission requires NOAA to observe, collect, process, evaluate, disseminate, and archive vast quantities of environmental information and information products. The effective use of information technology (IT) is critical to NOAA's ability to accomplish its mission. Because of this, IT is integrated into virtually all aspects of NOAA's mission goals and cross cut priorities, and NOAA's Strategic Plan recognizes the critical role of information services.

Information technology allows NOAA to increase the amount and quality of environmental data collected. IT is an integral part of environmental observing and data collection systems, including radar, sensors, and satellite systems. Once collected, the data are evaluated and processed with Information Technology to create useful products for the Nation.

IT allows NOAA to disseminate products to the public in a timely manner. NOAA is expanding its web presence. It is making more products and standards, data formats and web services, available outside NOAA to research communities and the public via the internet. The public expects access to NOAA's information. For example to aid public safety or provide everyday public service, geospatial information is being disseminated as "near real-time" weather forecasts and storm warnings, water temperature and environmental datasets, port information to aid in transportation and commerce, and buoy data, etc. Internet searches for weather, National Weather Service, and NOAA consistently dominate approximately half of the top-ten internet searches in the US – with an average combined volume of 1-2% of all internet searches in the US, which further peak during weather or other news events (according to www.Hitwise.com).

NOAA uses IT to create and preserve the Nation's long-term environmental record. The Nation's ability to make informed decisions affecting the environment and the economy hinge upon the integrity and completeness of environmental datasets. As NOAA collects and processes ever larger volumes of environmental data, the systems that archive and preserve the data for posterity must keep pace.

Managing information resources across the NOAA enterprise and ensuring the confidentiality, integrity, and availability of NOAA information management systems is vital to ensuring the success of NOAA's mission. The strategic application of information resources is also important in ensuring that NOAA resources are used in a cost-effective manner.

Strategic Goals

NOAA's mission success hinges on its ability to use IT to gather, process, and disseminate environmental information. With both weather and climate sensitive industries accounting for approximately one-third of the United States' Gross Domestic Product, government agencies, businesses, and citizens continuously turn to NOAA for accurate environmental products and information. The demand for NOAA's products and information continues to grow as global climate change and the threat of natural disasters remain at the forefront of the Nation's attention. IT is critical to the NOAA scientists that produce the observation data; models and predictions; and research and development that our stakeholders rely on. In partnership with NOAA's senior leaders (i.e., the NOAA Executive Council and Panel), the NOAA Chief Information Officer (CIO) Council is committed to modernizing the IT infrastructure and improving the cost effectiveness, efficiency, and service of operations to support our mission. NOAA's IT and the people that manage and operate it are, therefore, critical to NOAA's mission and our Nation's economic strength, environmental vitality, and human health. The NOAA Strategic IT Plan incorporates strategic direction from many sources, including the NOAA OCIO 500-Day Plan: Update October 2008 - February 2010, with applicable strategies shown below:

Strategy #1 – IT Security: Secure NOAA's information and IT infrastructure from threats

Information is central to NOAA's mission. Therefore any amount of data loss, network failures, malicious intrusions or mishandling of data can result in far-reaching damage. The NOAA IT security program protects the confidentiality, integrity, and availability of NOAA's information, computers, and networks. Current threats and attacks on NOAA's systems are targeted, well funded, for profit, organized, motivated and constantly increasing in sophistication. NOAA's IT Security Program strategy is to apply security countermeasures in layers working together to reduce risk. These layers include detection and response capabilities, user awareness, desktop security, network security and compliance monitoring.

Strategy #2 – Enterprise Solutions: Increase efficiency and effectiveness through enterprise-wide solutions

Currently NOAA's IT infrastructure is difficult and expensive to maintain and lacks interoperability and scalability. NOAA IT infrastructure consists of multiple fragmented IT components that deliver services independently. The NOAA CIO Community is committed to modernizing the IT infrastructure and moving to enterprise-wide solutions. The foundation for improvements across the IT enterprise involves a sound architectural plan, effective NOAA-wide governance, an enterprise-wide funding model, a central acquisition approach, and strong program and project management capabilities. NOAA will also move to a services-oriented approach to organizing and managing information technology.

Strategy #3 – High Performance Computing: Build robust High Performance Computing capabilities

NOAA is recognized as a world leader in understanding and predicting the Earth's environment through advanced modeling capabilities, climate predictions and real time weather products. The public demand is growing for climate and weather information with increased accuracy, shorter lead times and local detail of model simulations. To meet this demand, NOAA scientists require high performance reliable computing. NOAA's High Performance Computing (HPC) must meet the continuum of clock-driven operational weather forecasts through calendar-driven projections of the Earth System. HPC requires significant and sustained investment to establish and maintain the target HPC architecture that allows maximum flexibility to meet the diverse requirements and the ability to scale to fill growing resource gaps.

Strategy #4 – Customer-Focused Service: Operate IT as a customer-focused service provider

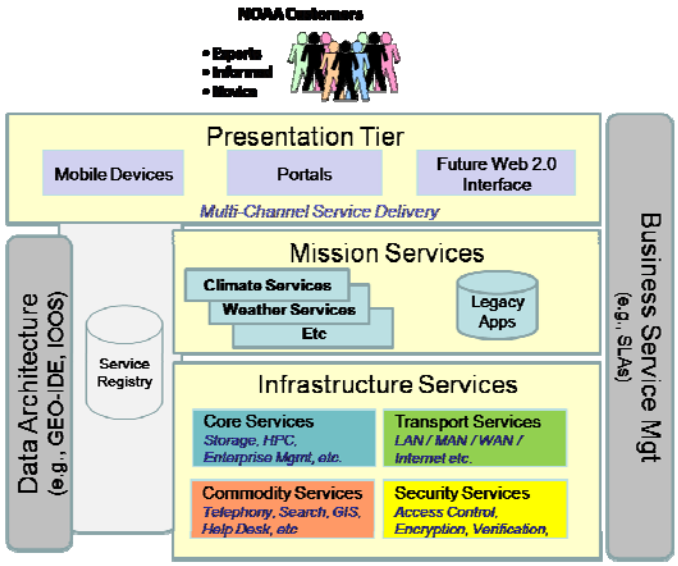
From email to calendaring, desktop services to mobile devices, NOAA employees depend on reliable and responsive IT services with high quality customer support. Historically, the IT infrastructure evolved independently among the line offices. IT services are provided and managed in a balkanized fashion by each line office and in many cases at the sub-line office level. There are limited NOAA-wide service standards and processes. This results in uneven levels of service that are challenging to monitor and improve at the NOAA level. The focus of this goal is to start building consistent IT services that are customer-focused to improve the visibility and management of IT services across NOAA. By defining and communicating an overall customer service model and strategy, NOAA will ensure that its initiatives such as help desk consolidation, software deployment, and performance management align to the business' needs. NOAA will achieve IT customer satisfaction by improving responsiveness and quality, decreasing cost of providing services, and providing transparency to customers throughout the service lifecycle.

Strategy #5 – Skilled IT Workforce: Attract, develop, and retain a skilled IT workforce

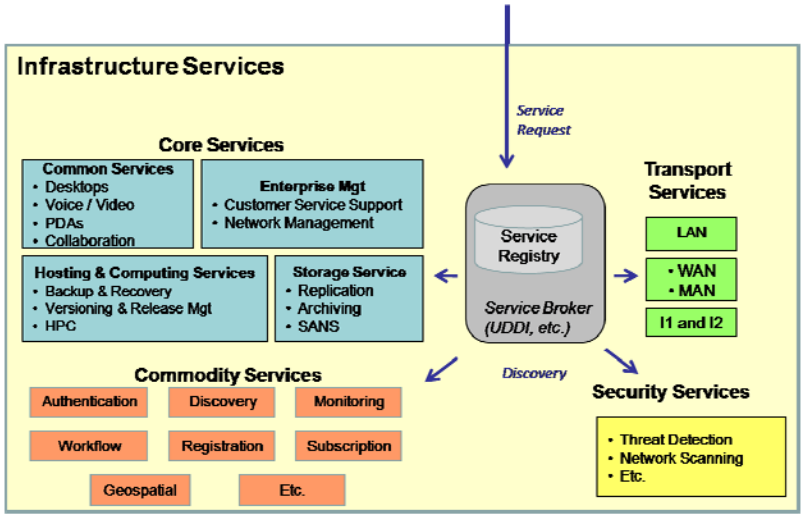
Successfully preparing for and meeting the high expectations of the Federal IT workforce of tomorrow is a daunting challenge that requires attention and commitment. The NOAA CIO community seeks to implement strategies to foster a world-class IT workforce. Experienced IT professionals who currently occupy Federal positions are expected to retire in increasing numbers over the next several years, creating critical gaps. Compounding this situation, due to extensive contracting and outsourcing, there is a limited cadre of junior and mid-level staff preparing for tomorrow's leadership challenges. Adding to these issues are the growing demands on the Federal IT workforce to keep pace with legislation, new mandates and technological changes. The OCIO will continue to implement and refine the IT Workforce investment strategy to attract, develop and retain a talented IT workforce.

Conceptual Architecture for IT Services

To enable the CIO's vision and the long-term goals outlined in this plan, the OCIO has adopted a Service Oriented Architecture (SOA) approach to guide the development and acquisition of future IT services. This approach is consistent with and will leverage the SOA approach as defined by NOAA's Global Earth Observation-Integrated Data Environment (GEO-IDE) program. Conceptually, this architecture seeks to decouple the various components of NOAA's overall IT architecture into discrete services, enable shared services across programs (with managed quality of service, economies-of-scale, etc.) and lead to a future that is devoid of monolithic applications. Conceptually, this architecture is shown below:



The infrastructure services layer is further decomposed as follows:



The infrastructure services depicted in this concept are somewhat notional at this point. Coordination on acquisition and development across NOAA is a challenge. The OCIO and EA program office are committed to evolving and maturing this concept, with additional details and initial implementation guidance planned for development in FY-09. As the model matures in FY-10 and beyond, implementation plans will evolve accordingly.

NOAA IT Management Functions

In addition to Strategic IT Planning, NOAA performs a number of other IT Management functions including Capital Planning and Enterprise Architecture, which form the Business Model for managing IT. Explanations of these functions may be found under the Policy and Programs section of the NOAA CIO Website (www.cio.noaa.gov).

Structure of NOAA's Strategic IT Plan

The main body of this plan is organized by NOAA's Mission Goals, as identified in NOAA's Strategic Plan. Each Mission Goal is further organized by: mission goal description; mission goal objectives; IT strategic objectives; IT architecture gap and target statement; and major initiatives. Only forward-looking strategies – new development, enhancements, and modernization initiatives (DME) from current NOAA IT Exhibit 300s – are included. Ongoing "steady state" (SS) or maintenance activities are not included in this Strategic IT Plan. Appendix 1, IT Governance, visually depicts the SITP, IT, and PPBES processes at NOAA. Appendix 2 shows Exhibit 300 IT Investments associated with PPBES Goals/Sub-Goals and Programs. And Appendix 3 is the BY09 Exhibit 53.

NOAA IT by Mission Goal

This section presents the IT strategy for NOAA Mission Goals and Sub-Goals that are in the NOAA Exhibit 53 Part 1. The Goals are: Ecosystems; Climate; Weather and Water; and Commerce and Transportation; and Mission Support (which is further divided into the following Sub-Goals: Modeling and Observing Infrastructure; Satellite; Leadership and Corporate Services; Fleet Services).

Ecosystems Mission Goal

Mission Goal Description

To protect, restore, and manage the use of living marine and coastal and ocean resources through an ecosystem approach to management that balances ecological, environmental and social influences.

Mission Goal Objectives

- Support legislative and regulatory needs for information technology.
- Increase number of fish stocks managed at sustainable levels.
- Increase number of protected species that reach stable or increasing population levels.
- Increase number of invasive species populations eradicated, contained, or mitigated.
- Increase number of habitat acres conserved or restored.
- Increase environmentally sound aquaculture production.

IT Strategic Objectives

- Ensure interoperability and seamless transmission of Ecosystem Observation Program (EOP) data through adoption of DMAC standards and protocols.
- Harmonize fisheries data and permitting systems to facilitate reporting and ease the burden for permit applicants.
- Support collaboration across NOAA Fisheries scientific, management, and regulatory communities.

IT Architecture Gap and Target Statement

Ensure consistency of enterprise desktop infrastructure.Given the demands placed on the Ecosystems Observations Program (EOP) for data management, the EOP can improve its operations in the following areas:

1) creation of metadata records for all long-term data sets
2) moving from paper forms and manual data entry to electronic collection of data
3) transformation of data sets into standard formats and adhering to standard vocabularies
4) creation of services or applications that facilitate the sharing of this information
5) ensuring the security of data within an interoperable environment
6) long term protection of this information through archiving at appropriate facilities.

Major Initiatives

The following activities are NOAA's IT investments or planned investments that will meet the objectives identified above.

Fisheries Information System (FIS) – Integrate state and federal information collection systems to enhance ecosystems-based marine fisheries through improved data quality and management.

Permits – Implement a single consolidated records system for fishing permits.

Northeast Fisheries information Management System (NE-FIMS) – Develop an integrated fisheries dependent management system for the NMFS Northeast Region.

National Angler's Registry System – Implement a system to collect information on recreational anglers to support the development and analysis of recreational fishing surveys.

Climate Mission Goal

Mission Goal Description

To understand climate variability and change in order to enhance society's ability to plan and respond by focusing on research to improve understanding of complex climate processes and to enhance the predictive capacity of the global climate system.

Mission Goal Objectives

- Describe and understand the state of the climate system through integrated observations, analysis, and data stewardship.
- Improve climate predictive capability from weeks to decades, with an increase range of applicability for management and policy decisions.
- Provide for quality and quantity of climate observations in order to maintain a consistent climate record that will support the analyses, interpretation, and archiving of the global climate record and improve our ability to determine why climate changes are taking place. Support the scientific life cycle to help bring research and development initiatives to operational applications.
- Stand-up a National Climate Service. NOAA will create a National Climate Service during the FY10-14 period. The National Climate Service would be responsible for the following:
    - Scientific Data Stewardship -Climate Data Records (CDRs)
    - Data and Archive
    - Model CDRs
    - US Historical Climate Network
    - Decadal Climate Predictions
    - GOOS
    - Expand Regional Integrated Sciences and Assessments

IT Strategic Objectives

- Modernize central processing capabilities.
- Develop new modeling products for forecast and climate predictions.
- Increase capability to ingest, control, and access of high volumes (petabytes) of environmental data.
- Revitalize Climate Computing
- Accelerate US Historical Climate Network Modernization

IT Architecture Gap and Target Statement

NOAA is currently unable to fund modeling of the ecological effects of sea level rise (SLR). This activity would use high-resolution elevation maps of coasts and would construct models of shoreline evolution under SLR scenarios to map predicted coastal inundation. Projects would quantitatively model the ecological consequences of SLR, including the responses of wetlands and shallow water habitats to SLR and the impacts to organisms dependent on these habitats. Using modeling results, strategies could be devised to mitigate the ecological and economic impacts of SLR. While a pilot project has been conducted in North Carolina, similar studies are needed in other areas vulnerable to SLR.

To date, no collective effort to integrate climate measurements across observing systems in support of climate monitoring & evaluation to document with a high degree of confidence changes in the state of the climate. Data analysis of limited climate observation hinders meaningful assessments of climate change trends and occurrence of extreme events.

Major Initiatives

The following activities are NOAA's IT investments or planned investments that will meet the IT objectives identified above.

Comprehensive Large Array-data Stewardship System (CLASS) – Develop a web-based data storage and distribution system for high volumes (petabytes) of archived environmental data derived from the following satellites and observing systems: GOES (and GOES-R in 2015), POES DMSP, MetOp, EOS/MODIS, NPP, NPOESS, NEXRAD, USCRN, COOP/NERON, oceanographic sensors and buoys, and solar environmental data.

Global Earth Observation Integrated Data Environment (GEO IDE) – Establish a Services Oriented Architecture (SOA) for NOAA data management systems, providing common services, and leveraging the benefits of existing data management systems.

Historical Climatology Network (HCN) modernization is a major climate initiative – Develop a modern network of 1,000 stations nationwide, collecting accurate, near real-time surface weather data obtained with state-of-the-art measurement, monitoring and communication equipment to replace existing HCN sites.

National Integrated Drought Information System (NIDIS) – Provide drought information through web-based portal that organizes and delivers historical and real-time climate and weather information for researchers and emergency responders.

NOAA Research Scientific Computing Support – Provides periodic technical refreshment of IT computing resources and associated IT maintenance and support services used to conduct short, mid, and long term climate and weather research.

Weather and Water Mission Goal

Mission Goal Description

To produce timely and accurate environmental observations, analyses, predictions and warnings for a range of atmospheric and hydrologic conditions including hurricanes, tornadoes, flood, droughts, tsunamis, wildfires, air quality, and space weather.

Mission Goal Objectives

- Increase lead time and accuracy for warnings and forecasts.
- Improve operational forecasts of high-impact events such as hurricanes, tornadoes, solar storms, fire weather, damaging wind, tsunamis, and poor air quality.
- Improve forecasting in the intensity, structure, and rapid changes in hurricane-strength storms
- Improve drought monitoring, forecasting, and early warning.
- Improve predictability of the onset, duration and impact of hazardous and severe events.
- Increase development, application, and transition of advanced science and technology to operations

IT Strategic Objectives

- Increase capability and performance of key observing systems.
- Modernize central processing capabilities.
- Modernize information dissemination capabilities.
- Develop new modeling/forecast products.
- Improve data acquisition, processing, modeling, and delivery methods
- Develop increased computing capabilities for software engineering, data processing and analysis, graphics, archive and access, and networking.
- Improve internet-based delivery of geospatial data and products.

IT Architecture Gap and Target Statement

Service delivery requirements are growing exponentially due to a number of factors. Local Forecasts and Warning's (LFW) expanded capabilities in the production and dissemination of digital fields of weather and water information are placing increased demand on web server processing and operations. Opportunities to transition from traditional, legacy systems for message distribution to a new era of enhanced automation and dramatic service improvement also require additional resources to be applied.

In particular, many NWS Partners and users have identified the need for NWS Watch, Warning, and Advisory products to be provided in Common Alerting Protocol (CAP) format. Systems using CAP have shown that a single authoritative and secure alert message can quickly launch Internet messages, news feeds, television text captions, highway sign messages, and synthesized voice over automated telephone calls or radio broadcasts. The NWS needs to swiftly move to be responsive to this major request from very important primary stakeholders.

In addition, LFW must resolve gaps in its communications continuity of operations plans (COOP) and IT security requirements.

Another significant gap within this capability is for the O&M costs associated with the Weather Radio Improvement Project. The current NWWS contract terminates Sep 30, 2009. The acquisition of a replacement system is required to prevent a gap in services to the "Emergency Alert" community (emergency managers, law enforcement, radio, TV, and mass news disseminators/redistributors). The NWWS was to be replaced as part of the National Dissemination Network/Weather Radio Improvement Project (WRIP), but due to delays in the WRIP, action must be taken to prevent a gap in services for this critical system. Current and replacement systems will have to be run in parallel for several months to ensure stability and prevent risk to the public. This investment would provide the basis for emerging requirements to support NOAA data and warnings for new wireless GPS technology for Emergency Alert System activation.

The Advanced Weather Interactive Processing System (AWIPS) is unable to satisfy the increased computational and data demands imposed from NPOESS, GOES-R satellite data, improved high resolution model output, and new forecast tools. NOAA lacks an infrastructure and process to test and empirically evaluate the feasibility of products and services going from the research environment to the operations environment and from the operations environment to the public user environment. NOAA's NWS needs to continue to provide products to customers and partners via multiple delivery mechanisms (e.g., NOAA Weather Radio (NWR) and NOAA Weather Wire Service (NWWS)). NOAA's customers and partners (e.g., media, emergency managers, other who use products and services) request enhancements to NWS products and services which are not able to be implemented in an effective, efficient, and timely manner within the operational environment. Also, scientific and technology advances to improve forecast accuracy and/or processes are not incorporated within the operational environment in an effective, efficient, and timely manner.

Major Initiatives

The following initiatives are NOAA's IT investments or planned investments that will meet the IT objectives identified above.

- Increase capability and performance of key observing systems.

Next Generation Weather Radar (NEXRAD) – Acquire modern hardware advancements in radar meteorology and information technology to improve the performance of the nation's Doppler weather radar network. NEXRAD acquires observation information about tornadoes and severe thunderstorms. The Dual Polarization modification will improve the ability to estimate precipitation amounts, detect size and location of hail and snow, and discriminate between weather and non-weather phenomena.

Office of Hydrologic Development (OHD) – Acquire advanced hardware and software to increase capabilities for nationwide water resource forecasting, enhanced short-term predictions of river levels and longer-term forecasts.

NOAA Environmental Real-time Observations Network (NERON) – Develop a modern network of 8,000 stations nationwide collecting accurate, near real-time surface weather data obtained with state-of-the-art measurement, monitoring, and communication equipment.

Tsunami – Upgrade telecommunications bandwidth, operational hardware, and related software for the development of improved Tsunami forecasting and modeling capabilities.

NPOESS Data Exploitation (NDE) – Provide the essential data processing and distribution systems including high speed computers, telecommunications, and automated procedures to deliver enhanced environmental observations to operational weather forecasters, government and international scientists, private enterprises, and university researchers from the NPP and NPOESS Satellites. (NDE will transfer to the Satellite Sub-goal in FY2011.)

Automated Surface Observing System (ASOS) – Replace vintage 1980 architecture with state of the art data collection, processor, software, and network communications components for the nation's primary surface weather observing platform, which observes and collects basic weather elements (visibility, precipitation, temperature, wind etc.) at over 1000 locations including nearly 600 airports.

- Modernize central processing capabilities.

Advanced Weather Interactive Processing System (AWIPS) – Develop a modern technology platform and a continuous technology refresh cycle for NOAA's distributed data processing system used at NWS field offices, regional offices, and headquarters that integrates all meteorological, hydrologic, satellite, and weather radar data received from all other observational and analytical elements that enables the forecaster to prepare and issue more accurate and timely forecasts and warnings.

Telecommunications Gateway (NWSTG) System – Modernize the hardware, software, and telecommunications infrastructure, and provide a critical infrastructure protection backup for the NOAA central switching system that provides continuous acquisition and dissemination of domestic and foreign meteorological and hydrological data and products between providers and users.

NOAA Weather Radio Improvement Program (WRIP) –Replace the Console Replacement System, consolidate the NWR and NOAA Weather Wire Service (NWWS) in a single satellite network, and provide access to NNWR transmitters for dissemination of live localized and national emergency voice alerts.

- Develop new modeling/forecast products.

Air Quality Forecast Capability (AQF) – Develop the computational capability to provide 12km Ozone and Particulate Matter forecasts.

Fire Weather Services and Modeling – Develop the hardware, software, and telecommunications resources to provide live data to meteorologists during fire events. Develop the computation capability to produce a coupled fire spread mode to 1km spatial resolution.

Meteorological Assimilation Data Ingest System (MADIS) – Make value-added data available for the purpose of improving weather forecasting, by providing support for data assimilation, numerical weather prediction, and other hydrometeorological applications.

Develop applications to disseminate geospatial data – using Keyhole Markup Layout (KML) and enterprise licenses for Google Earth and Google Maps – for point forecasts, severe storm floods and warnings, hurricane warnings, storm verification, post-storm damage assessment, etc.

Commerce and Transportation Mission Goal

Mission Description

To support the nation's commerce with information for safe, efficient, and environmentally sound air, sea, and surface transportation.

Mission Goal Objectives

- Enhance navigational safety and efficiency by improving information products and services.
- Realize national economic, safety, and environmental benefits of improved, accurate positioning capabilities.
- Reduce weather-related transportation crashes and delays.
- Reduce human risk, environmental, and economic consequences resulting from natural or human-induced emergencies.

IT Strategic Objectives

- Transition aviation weather program products and services from a primarily text based model to a digital environment with machine-to-machine interface capabilities, including internet dissemination of geospatial data.
- Transition nautical chart production from "dumb" raster data representation into more usable vector data.
- Merge the two separate production components of the Nautical Charting System into a single production system from which multiple products can be derived.
- Eliminate the single point of failure regarding the real-time provision of oceanographic and meteorological observations for safe maritime navigation and Homeland Security applications.

IT Architecture Gap and Target Statement

National Airspace System users are increasingly relying on digital data for weather related decisions. The FAA is developing Air Traffic Management systems requiring digital weather information that can be delivered over a network enabled communication system and processed by automated systems able to route aircraft around hazardous weather areas. The ability to determine the current and future weather at any point in the NAS is a key requirement of NextGen. Current NOAA/NWS systems are primarily based on legacy test products. The transition to digital aviation weather information will require a significant change to the way we currently do business, while providing the opportunity to dramatically improve the level of service in all weather disciplines. Other gaps include the need for more precise data to be collected in order to both better define the GEO-IDE model and more specifically obtain expanded water level observation and GPS data for the Great Lakes.

Major Initiatives

Hydrographic Data Management and Communications Upgrade (Hydro DMAC) – Use Commercial Off the Shelf (COTS) hardware and software to provide the infrastructure to transfer and store hydrographic survey data.

Mission Support Goal

In this section, strategic goals for NOAA IT infrastructure are discussed. IT infrastructure is defined as all common and enterprise level functions and systems that support mission activities and are not directly used for most mission programs. It includes (but is not limited to): IT Security, networks, end-user workstations, office automation hardware and software, help desks, financial and administrative systems. In accordance with the **NOAA Strategic Plan for FY 2009 - 2014**, the Mission Support Goal provides critical support for NOAA's mission. NOAA will ensure state-of the-art IT infrastructure and secure information technology and

systems with the objective of increasing internal and external availability, reliability, security, and the use of information technology and services.

5.1. Modeling and Observing Infrastructure Sub-Goal

Mission Sub-Goal Description

Integrate observing system architectures, data management architectures, and computing and modeling capabilities to better enable NOAA's mission.

Mission Sub-Goal Objectives

- Ensure a strategic, integrated, and balanced observing system investment portfolio for NOAA through the use of quantitative analysis
- Integrate national and regional efforts to optimize ocean observations, data management, and understanding
- Provide for research, development, and operational capabilities that improve, maintain, and operate models and provide guidance for environmental forecasts at all temporal and spatial scales
- Ensure computational infrastructure and high performance computing strategies needed to sustain computational workloads of NOAA's research and operational modeling enterprise and support NOAA's data management and stewardship capabilities

IT Strategic Objectives

- Increase capability and performance of key observing systems.
- Modernize central processing capabilities.
- Improve forecast models, computing capacity, and product generation
- Improve transition to operations of high-resolution hurricane models.
- Improve forecast tool creation to improve the 1-5 day hurricane guidance.
- Improve storm surge model R&D and inundation mapping for coastal regions.
- Define data requirements and technical specifications prior to transitioning buoy systems from research to operations.

IT Architecture Gap and Target Statement

Computational Resources necessary to: 1) advance our understanding of long-term climate change, 2) accelerate improvement in hurricane forecasting by a decade, 3) implement ensemble forecasts necessary to determine accurate probabilities of forecast error, 4) meet requirements for providing analyses of record using all available data and information, 5) transition space weather models, products, and data into operations is critical to maintain and improve the success of NOAA Space Weather Program capabilities, 6) develop a robust ecosystem forecast capability and integrate ecosystems models with physics based models

Current NOAA ocean observations are not fully integrated, limiting the data available to feed NOAA models. Since predictive models are largely driven by observation information, integration of available data sets will expand the data available to NOAA models, and help to improve model precision. The need for buoy data used in climate and weather forecasts is greater than current capability (which is about 60% of the initial system design). Integrating buoy networks and regional observing systems helps to solve some of the data gap issues. In response to the recent DOC OIG Report entitled 'The National Data Buoy Center Should Improve Data Availability and Contracting Practices' (Final Inspection Report No. IPE-18585/May 2008), the NOAA/NWS National Data Buoy Center (NDBC) is developing a Strategic Recapitalization Plan for NOAA Buoys and Related Systems to assess requirements and capabilities to inform buoy investment strategies. The Plan will address increased effectiveness, reliability, sustainability, and efficiency of NOAA's marine observing capability through life cycle planning, research and technology advancements, and internal and external partnerships.

The Observation System Architecture (OSA) does not have the sufficient capacity to fully model and analyze the performance of alternative observation and data management systems with sufficient fidelity to determine the complete potential performance capabilities or capacities of these alternatives.

By closing the gap in its capacity to model requirement priorities, the gap in its capability to model the performance of observation and data management alternatives, and the gap in its capability to produce cost estimates of alternatives TPIO will be able to accurately assess the utility of alternatives, including alternatives that integrate across observing and data management systems. Combining utility assessments with a cost estimating capability will enable will enable TPIO to identify best-value alternatives for NOAA at scales ranging from individual observation requirements/systems to the NOAA-wide strategic tradespace.

Major Initiatives

The following activities are NOAA's IT investments or planned investments that will meet all of the IT objectives identified above.

Weather and Climate Operational Supercomputer Systems (NCEP) – Modernize information dissemination capabilities. Upgrade the computational capabilities necessary to execute the numerical models that form the basis of all routine weather and climate forecasts produced in the US. Hurricane Forecast Improvement: Improve hurricane modeling, the joint hurricane testbed, and hurricane data assimilation.

NCEP Weather and Climate Operational Supercomputer Systems (WCOSS Primary and Backup) – The NOAA NCEP Weather & Climate Supercomputer Systems (Primary and Backup) produce environmental forecasts and assimilate data used to execute the numerical models that form the basis for all routine weather and climate forecasts produced in the US.

NCEP Weather and Climate Computing Infrastructure Services (WCCIS) – WCCIS provides support resources for (a) weather and climate forecasting capabilities and (b) operational model development for forecasts and warnings.

NOAA R&D High Performance Computing System – Provides high performance computing resources for weather and climate research in the development and use of sophisticated numerical models to predict and understand atmospheric and oceanic phenomena.

National Data Buoy Center (NDBC) Ocean Observing System of Systems (NOOSS) – Provides … [see Summary/Description in Internal Draft FY11 Exhibit 300, or recent CIO Council / NITRB briefing]

Global Earth Observation Integrated Data Environment (GEO IDE) – Provides … [see Summary/Description in Internal Draft FY11 Exhibit 300, or recent CIO Council / NITRB briefing]

5.2. Satellite Sub-Goal

Mission Sub-Goal Description

Provide a continuous stream of satellite data and information with the quality and accuracy to meet users' requirements for spatial and temporal sampling and timeliness of delivery

Mission Sub-Goal Objectives

- Increase the quantity, quality, and accuracy of satellite data that are processed and distributed within targeted time.

IT Strategic Objectives

- Increase capability and performance of key observing systems.
- Modernize central processing capabilities.
- Develop ground systems for new/interim satellites.

IT Architecture Gap and Target Statement

NOAA needs to have an integrated, multi-mode, high-bandwidth ground system capability that provides flexibility to support various satellite missions including the current environmental satellites, satellite ground systems currently in development (interoperable with the NPOESS and GOES-R ground systems) and future research to operations satellite missions using an integrated ground system. NOAA's current systems cannot handle high data rates or all the data formats currently being planned for use by NOAA, NASA and other agencies.

With increasing demands and requirements for IT security, the current steady-state funding is not adequate to ensure a fully compliant infrastructure in the future. The increase provides essential IT Security infrastructure for NESDIS Systems associated with satellite operations. This increase will provide baseline IT security controls for 11 National Critical systems that provide highly valued infrastructure services to the American people.

Major Initiatives

The following activities are NOAA's IT investments or planned investments that will meet all of the IT objectives identified above.

NPOESS Ground System – Develop the IT support for the ground segments to operate, monitor, control, and produce the environmental observation products for the Nation's civil and military polar-orbiting operational meteorological satellite system into a single national entity capable of satisfying both civil and national security requirements for space-based remotely sensed environmental data.

GOES-R Ground System – Develop the ground segments to operate, monitor, control, and produce the environmental products for NOAA's next generation of civilian geostationary satellites.

GOES Ground System – GOES ground system monitors and controls NOAA's Geostationary environmental satellites.

POES Ground System – The POES ground system monitors and controls NOAA's polar-orbiting operational environmental satellites. IT hardware/software upgrades are underway for future satellites.

Environmental Satellite Processing Center (ESPC) – This investment is for the consolidation of two environmental processing systems (for Polar and GOES satellite data) into one central processing system for environmental satellite data: the Environmental Satellite Processing Center (ESPC).

5.3. Leadership and Corporate Services Sub-Goal

Mission Sub-Goal Description

Support NOAA's mission through cost-effective, value-added solutions to its financial, facilities, workforce, and information technology needs

Mission Sub-Goal Objectives

- Improve collaborative decision making based on knowledge of corporate goals, programmatic performance, and stakeholder demand
- Increase internal and external availability, reliability, security, and use of NOAA IT and services
- Increase number of facilities with improved collocation of NOAA services and partners
- Improve efficiency and performance of financial, administrative, workforce management, acquisition, and other support transactions and services
- Increase the levels of diversity and expertise appropriate to the conduct of NOAA functions
- Enhance contribution of NOAA services to all-hazards Homeland Security efforts

IT Strategic Objectives

For detailed descriptions of IT Strategic Objectives pertaining to the IT Services Program Capabilities, see sections 5.3.1 through 5.3.5 (and the associated sub-sections) below.

IT Architecture Gap and Target Statement

For detailed descriptions of IT Architecture Gap and Target Statements pertaining to the IT Services Program Capabilities, see sections 5.3.1 through 5.3.5 (and the associated sub-sections) below.

Major Initiatives

For detailed descriptions of Major Initiatives pertaining to the IT Services Program Capabilities, see sections 5.3.1 through 5.3.5 (and the associated sub-sections) below.

5.3.1 IT Administration and Regulation

IT Goal Description

Improve the policy, planning, and management of NOAA IT.

IT Goal Objectives

Increase the efficiency and effectiveness of NOAA IT management.

IT Strategic Objectives

- Improve governance, licensing, cost sharing, competency, and customer service.

IT Architecture Gap and Target Statement

None.

Major Initiatives

IT Governance Model – Apply and mature the governance model to implement standard infrastructure through strategic sourcing vehicles.

IT Fee-for-Service Model – Establish IT Fee-for-Service model.

Enterprise Licensing – Support the federal government-wide approach for enterprise licenses on common software in the areas of Office Automation; Network Management; Antivirus; Database; Business Modeling Tools; and Open Source software support. Develop enterprise license agreements for widely used software.
Service Level Agreement (SLA) Templates – Develop a sharable library of Service Level Agreement templates for common IT infrastructure services, based on industry best practices.

IT Workforce Training Academy – Develop and implement a virtual IT Workforce Training Academy, to include C&A training for senior authorizing officials.

Customer Service Model – Issue the NOAA IT Service Catalog.

5.3.2 IT Security

IT Goal Description

Implements policies, standards, and procedures for NOAA IT systems which are consistent with government-wide laws and regulations and information assurance standards to adequately protect NOAA's information

systems, whether maintained in-house or commercially, and prevent any unplanned disruptions of processing which would seriously impact NOAA's mission.

IT Goal Objectives

To protect NOAA from information system intrusions, and prevent compromises that put NOAA at risk for any disruption of operations or unauthorized access to information resources.

IT Strategic Objectives

- Achieve and maintain Certification and Accreditation (C&A) for all NOAA IT systems.
- Comply with the Federal Information Security Management Act (FISMA) and National Institute of Standards and Technology (NIST) Guidance Special Publication 800-53A.
- Employ an affordable, centralized, standardized, and repeatable C&A process.
- Employ a certification and accreditation process.
- Integrate the use of standard security controls, verification techniques and procedures.
- Develop Plans of Action and Milestones (POA&Ms) standards to ensure adequate attention and visibility and help NOAA Line/Staff Offices apply consistent and reasonable resource management practices to POA&M management.
- Reduce the number of outstanding POA&Ms greater than 120 days past due, ultimately trending to zero.
- Develop evidence to support informed, risk-based accreditation decisions by senior agency officials.
- Develop or enhance appropriate technical, personnel, administrative, physical, environmental, and telecommunications safeguards in IT systems.
- Develop or enhance an enterprise-level robust Patch Management process and system.
- Establish and maintain an incident response and intrusion capability.
- Deploy regional Intrusion Detection Systems (IDS).
- Secure Personally Identifiable Information (PII).
- Fund IT Security at 10% of systems life cycle costs.
- Implement Homeland Security Presidential Directive (HSPD) -12.
- Prevent unnecessary exposure to compromises by overseeing security testing that ensures enterprise software purchases have well-designed code
- Reduce risk to timely delivery of radar, satellite, and model data due to increases in security posture from cost effective IT security consulting services
- Detect and defend against active nation state-sponsored cyber attacks.
- Eliminate 'single points of failure'.
- Encrypt NOAA email messages.

IT Architecture Gap and Target Statement

A number of critical issues remain in the execution of a sound IT security program within NOAA. These issues include: 1) Certification and Accreditation of all systems, 2) the development of a standardized and uniform process for conducting C&As, 3) producing quality C&As that achieves DOC IG verification of the C&A process, 4) inadequate funding for IT security in all systems and projects, 5) Implementation of the new National Institute of Standards and Technology (NIST) Guidance Special Publication 800-53A. The targets for this goal are to provide full capability of securing and documenting the security of NOAA systems, formulate and enforce IT security policy, timely responding to security incidents, and develop processes which ensure consistent application of security controls. Achieving the target architecture will result in a more consistent, reliable, and secure IT environment for NOAA systems.

Major Initiatives

NOAA Computer Incident Response Team (N-CIRT) – Expand NOAA's ability to anticipate, recognize, evaluate, and respond to computer security incidents. Enhance nationwide 24x7 security monitoring and incident response. Acquire, deploy, and manage Intrusion Detection Systems (IDS). Test and evaluate products for security vulnerabilities prior to enterprise deployment.

Enterprise Security Software – Acquire, manage, and deploy enterprise security software for patch management, virus protection, anti-spam, security event correlation, and other functions. Reduced securitysoftware license administration.

NOAA Silver Spring Metro Center (SSMC) IT Infrastructure – Eliminate known single points of failure.

Homeland Security Presidential Directive (HSPD)-12 Logical Access Control System (LACS) – Implement the logical access requirements of HSPD-12 (Policy for a Common Identification Standard for Federal Employees and Contractors) to complement and leverage the Facilities Program's implementation of the HSPD-12 Physical Access Control System (PACS).

Certification & Accreditation (C&A) Process – Complete C&A packages in accordance with the CIO Council-approved schedule

Standard Configurations - Create secure baseline configurations for desktops, laptops, servers, and routers.

Spam and virus protection – Implement comprehensive spam and virus prevention at the Messaging Operations Center.

Cyber-Security Assessment and Management (CSAM) – Improve the automation of NOAA's IT Security C&A process by completing the initial implementation phase of DOC's instance of the CSAM system for 95% of NOAA systems.

Continuous Monitoring (CM) – Complete CM activities (i.e., quarterly vulnerability scanning for all systems, annual penetration testing for high impact systems, annual assessment of select controls for all systems not undergoing C&A testing) in accordance with CIO Council-approved schedule

Quality Assurance (QA) - Execute a quality assurance program.

POA&M Management – Resolve POA&Ms that are greater than 120 days past due.

Federal Desktop Core Configuration (FDCC) – Standardize the implementation of FDCC to secure user desktops.

Electronic Mail Encryption – Develop short-term and long-term plans for implementing email encryption in NOAA.

5.3.3 IT Program Management

IT Goal Description

To manage NOAA's IT infrastructure including wide and local area networks, messaging systems, high performance computing, collaboration tools, telephony, workstations, help desks, enterprise COTS software, and administrative applications.

IT Goal Objectives

- To develop a new enterprise infrastructure under a "One-NOAA" approach that provides for common solutions across all Line Offices.
- To consolidate, integrate, and reduce the total cost of operations for NOAA's existing IT infrastructure.

IT Strategic Objectives

- Establish a single NOAA Wide Area Network (NOAAnet).
- Provide economies of scale in network operations and management.
- Expand High-Performance Computing (HPC) resources and capabilities to provide predictions of climate at regional and local scales using science-based models and improve hurricane track and intensity forecasts.
- Establish NOAA's HPC presence in world-class computing facilities.
- Continue to develop additional partnerships on leadership-class systems to explore next-generation hurricane modeling, weather modeling, and climate change modeling capabilities.
- Maximize the efficiency of the transition of research to operations.
- Deploy a unified messaging solution to upgrade from legacy electronic mail, calendaring, and telephony systems, and provide effective project collaboration tools, document sharing, and enhanced video conferencing capabilities.
- Reduce the number of Internet connections.
- Consolidate help desks in the DC-metro area.
- Establish a OneNOAA Web Presence.
- Consolidate web servers.
- Establish a single IT Services contract that consolidates all IT Services under one umbrella with the NOAA CIO and leverages funding across all NOAA Line Offices.
- Define a common project/program management process.
- Institute a standard, shared set of project/program document templates.
- Enhance the existing project/program review process.

IT Architecture Gap and Target Statement

Historically IT infrastructure has evolved independently among the LOs. For example, each LO has independently developed and manages wide area networks, phone systems, local area networks, and help desks at major NOAA locations. There are, however, some enterprise level successes. These include a Washington DC area Metropolitan Area Network, enterprise email based upon the Sun One and Mozilla, and Oracle calendaring. These successes notwithstanding, NOAA has a long way to go before it can be declared to have an enterprise level IT infrastructure. Committed management and technical action must be taken on a number of fronts including, Wide Area Networks, Web management, and collaboration software. Provide enterprise solutions that are collaborative in nature, support each other's functions to increase productivity, and help in the ease of use for the end user.

Major Initiatives

NOAAnet Single Enterprise Network – Establish an integrated, carrier-provided Wide-Area Network that: eliminates 12 legacy networks; connects major NOAA locations and functions logically; includes a single network cloud, standard configuration and architecture, and better security; establishes prime and back-up capabilities; connects all current metro area networks (MANs); and provides Internet access through specific points of presence. Establish and operate a single backbone network to provide secure, capable communications among NOAA's over 200 geographically-dispersed locations. Employ carrier-provided Multi-Protocol Label Switching (MPLS) technology to establish traffic separation over independent Virtual Private Networks (VPNs) and enable communications among any NOAA locations while assuring the separation required supporting unique security boundaries and supporting differing performance requirements for all NOAA mission systems.

High-Performance Computing (HPC) – Acquire, install, operate, and maintain new and expanded supercomputing resources for NOAA, in order to address the growing gap between the capabilities of NOAA's Environmental Modeling Program (EMP) and the nation's demand for EMP products, including hurricane forecasts, storm surge, fire weather, aviation weather, and climate change predictions. Implement a new HPC Environmental Security Architecture to support model-based predictions for NOAA's highest priority mission

needs. Increase the flexibility of the HPC architecture and optimize the ability to scale codes to better meet NOAA's requirements. Explore possibilities for on-demand computing partnerships.

NOAA Unified Messaging – Acquire, implement, operate, and maintain a NOAA-wide messaging system. Redesign NOAA's messaging infrastructure to include a redundant, highly-available architecture consisting of 3-4 sites (i.e., SSMC, Boulder, Seattle, Norman). Acquire, install, and operate a new telephone system for the NOAA Silver Spring Metro Center (SSMC) campus. Acquire, implement, operate, and maintain an enterprise-wide collaboration strategy and solution.

- Implement new electronic mail system and a calendar with enhanced functionality.
- Better integration with PDA and smartphone technology.
- Active Directory – with real-time info that shows where people are right now.
- Dialing on your desktop PC – your PC is your phone.
- Integration of information on the desktop.
- Project collaboration tools and document sharing.
- Enhanced video conferencing.

Transport Services Integration (aka, Trusted Internet Connections) – Implement in accordance with OMB memorandum [M-08-05, Implementation of Trusted Internet Connections (TIC)], which encourages agencies to strengthen security by leveraging IT Infrastructure and ISS Lines of Business (LOB), GSA Networx, and the Federal Desktop Core Configuration (FDCC), and reduce the number of direct Internet connections.

NOAA IT Service Center Consolidation – Consolidate 19 Washington DC-metro area help desks to minimize redundancy and provide consistent operations through a single contractor.

OneNOAA Web Presence (aka, Enterprise-level OneNOAA Web Management) - Redesign NOAA's websites, consolidate web servers, and acquire the hardware, software, and staff to manage NOAA's web presence.

Consolidate Web Servers – Continue to physically consolidate web servers at the Web Operations Center (WOC).

Standard Desktop Configuration – Implement standard a desktop configuration for Windows XP and VISTA in order to provide a baseline level of security, reduce risk from security threats and vulnerabilities, to improve system performance, decrease operating costs, and ensure public confidence in the confidentiality, integrity, and availability of government information.

NOAALink – Establish NOAALink as an IT acquisition vehicle that will leverage the purchasing power for customers of IT products and services throughout the enterprise. Implement a strategic sourcing contract for IT support services in the areas of network management, messaging, collaborative tools, web services, IT security, infrastructure support, desktop and server management, and applications development and management, under the NOAALink acquisition effort.

5.3.4 Enterprise Architecture

The NOAA Enterprise Architecture (EA) serves as a strategic roadmap for transitioning legacy IT investments to the future, based on the evolving mission needs and priorities. The EA provides a holistic and integrated view of NOAA, including business processes (e.g., the NOAA Functional Model), performance expectations, the IT services and applications required to support the processes and enable better performance, the data/information required, and the technical standards and specifications needed to achieve enterprise IT goals. The EA includes a description of the current (legacy) environment, the target environment needed to support NOAA’s strategic business direction and priorities, and the transition/sequencing plan for moving to the target IT environment. In keeping with PPBES, the EA is organized by NOAA’s mission goals.

In response to Federal mandates to improve how U.S. Government agencies select, acquire, deploy and manage their extensive technology resources (e.g., the Clinger-Cohen Act of 1996), NOAA initiated an Enterprise

Architecture (EA) to provide a framework and blueprint to guide the future direction of its IT investments. This future direction is explicitly driven from NOAA's corporate strategy and business priorities, using a "top-down" and business driven methodology for aligning IT investments with corporate mission requirements.

In this methodology, NOAA's current and future enterprise (as envisioned in the Strategic Plan) is organized and described in the context of an industry standard architectural framework.

Federal agencies are required to identify IT Management principles to ensure proper decision making and overall management of its IT investments. These principles are essential to achieve effective and consistent governance of enterprise IT resources. In response to this requirement, the NOAA CIO Council vetted and approved the following principles in 2008, which apply to all NOAA operating units:

- NOAA's IT initiatives and strategies are focused on supporting business priorities, processes, and goals prioritized through the budget process.
- Wherever possible and practical, and without diminishing the delivery of services, NOAA implements IT solutions that share and/or reuse common processes, services, infrastructure, and system components.
- NOAA maintains appropriate security, privacy, and protection of its IT assets, which includes the data collected or produced as well as the systems and networks that process, disseminate, and store this information.
- NOAA treats its data and information as corporate resources and manages them appropriately throughout their life cycles. Note: The term "life cycle" includes collection, processing, discovery, access, storage, disposal, and preservation.
- NOAA bases IT acquisitions, development, and operations upon well-defined, approved, widely publicized, and transparent standards.

IT Goal Description

The Enterprise Architecture is a management practice to maximize the contribution of NOAA's resources to achieve its mission. The EA establishes a clear line-of-sight from business requirements to IT investments to measurable performance improvements for the entire NOAA enterprise.

IT Goal Objectives

- Ensure that IT security requirements are fully integrated with the NOAA EA and governance process.
- Simplify and unify NOAA's IT architecture across all Line Offices, mission areas and programs.
- Inform and guide PPBES decisions with IT implications through architecturally based analysis of alternatives to close program gaps.
- Provide vetted IT target architecture to guide and inform NITRB investment decisions, and serve as a vehicle for CIO monitoring and enforcement of agreed-to transition plans.
- Provide specific and actionable guidance to program managers for IT components (e.g., standards for interoperability).
- Define and implement EA roles and responsibilities pertinent to NOAAlink.

IT Strategic Objectives

- Evolve and mature the framework and process for incorporating IT security requirements into the NOAA EA.
- Identify and incorporate lessons learned in the EA life-cycle, governance model and repeatable maintenance process.
- Integrate the EA with PPBES and CPIC.
- In collaboration with NOAA's Homeland Security Program Office, align NOAA's defined Mission Essential Functions with the Lines of Business and sub-functions defined in the FEA Business Reference Model (BRM).
- Identify and promote opportunities to consolidate IT architecture components (e.g., applications, services, etc.) for shared business requirements across NOAA.

- Assess the alignment of NOAA's IT resources with agency mission goals and objectives, and develop transition strategies to close gaps where needed.
- Identify and foster enterprise-wide adoption of open standards to enable system interoperability and data sharing across applications and functional disciplines (TRM and Data Architecture).

IT Architecture Gap and Target Statement

The NOAA EA satisfies external stakeholder (OMB and DOC) technical expectations, but is generally recognized as a somewhat academic exercise with marginal return on value within NOAA. The intent is to transform it into a practical, relevant and value added tool to guide CIO and corporate decisions regarding NOAA's IT future. This transformation began with an initiative to integrate the NOAA security architecture into the EA, leveraging the resources and urgency of need associated with IT security.

Subsequent efforts will focus on usage of the EA to consolidate resources (e.g. infrastructure) wherever possible, and on integrating applications and data across programs and Line Offices. Currently, the NOAA EA is not approved by NOAA goal team leads, although this level of vetting is essential to achieve the buy-in needed to implement the target architecture. Education, outreach and a concerted and focused campaign to sell the NOAA EA to goal team leads and other strategically placed stakeholders is needed to close this gap. Apart from the NOSA segment architecture (a subset and extension of the NOAA EA), the EA is not structured in a manner that enables meaningful or efficient analysis of the significant amounts of empirical information contained within the NOAA EA document. This is a significant gap which limits the potential and is showstopper barrier to achieving the long-term goals of EA. To close this gap, the EA program has initiated a pilot repository using an industry-standard EA tool, with an initial focus on testing and proving the value of the repository's capabilities to such functions as the Capital Planning and Investment Control (CPIC) process and COOP operations. Further, integrate EA with business processes such as IT software and hardware acquisition, in particular relating to enterprise licensing and IT infrastructure.

Major Initiatives

Security Integration – In collaboration with NOAA's IT security program office, continue efforts to integrate IT security into the NOAA EA, including Homeland Security Presidential Directive (HSPD) -12.

EA Processes – Update documentation of the EA lifecycle, maintenance process and governance model to incorporate lessons learned. Integrate the EA with PPBES and CPIC. Complete testing of NOAA's EA tool pilot (repository and analytical capabilities) and transition to a production capability (to include training for key users, etc.). Develop and execute an EA communications, education and outreach strategy and plan, to include development of a meaningful EA web site, and an on-line collaboration tool for active participants in EA program activities,

Data Management – Evolve and mature the NOAA data architecture through partnerships with the DMIT and DMC and the IOOS program.

Technical Reference Model (TRM) – Update the NOAA TRM and publish the contents on the NOAA intranet for easy access and use.

Segment Architecture – Define a strategy and process for developing Segment Architectures beyond the NOAA Observing Systems Architecture (NOSA).

Service Layer – Define and publish the service layer of the NOAA Enterprise Architecture, with a focus on the catalog of infrastructure services.

Network Standards – Develop network standards to include in the NOAA Technical Reference Model (TRM).

Architectural Improvements – Initiate architectural improvements to National Weather Service (NWS) IT investments (e.g., AWIPS, NWSTG, and Space Weather)

Target Infrastructure Architecture – Develop the target architecture for high-priority infrastructure services. Establish mechanisms to implement the target infrastructure architecture through NOAALink. Enhance existing mechanisms to ensure that NOAA Capital Planning and Investment Control (CPIC) processes are driving toward the target infrastructure architecture.

5.3.4.1 Align IT with the OMB Lines of Business and E-Gov initiatives

IT Goal Description

Expand E-Government by utilizing technology to improve how the Federal Government serves citizens, businesses and agencies.

IT Goal Objectives

NOAA will participate with other federal agencies to construct, transition to, and implement the Geospatial Line of Business. NOAA will be a provider of e-Government services for weather events, earth observing, environments and geospatial data. Within NOAA, support program collaboration for geospatial initiatives, regional ecosystem responses, and incident responses.

IT Strategic Objectives

- Leverage the existing Geographic Information Systems (GIS) Committee, under the CIO Council, to support the NOAA implementation of the federal framework for the GeoSpatial Line of Business (LOB).
- Work with government-wide geospatial standards and architecture through participation in the Geospatial LOB and the national geospatial data infrastructure.
- Create composite geospatial data products that span NOAA Line and Program office missions.
- Remove the physical barriers to geospatial data access within NOAA.
- Promote interoperability and collaboration within NOAA via eGov.

IT Architecture Gap and Target Statement

The Federal Government continues to improve services and deliver results through the adoption and implementation of the President's E-Government (E-Gov) initiatives and government wide solutions. The United States Government is one of the largest users and acquirers of data, information and supporting technology systems in the world, by investing approximately $65 billion annually on Information Technology (IT). The Federal Government has made improvements but continues to strive to be the world's leader in managing technology and information to achieve the greatest gains of productivity, service and results. For the past five years, the President's Management Agenda (PMA) initiative to Expand E-Government has delivered significant results to the taxpayer and federal employees alike. The departments and agencies are determined to build upon past success and continue to apply the principles and complete implementation of government wide solutions to achieve greater savings, better results and improved customer service levels.

Major Initiatives

E-Rulemaking – Deploy the Federal Docket Management System throughout NOAA Fisheries in direct support of the President's Management Agenda E-Rulemaking initiative.
E-Gov – NOAA will fully align with all applicable national E-Gov initiatives. Specifically, NOAA has a role in the following initiatives: 1) Recreation One-Stop, 2) E-Rulemaking, 3) Geo-Spatial One-Stop, 4) Disaster Management, 5) Grants.gov.
Geospatial Line of Business (Geo LOB) – NOAA staff will be active participants in the Geo LOB by actively attending Task Force meetings, supporting the development of the Quantitative and Qualitative Geospatial Investments Data Call templates, responding to Quantitative Geospatial Data Calls, supporting development of A-16 report templates, reviewing the Geospatial Coordination FACA Charter, reviewing and commenting on

outputs from Joint Business Case and Performance Management Working Group, reviewing plans for the formulation of the Geo LoB Program Management Office.

5.3.5 IT Support for Administrative Systems

5.3.5.1 Operate the Financial Management and Administrative Systems

IT Goal Description

To provide central computer operations and management for NOAA's administrative and financial systems.

IT Goal Objectives

Improve the efficiency and performance of financial, administrative, workforce management, and acquisition transactions and services.

IT Strategic Objectives

- Improve NOAA's financial management and administrative IT infrastructure.
- Invest in IT to improve processing of financial, administrative, workforce, management and acquisition services.
- Provide the system components for the Management and Reporting Systems (MARS).
- Support the development of the End-to-End (E2E) system.

IT Architecture Gap and Target Statement

Improve the server topology to allow for server consolidation, allowing for better integration and improved performance. CBS and MARS support the CFO Act to produce accurate and timely financial reports.

Major Initiatives

- **Management and Reporting Systems (MARS)** – Provide the front end to CBS for better reporting.
  NOAA WOC (Web Operations Center) Implement NCEP NOMADS as high-availability web application (in accordance with fully-negotiated requirements and MOU between NCEP & OCIO)
  NOAA Messaging Operations Center (MOC) Migrate NWS Southern Region to MOC cluster.
- **Help Desk** - Provide enhanced administrative system helpdesk support.
- **E2E Support** - Support ongoing maintenance of the End to End Resource Management System.
- **HSPD-12 Integration** - Integrate HSPD-12 authentication and access controls and data extract logging capability (triggered by a request for PII data) into the non-core CBS applications.
- Ensure that the non-core CBS applications (which contain Privacy Act, PII, and BII data) remain secure and are protected against unnecessary disclosure of this information.
- Reduce manual processes, increase user friendliness, speed information to decision makers, and lessen reliance on "cuff" systems to formulate, execute, and track NOAA's budget.

5.3.5.2 Meet NOAA and federal-wide objectives of Grants Management

The Grants Management Division (GMD) supports NOAA's mission by reviewing solicitations for applications, processing applications, negotiating awards, managing administrative and financial aspects of awards, monitoring progress against expenditures, resolving audit problems, and closing out awards when the projects are completed.

IT Goal Description

To provide a fast coherent, flexible and robust application in support of the evaluation, award, and long-term management and operations of the NOAA grant making function.

IT Goal Objectives

- Develop grants management data standards based on DOC's Interim Grants Manual.
- Generate corporate standard business processes which contribute to a more efficient and effective use of government-wide grants management resources.
- Provide improved customer access and communications by establishing direct lines of accountability with program managers, grant administrative staff and external customers.
- Achieve full compliance and compatibility with the government-wide e-Grants Line of Business (LOB) initiative.
- Implement a well-designed and well-functioning grants management system that will accept any type of federal grant.
- Release updated software in accordance with established configuration management guidelines and procedures.

IT Strategic Objectives

Provide a single unified grant processing and administration system, using an electronic solution that will reduce processing time and increase efficiency.

IT Architecture Gap and Target Statement
The NOAA Grants Online (GOL) system provides a scalable and robust system for handling all aspects of the grant process, from researching and applying for grants, to reporting on progress, to their closure. GOL receives and parses direct downloads hourly from the www.grants.gov citizen interface.

Major Initiatives

- **Grants Online Interface** - Provide an interface between Grants Online and the Core Financial System.
- **Grants Management Line of Business (GMLOB)** – Migrate to a Grants Management Line of Business (GMLOB) provider.

5.4. Fleet Services Sub-Goal

NOAA's fleet of ships and small boats faces the challenge of expanding mission requirements, age and obsolescence, and finite resources for recapitalization. NOAA's duties to chart, manage, and explore ocean resources demands the replacement of nine of the 19 aging ships with service life expectancies ending between 2010-2024. In 2008, the Department of Commerce approved the NOAA FY 2010-2024 Ship Recapitalization Plan, which recommends the purchase of nine new ships. NOAA is developing an FY 2011-2025 NOAA Aircraft Recapitalization Plan to further assess current NOAA airborne data collection capabilities and ensure the sustainability of vital airborne data collection. NOAA is also investigating the possible uses of independently or remotely piloted Unmanned Aircraft Systems (UAS) for obtaining research data.

Mission Sub-Goal Description

Provide the number of ship operating days and aircraft flight hours needed to meet NOAA's data collection requirements with high customer satisfaction

Mission Sub-Goal Objectives

Increase the number of ship operating days and aircraft flight hours that safely, reliably, and successfully meet NOAA's data collection requirements with high customer satisfaction

IT Strategic Objectives

[To be added by OMAO CIO.]

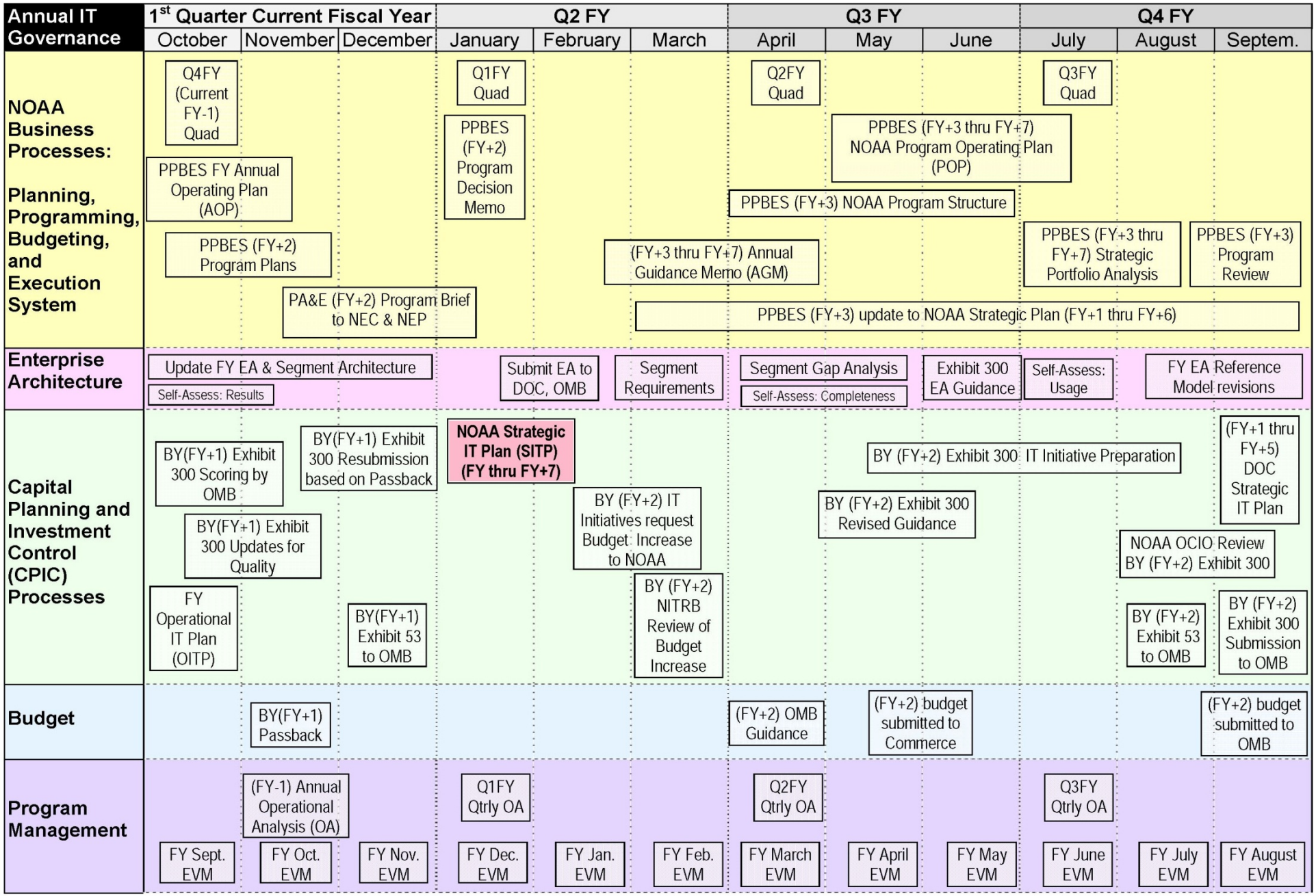
IT Architecture Gap and Target Statement

NOAA's fleet of ships and vessels face expanding mission requirements, rising fuel costs, age and obsolescence, and finite resources for recapitalization. Current NOAA missions require roughly 20,000 annual operating days at sea, however, this fleet currently meets only one fifth of that need. 10 of NOAA's 20 ships will reach or exceed their 30 year useful service life between FY 2010 and FY 2024, leaving only nine ships to meet NOAA's at-sea data requirements. Without further investment, NOAA's ships will fail to comply with NOAA's legal mandates, authorities, policies, and priorities.

Major Initiatives

None.

Appendix 1. NOAA IT Governance Processes



Appendix 2. List of Exhibits 300 by PPBES Goal/Sub-Goal and Program

This table describes the NOAA Planning, Programming, Budgeting, and Execution System (PPBES) IT Services Goal Team Leads as of FY09. Importing the file: NOAA IT Planning - Exhibits 300 by PPBES Program v12 2.19.09.xls

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NMFS/ Vessel Monitoring System	Jonathan Pinkerton	Mark Spurrier	NMFS	Larry Tyminski Nancy Majower	n/a	Ecosystem	Steve Murawski Kristen Koch	Enforcement	Dale Jones	100
NOAA/NMFS/ Fisheries Information System	Tina Chang	John Boreman	NMFS	Larry Tyminski Nancy Majower	n/a	Ecosystem	Steve Murawski Kristen Koch	Ecosystem Observations	John Boreman	100
NOAA/NMFS/ Permits	Susan Molina	John Boreman	NMFS	Larry Tyminski Nancy Majower	n/a	Ecosystem	Steve Murawski Kristen Koch	Ecosystem Observations	John Boreman	100
NOAA/NMFS/ Northeast Fisheries Information Management System (NE-FIMS)	Gregory Power	Patricia Kurkul	NMFS	Larry Tyminski Nancy Majower	n/a	Ecosystem	Steve Murawski Kristen Koch	Ecosystem Observations	John Boreman	100
NOAA/NMFS/ Marine Recreational Information (MRI) Program	David Van Voorhees	John Boreman	NMFS	Larry Tyminski Nancy Majower	n/a	Ecosystem	Steve Murawski Kristen Koch	Ecosystem Observations	John Boreman	100
NOAA/OAR/ NOAA Research Scientific Computing Support	Pam Weber	Bobby Kelley Warren Keenan Nick Wilde Joan Brundage	OAR	Nancy Huang Vince Garcia	n/a	Climate	Chet Koblinsky Krisa Arzayus Adrienne Antoine	Climate Forcing	A. R. Ravishankara	3.47
								Climate Observations & Monitoring	Tom Karl	14.62
								Climate	Tom Delworth	12.00

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
		Robert Kohler Richard Artz Chris Cornwall John Sheldon John Fenton Kevin Kelleher Nancy Soreide Rich Beeler						Predictions & Projections		
					Adrian Gardner Maria Sims	Weather & Water	George Smith Ward Seguin	Science, Technology, and Infusion	Marty Ralph	46.69
								Air Quality	Jim Meagher	4.34
								Tsunami	David Green	2.29
								Local Forecasts and Warnings	Aimee Devaris	TBD
					Joe Klimavicz Dennis Morgan	Modeling & Observing Infrastructure	Pam Taylor Martin Yapur	Environmental Modeling	Alan Leonardi	8.82
					Larry Tyminski Nancy Majower	Ecosystem	Steve Murawski Kristen Koch	Ecosystem Research	Leon Cammen	5.89
								Coral Reef Conservation	David Kennedy	0.37
								Ecosystem Observations	John Boreman	1.50
NOAA/NWS/ Advanced Weather Interactive Processing System (AWIPS)	Charles Piercy	Charles Piercy	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	TBD
								Science, Technology, and Infusion	Marty Ralph	TBD
NOAA/NWS/ Next Generation Weather Radar	Gregory Cate	Richard Vogt	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward	Science, Technology, and Infusion	Marty Ralph	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
(NEXRAD) System Product Improvement							Seguin			
NOAA/NWS/ NCEP Weather and Climate Operational Supercomputer Systems (WCOSS Primary and Backup)	Richard Hackenberg	Ben Kyger	NWS	Adrian Gardner Maria Sims	Joe Klimavicz Dennis Morgan	Modeling & Observing Infrastructure	Pam Taylor Martin Yapur	Environmental Modeling	Alan Leonardi	100
NOAA/NWS/ NCEP Weather and Climate Computing Infrastructure Services (WCCIS)	Richard Hackenberg	Bob Maxson Wayne Higgins Steve Lord Ben Kyger Tom Bogdan Joe Schaefer Bill Read Ming Ji Jim Hoke	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	TBD
								Space Weather	Tom Bogdan	TBD
					Hugh Johnson Christine McNerney	Commerce & Transportation	Steve Barnum Ashley Chappell	Aviation Weather	Kevin Johnston	TBD
								Surface Weather	Jim O'Sullivan	TBD
								Marine Weather	Ming Ji	TBD
					Joe Klimavicz Dennis Morgan	Modeling & Observing Infrastructure	Pam Taylor Martin Yapur	Environmental Modeling	Alan Leonardi	TBD

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NWS/ National Weather Service Telecommunication Gateway (NWSTG) System (Legacy, Replacement, and CIP)	Paul Noonan	Daniel Starosta	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ National Air Quality Forecast Capability	Paula Davidson	Ben Kyger	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Air Quality	James Meagher	100
NOAA/NWS/ Next Generation Weather Radar (NEXRAD) Operations and Maintenance	Thomas Roberts	Richard Vogt	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ NWS Office of Hydrologic Development (OHD)	Kenneth A. Pavelle	Lawrence Cedrone	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Hydrology	Gary Carter	100
NOAA/NWS/ COOP Historical Climate Network - Modernization (HCN-M)	Cheri Ward	Bruce Giza	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ NWS Dissemination Systems (NDS)	Craig Hodan	Craig Hodan	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NWS/ NDBC Ocean Observing System of Systems (NOOSS)	Kathleen O'Neil	Paul Moersdorf Dan Henderson	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Coasts, Estuaries, & Oceans	Paul Scholz	TBD
								Tsunami	David Green	TBD
								Local Forecasts and Warnings	Aimee Devaris	TBD
					Nancy Huang Vince Garcia	Climate	Chet Koblinsky Krisa Arzayus Adrienne Antoine	Climate Observations & Monitoring	Tom Karl	TBD
NOAA/NWS/ NWS Regions and Field	Thomas Schwein	Paul Whitmore Charles McCreery	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ NOAA Weather Radio (NWR) All Hazards Network	Joel Williams	Daria Webb	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	TBD
								Science, Technology, and Infusion	Marty Ralph	TBD
NOAA/NWS/ Automated Surface Observing System (ASOS) Operations and Maintenance	James McNitt	John McNulty	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ Automated Surface Observing System	John Monte	TBD	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward	Local Forecasts and Warnings	Aimee Devaris	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
(ASOS) Product Improvement							Seguin			
NOAA/NWS/ Data Assimilation and Modeling	Steve Lord	TBD	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ NOAA Profiler Network	Jean Tomkowicz	Al Wissman	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Local Forecasts and Warnings	Aimee Devaris	100
NOAA/NWS/ Weather Radio Improvement Project (WRIP)	Bobby Martinez	TBD	NWS	Adrian Gardner Maria Sims	n/a	Weather & Water	George Smith Ward Seguin	Science, Technology, & Infusion	Marty Ralph	100
NOAA/NWS/ Next Generation Air Transportation System (NGATS) [new E300 for FY11]	TBD	TBD	NWS	Adrian Gardner Maria Sims	Hugh Johnson Christine McNerney	Commerce & Transportation	Steve Barnum Ashley Chappell	Aviation Weather	Kevin Johnston	100
NOAA/NOS/ Nautical Charting System	Lara Petze	Kathryn Ries	NOS	Hugh Johnson Christine McNerney	n/a	Commerce & Transportation	Steve Barnum Ashley Chappell	Marine Transportation System	Richard Edwing	100
NOAA/NOS/ PORTS & NWLON	Marty Welch	Richard Edwing	NOS	Hugh Johnson Christine McNerney	n/a	Commerce & Transportation	Steve Barnum Ashley Chappell	Marine Transportation System	Richard Edwing	100
NOAA/NOS/ Geodetic Support System	Richard Snay	Douglas Brown	NOS	Hugh Johnson Christine McNerney	n/a	Commerce & Transportation	Steve Barnum Ashley	Geodesy	Dave Zilkoski	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
							Chappell			
NOAA/NESDIS/ GOES Ground System	Keith McKenzie	Kenneth Haywood - NOAA5003 Ernest Maravilla - NOAA5018	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Geostationary Satellite Acquisition	Greg Mandt	100
NOAA/NESDIS/ GOES-R Series Ground Segment	Vanessa L. Griffin	Frank Menzer - NOAA5050	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Geostationary Satellite Acquisition	Greg Mandt	100
NOAA/NESDIS/ POES Ground System	Kirk Liang	Mary Glaser - NOAA5026	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Polar Satellite Acquisition	Michael Mignogno	100
NOAA/NESDIS/ Environmental Satellite Processing Center (ESPC)	George Serafino	Brian Little - NOAA5001, NOAA5035, NOAA5044	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Satellite Services	Kathy Kelly	TBD
								Polar Satellite Acquisition	Michael Mignogno	TBD
								Geostationary Satellite Acquisition	Greg Mandt	TBD

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NESDIS/ Satellite Operations Control Center Command and Data Acquisition (SOCC/CDA)	Keith Amburgey	Kenneth Haywood - NOAA5003 John W. Sanns - NOAA5004 Russell Worman - NOAA5008 Mary Glaser - NOAA5026 Mark O. Hall - NOAA5032	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Satellite Services	Kathy Kelly	100
NOAA/NESDIS/ NPOESS Ground System	James Valenti	Mary Glaser - NOAA5042	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Polar Satellite Acquisition	Michael Mignogno	100
NOAA/NESDIS/ NPOESS Data Exploitation (NDE)	Jim Silva	Ernest Maravilla	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	Adrian Gardner Maria Sims	Weather & Water	George Smith Ward Seguin	Science, Technology, and Infusion	Marty Ralph	100
NOAA/NESDIS/ Comprehensive Large Array-data Stewardship System (CLASS)	Rick Vizbulis	Ernest Maravilla - NOAA5040	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	Nancy Huang Vince Garcia	Climate	Chet Koblinsky Krisa Arzayus Adrienne Antoine	Climate Observations & Monitoring	Tom Karl	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NESDIS/ NOAA National Data Centers (NNDC)	Kendra Tarver	Duane Dunston - NOAA5009 Joe Shirley - NOAA5010 Marcus O. Ertle - NOAA5011 Monty Peffley - NOAA5036	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	Nancy Huang Vince Garcia	Climate	Chet Koblinsky Krisa Arzayus Adrienne Antoine	Climate Observations & Monitoring	Tom Karl	55
					Larry Tyminski Nancy Majower	Ecosystem	Steve Murawski Kristen Koch	Ecosystem Observations	John Boreman	30
					Adrian Gardner Maria Sims	Weather & Water	George Smith Ward Seguin	Space Weather	Tom Bogdan	4
					Joe Klimavicz Dennis Morgan	Leadership & Corporate Services	Bill Broglie John Beeman	Line Office Headquarters	Mitchell Luxenberg	4
					Hugh Johnson Christine McNerney	Commerce & Transportation	Steve Barnum Ashley Chappell	Marine Transportation System NOAA Emergency Response	Richard Edwing Ken Barton	7
NOAA/NESDIS/ Search and Rescue Satellite-Aided Tracking (SARSAT)	Christopher O'Connors	Brian Little - NOAA5001, NOAA5035, NOAA5044	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	Hugh Johnson Christine McNerney	Commerce & Transportation	Steve Barnum Ashley Chappell	NOAA Emergency Response	Ken Barton	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NESDIS/ National Integrated Drought Information System (NIDIS) Implementation	Roger Pulwarty	Duane Dunston	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	Nancy Huang Vince Garcia	Climate	Chet Koblinsky Krisa Arzayus Adrienne Antoine	Climate Observations & Monitoring	Tom Karl	100
NOAA/NESDIS/ Global Earth Observation Integrated Data Environment (GEO IDE) [internal E300]	Ken McDonald	TBD	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	Joe Klimavicz Dennis Morgan	Modeling & Observing Infrastructure	Pam Taylor Martin Yapur	Technical Requirements, Planning and Integration	Pam Taylor	100
NOAA/NESDIS/ Office of Satellite Data Processing and Distribution (OSDPD) Systems Critical Infrastructure Protection (CIP)	Angelo Wade	Brian Little - NOAA5001, NOAA5035, NOAA5044	NESDIS	Zach Goldstein Iftikhar Jamil Jim Goudouros Craig Maddron Michael Poss	n/a	Satellite	Michael Crison Peter Wilczynski	Satellite Services	Kathy Kelly	TBD (Steady-State)
					Joe Klimavicz Dennis Morgan	Leadership & Corporate Services	Bill Broglie John Beeman	Facilities	Bill Broglie	TBD (DME)
NOAA/OMAO/ NOAA Marine and Aviation Operations	Doug Perry	TBD	NMAO	Doug Perry Greg Bass	n/a	Fleet Services	Tajr Hull Leo Carling	Aircraft Services	Tajr Hull	TBD
								Aircraft Replacement	Tajr Hull	TBD
								Marine Operations & Maintenance	Tajr Hull	TBD
								Fleet Replacement	Tajr Hull	TBD

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/OCIO/ Financial Management IT Operations	Joseph C. Smith III	Joseph C. Smith III	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Financial Services	Sherry Morrissette	100
NOAA/OCIO/ E2E (End-to-End Resource Management System) [internal E300]	Keith Markva	Joseph C. Smith III	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Financial Services	Sherry Morrissette	100
NOAA/OCIO/ NOAA Non-Core CBS Financial Management System (PCS)	Jackie Schreckengost	Ted Wolfgang Jon Alexander	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Financial Services	Sherry Morrissette	100
NOAA/OCIO/ NOAA Grants On-line	Christopher Suzich	John Villemarette Joseph C. Smith III	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	100
NOAA/OCIO/ NOAA R&D High Performance Computing System	Mike Kane	Mike Kane	OCIO	Joe Klimavicz Dennis Morgan	n/a	Modeling & Observing Infrastructure	Pam Taylor Martin Yapur	Environmental Modeling	Alan Leonardi	TBD
					Nancy Huang Vince Garcia	Climate	Chet Koblinsky Krisa Arzayus Adrienne Antoine	Climate Predictions & Projections	Tom Delworth	TBD
					n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	TBD

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/OCIO/ NOAA-Wide IT Security	Larry Reed Diane Davidowicz Tammy Borkowski	TBD	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	100
NOAA/OCIO/ NOAAnet	Tammy Borkowski Bernie Werwinski Adrian Gardnar Tom Sandman	TBD	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	100
NOAA/OCIO/ NOAA Unified Communications	Tammy Borkowski	TBD	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	100
NOAA/OCIO/ Telephony	Tammy Borkowski Cliff Schoenberger	TBD	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	100
NOAA/OCIO/ OneNOAA Web Presence [internal E300]	TBD	TBD	OCIO	Joe Klimavicz Dennis Morgan	n/a	Leadership & Corporate Services	Bill Broglie John Beeman	Information Technology Services	Dennis Morgan	100
NOAA/NOAA/ IT Infrastructure	Robert Swisher	N/A	All LO/SOs	All LO/SO CIOs All IT Planning WG Members	n/a	All PPBES Goal/Sub-Goals	All PPBES Goal/Sub-Goal Leads & Coordinators	All PPBES Programs	All Program Managers	100
NOAA/NOAA Systems/ NOAA-Wide Enterprise IT Architecture	TBD	N/A	All LO/SOs	All LO/SO CIOs All IT Planning WG Members	n/a	All PPBES Goal/Sub-Goals	All PPBES Goal/Sub-Goal Leads & Coordinators	All PPBES Programs	All Program Managers	100

Exhibit 300 IT Investment Name	Exhibit 300 IT Project Manager	System Owner(s) and NOAA System ID	Line/Staff Office	Primary NOAA CIO Council Representatives	Secondary NOAA CIO Council Representative	PPBES Goal/Sub-Goal	PPBES Goal/Sub-Goal Lead & Deputy	PPBES Program(s)	Program Manager	Percentage of Cost Shared by Each Program* (*approximate values; the NOAA IT Planning Working Group is refining the formula)
NOAA/NOAA Systems/ NOAA-Wide Enterprise IT Planning	TBD	N/A	All LO/SOs	All LO/SO CIOs All IT Planning WG Members	n/a	All PPBES Goal/Sub-Goals	All PPBES Goal/Sub-Goal Leads & Coordinators	All PPBES Programs	All Program Managers	100

Appendix 3. NOAA IT Investment Portfolio, Budget Exhibit 53, BY 2010

This table is the NOAA Agency IT Investment Portfolio, DRAFT as of 9/5/2008 for the BY 2010 Budget Exhibit 53 to the Department of Commerce - (Circular A-11: Appendix - C). The filename imported = Exhibit 53 NOAA DRAFT BY2010-CS Sept 5 2008.xls

Column heading abbreviations:

- FEA = Primary FEA Mapping
- LOB = Line of Business or Service Type
- SF = Sub-Function or Service Component
- Fin = Financial
- Sec = Security
- HS = Homeland Security
- PI = Priority Identifier
- C&A = Investment C&A Status
- PM = Project Management Qualification Status
- HR = On High-Risk List
- SA = Segment Architecture

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-00-00-00-00-0000-00	**Agency Total IT Investment Portfolio**		**662.477180**	**750.485410**	**947.415950**											**147.646500**	**235.858000**	**421.230500**	**514.830680**	**514.627410**	**526.185450**				
006-00-01-00-00-0000-00	**Part 1. IT Systems by Mission Area**		**535.979990**	**619.569000**	**814.639380**											**147.646500**	**235.858000**	**420.870500**	**388.333490**	**383.711000**	**393.768880**				
006-00-01-01-00-0000-00	**Financial Management**		**7.167000**	**9.128500**	**7.228500**											**0.600000**	**2.400000**	**0.300000**	**6.567000**	**6.728500**	**6.928500**				
006-48-01-01-01-3801-00	NOAA/OCIO-CS/ Financial Management IT Operations	This system provides the central computing services for NOAA financial and administrative activities.	6.230000	8.130000	6.230000	402	125	20.00	15.00	50.00	10.00	10.00	2.00	0.000000		0.600000	2.400000	0.300000	5.630000	5.730000	5.930000	55	1		
006-48-01-01-01-	006-48-1450-0	NOAA: ORF	6.230000	8.130000	6.230000											0.600000	2.400000	0.300000	5.630000	5.730000	5.930000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
3801-04																									
006-48-01-01-01-3801-09	Funding Source Subtotal		6.230000	8.130000	6.230000											0.600000	2.400000	0.300000	5.630000	5.730000	5.930000				
006-48-01-01-01-3803-00	NOAA/OCIO / NOAA Non-Core CBS Financial Management System	In addition to CBS, NOAA uses non-core CBS financial system modules in accordance with DOC guidelines to meet CFO Act and A-127 requirements. This investment also directly supports the President's Management Agenda to "improve financial performance".	0.937000	0.998500	0.998500	753	623	0.00	0.00	100.00	5.00	5.00	0.00	0.017000		0.000000	0.000000	0.000000	0.937000	0.998500	0.998500	55	1		
006-48-01-01-01-3803-04	006-48-1450-0	NOAA: ORF	0.937000	0.998500	0.998500											0.000000	0.000000	0.000000	0.937000	0.998500	0.998500				
006-48-01-01-01-3803-09	Funding Source Subtotal		0.937000	0.998500	0.998500											0.000000	0.000000	0.000000	0.937000	0.998500	0.998500				
006-00-01-12-00-0000-00	NOAA - Weather and Water		143.231000	165.916000	153.733000											34.962000	53.606000	44.556000	108.269000	112.310000	109.177000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-12-01-3101-00	NOAA/NWS-CS/ Advanced Weather Interactive Processing System (AWIPS)	AWIPS is a nationwide interactive computer and communications system that integrates all meteorological, hydrologic, satellite, and weather radar data to enable the forecaster to prepare and issue more accurate and timely forecasts and warnings.	49.322000	57.129000	50.829000	108	023	0.00	0.00	0.00	7.00	7.00	12.00	0.019000	5	12.459000	19.064000	12.764000	36.863000	38.065000	38.065000	55	1		
006-48-01-12-01-3101-04	006-48-1460-0	NOAA: PAC	12.459000	19.064000	12.764000											12.459000	19.064000	12.764000	0.000000	0.000000	0.000000				
006-48-01-12-01-3101-04	006-48-1450-0	NOAA: ORF	36.863000	38.065000	38.065000											0.000000	0.000000	0.000000	36.863000	38.065000	38.065000				
006-48-01-12-01-3101-09	Funding Source Subtotal		49.322000	57.129000	50.829000											12.459000	19.064000	12.764000	36.863000	38.065000	38.065000				
006-48-01-12-01-3102-00	NOAA/NWS/ Next Generation Weather Radar (NEXRAD) System Product Improvement	The objectives of the NEXRAD Product Improvement (NPI) Program are to apply advancements in radar meteorology and information technology to improve the performance of the nation's weather radar network.	8.176000	8.376000	8.376000	108	023	0.00	0.00	0.00	7.00	7.00	0.00	0.000000		8.176000	8.376000	8.376000	0.000000	0.000000	0.000000	00	1		

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-12-01-3102-04	006-48-1460-0	NOAA: PAC	8.176000	8.376000	8.376000											8.176000	8.376000	8.376000	0.000000	0.000000	0.000000				
006-48-01-12-01-3102-09	Funding Source Subtotal		8.176000	8.376000	8.376000											8.176000	8.376000	8.376000	0.000000	0.000000	0.000000				
006-48-01-12-01-3103-00	NOAA/NWS-CS/ Next Generation Weather Radar (NEXRAD) Operations and Maintenance	NEXRAD is NWS prime observation system for acquiring information about tornados & severe thunderstorms. The Doppler weather radar system is a tri-agency program of DOC, DOT, & DOD.	8.654000	8.654000	8.654000	108	023	0.00	0.00	0.00	8.00	8.00	0.00	0.000000		0.000000	0.000000	0.000000	8.654000	8.654000	8.654000	55	1		276-0000
006-48-01-12-01-3103-04	006-48-1450-0	NOAA: ORF	8.654000	8.654000	8.654000											0.000000	0.000000	0.000000	8.654000	8.654000	8.654000				
006-48-01-12-01-3103-09	Funding Source Subtotal		8.654000	8.654000	8.654000											0.000000	0.000000	0.000000	8.654000	8.654000	8.654000				
006-48-01-12-01-3106-00	NOAA/NWS/ National Weather Service Telecommunication Gateway (NWSTG) System (Legacy, Replacement, and CIP)	The NWS Telecommunication Gateway disseminates (message-switching services) weather observations and guidance data to a national and international community of customers. The	21.015000	21.286000	21.286000	302	095	0.00	0.00	0.00	6.90	10.00	2.00	0.015000	4	0.000000	0.000000	0.000000	21.015000	21.286000	21.286000	55	4		

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		Gateway services this customer base in a near-real-time operational environment.																							
006-48-01-12-01-3106-04	006-48-1450-0	NOAA: ORF	19.820000	20.091000	20.091000											0.000000	0.000000	0.000000	19.820000	20.091000	20.091000				
006-48-01-12-01-3106-04	006-48-1460-0	NOAA: PAC	1.195000	1.195000	1.195000											0.000000	0.000000	0.000000	1.195000	1.195000	1.195000				
006-48-01-12-01-3106-09	Funding Source Subtotal		21.015000	21.286000	21.286000											0.000000	0.000000	0.000000	21.015000	21.286000	21.286000				
006-48-01-12-01-3112-00	NOAA/NWS/ National Air Quality Forecast Capability	This proposal is to implement NOAA Air Quality forecasting operationally.	6.450000	6.450000	6.450000	108	023	0.00	0.00	0.00	5.00	5.00	0.00	0.000000		6.450000	6.450000	6.450000	0.000000	0.000000	0.000000	55	1		
006-48-01-12-01-3112-04	006-48-1450-0	NOAA: ORF	6.450000	6.450000	6.450000											6.450000	6.450000	6.450000	0.000000	0.000000	0.000000				
006-48-01-12-01-3112-09	Funding Source Subtotal		6.450000	6.450000	6.450000											6.450000	6.450000	6.450000	0.000000	0.000000	0.000000				
006-48-01-12-01-3115-00	NOAA/NWS/ NWS Office of Hydrologic Development (OHD)	Nationwide water resource forecasting capability, enhanced short-term predictions of river levels and longer-term	4.451000	4.501000	4.484000	108	023	0.00	0.00	0.00	8.00	9.00	1.00	0.005000		0.000000	0.000000	0.000000	4.451000	4.501000	4.484000	55	4		

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		probabilistic forecasts.																							
006-48-01-12-01-3115-04	006-48-1450-0	NOAA: ORF	4.451000	4.501000	4.484000											0.000000	0.000000	0.000000	4.451000	4.501000	4.484000				
006-48-01-12-01-3115-09	Funding Source Subtotal		4.451000	4.501000	4.484000											0.000000	0.000000	0.000000	4.451000	4.501000	4.484000				
006-48-01-12-01-3117-00	NOAA/NWS/COOP Historical Climate Network - Modernization (HCN-M)	COOP HCN-M will sustain the Nation's regional climate record by modernizing 1,000 HCN sites to collect temperature and precipitation data through automation, providing expansion capacity, and addressing data quality, availability, and technology gaps.	4.133000	4.234000	4.234000	108	023	0.00	0.00	0.00	8.00	8.00	0.00	0.000000		4.133000	4.234000	4.234000	0.000000	0.000000	0.000000	00	1		276-0000
006-48-01-12-01-3117-04	006-48-1460-0	NOAA: PAC	4.133000	4.234000	4.234000											4.133000	4.234000	4.234000	0.000000	0.000000	0.000000				
006-48-01-12-01-3117-09	Funding Source Subtotal		4.133000	4.234000	4.234000											4.133000	4.234000	4.234000	0.000000	0.000000	0.000000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-12-01-3119-00	NOAA/NWS/NDBC Ocean Observing System of Systems (NOOSS)	Investments are for the operations and maintenance of the NWS' NDBC Ocean Observing System of Systems (NOOSS). NOOSS includes the Data Assembly Center, C-MAN, meteorological, oceanographic, Tsunami, and climate (el nino) buoys.	5.325000	5.725000	5.725000	108	023	0.00	0.00	0.00	10.00	10.00	0.00	0.000000	4	0.000000	0.000000	0.000000	5.325000	5.725000	5.725000	55	4		276-0000
006-48-01-12-01-3119-04	006-48-1450-0	NOAA: ORF	5.325000	5.725000	5.725000											0.000000	0.000000	0.000000	5.325000	5.725000	5.725000				
006-48-01-12-01-3119-09	Funding Source Subtotal		5.325000	5.725000	5.725000											0.000000	0.000000	0.000000	5.325000	5.725000	5.725000				
006-48-01-12-01-3120-00	NOAA/NWS/NWS Dissemination Systems (NDS)	Investments for three NWS information dissemination systems used to provide the US public and emergency managers warnings of severe weather events and weather information in support of aviation and civil activities in the Atlantic and Pacific basins.	4.820000	5.838000	4.903000	108	023	0.00	0.00	0.00	8.00	8.00	0.00	0.000000	5	0.000000	0.000000	0.000000	4.820000	5.838000	4.903000	55	1		
006-48-01-	006-48-1450-0	NOAA: ORF	4.820000	5.838000	4.903000											0.000000	0.000000	0.000000	4.820000	5.838000	4.903000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
12-01-3120-04																									
006-48-01-12-01-3120-09	Funding Source Subtotal		4.820000	5.838000	4.903000											0.000000	0.000000	0.000000	4.820000	5.838000	4.903000				
006-48-01-12-01-3124-00	NOAA/NWS/ Weather Radio Improvement Project (WRIP)	WRIP replaces the obsolete Console Replacement System of NOAA Weather Radio (NWR) and provides the Dept. of Homeland Security access to NWR for broadcasting emergency messages. WRIP Consolidates NWR and NOAA Weather Wire Service system infrastructures.	0.450000	8.427000	5.877000	108	023	0.00	0.00	0.00	8.00	8.00	0.00	0.000000	5	0.450000	8.427000	5.877000	0.000000	0.000000	0.000000	00	1		
006-48-01-12-01-3124-04	006-48-1460-0	NOAA: PAC	0.450000	8.427000	5.877000											0.450000	8.427000	5.877000	0.000000	0.000000	0.000000				
006-48-01-12-01-3124-09	Funding Source Subtotal		0.450000	8.427000	5.877000											0.450000	8.427000	5.877000	0.000000	0.000000	0.000000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-12-01-3211-00	NOAA/NESDIS-CS/ NPOESS Data Exploitation (NDE)	The NPOESS Data Exploitation Project will develop, implement and test key data processing and distribution systems within NOAA/NESDIS and deliver enhanced environmental observations to NOAA Operational Centers and other civilian customers.	2.394000	2.455000	4.455000	108	023	0.00	0.00	0.00	7.00	9.00	0.00	0.002000		2.394000	2.455000	4.455000	0.000000	0.000000	0.000000	00	1		
006-48-01-12-01-3211-04	006-48-1460-0	NOAA: PAC	2.394000	2.455000	4.455000											2.394000	2.455000	4.455000	0.000000	0.000000	0.000000				
006-48-01-12-01-3211-09	Funding Source Subtotal		2.394000	2.455000	4.455000											2.394000	2.455000	4.455000	0.000000	0.000000	0.000000				
006-48-01-12-02-3109-00	NOAA/NWS/ Automated Surface Observing System (ASOS) Product Improvement	ASOS, the nation's primary surface weather observing network, supports aviation operations & weather forecasting. Replacing manual surface observation techniques, it provides improved efficiency to acquire & record surface atmospheric	0.300000	0.300000	0.300000	108	023	0.00	0.00	0.00	0.00	0.00	0.00	0.000000		0.300000	0.300000	0.300000	0.000000	0.000000	0.000000	55	1		

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		phenomena.																							
006-48-01-12-02-3109-04	006-48-1460-0	NOAA: PAC	0.300000	0.300000	0.300000											0.300000	0.300000	0.300000	0.000000	0.000000	0.000000				
006-48-01-12-02-3109-09	Funding Source Subtotal		0.300000	0.300000	0.300000											0.300000	0.300000	0.300000	0.000000	0.000000	0.000000				
006-48-01-12-02-3110-00	NOAA/NWS/ Data Assimilation and Modeling	IT resources used to develop new methods for coupling atmosphere, ocean, land surface and cryosphere models which will enable the next generation of numerical forecast systems to be developed.	2.181000	2.181000	0.000000	108	023	0.00	0.00	0.00	1.00	1.00	0.00	0.000000		0.000000	0.000000	0.000000	2.181000	2.181000	0.000000	55	1		
006-48-01-12-02-3110-04	006-48-1450-0	NOAA: ORF	2.181000	2.181000	0.000000											0.000000	0.000000	0.000000	2.181000	2.181000	0.000000				
006-48-01-12-02-3110-09	Funding Source Subtotal		2.181000	2.181000	0.000000											0.000000	0.000000	0.000000	2.181000	2.181000	0.000000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-12-02-3111-00	NOAA/NWS/ NOAA Weather Radio (NWR) All Hazards Weather Network (NAHWN) aka All Hazards Emergency Message Collection System (HazCollect)	This project is to automate the collection and dissemination of non-weather civil-emergency messages over NOAA Weather Radio (NWR) and to quickly and securely authenticate messages received by emergency managers.	0.750000	0.750000	0.750000	104	007	0.00	0.00	0.00	7.00	7.00	0.00	0.000000	1	0.600000	0.000000	0.000000	0.150000	0.750000	0.750000	00	1		
006-48-01-12-02-3111-04	006-48-1450-0	NOAA: ORF	0.750000	0.750000	0.750000											0.600000	0.000000	0.000000	0.150000	0.750000	0.750000				
006-48-01-12-02-3111-09	Funding Source Subtotal		0.750000	0.750000	0.750000											0.600000	0.000000	0.000000	0.150000	0.750000	0.750000				
006-48-01-12-02-3118-00	NOAA/NWS/ NWS Regions & Field	IT resources for weather and water information and warning services are used by the NWS Regions & Fields, the single points of access, to federal, state and local governments and emergency manager coordinators in every state.	21.900000	21.900000	21.900000	108	023	0.00	0.00	0.00	10.00	10.00	0.00	0.000000		0.000000	0.000000	0.000000	21.900000	21.900000	21.900000	55	1		
006-48-01-12-02-3118-04	006-48-1450-0	NOAA: ORF	21.900000	21.900000	21.900000											0.000000	0.000000	0.000000	21.900000	21.900000	21.900000				
006-48-01-	Funding Source		21.900000	21.900000	21.900000											0.000000	0.000000	0.000000	21.900000	21.900000	21.900000				

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
12-02-3118-09	Subtotal																								
006-48-01-12-02-3122-00	NOAA/NWS-CS/ NOAA Profiler Network	NOAA NWS Profiler is a vertical looking, radar-based observation system for acquiring information about tornados, flash floods, and winter storms. There are 35 operational Profiler radars deployed in the US, 32 in the central US and 3 in Alaska.	0.460000	4.760000	2.560000	108	023	0.00	0.00	0.00	8.00	8.00	0.00	0.000000		0.000000	4.300000	2.100000	0.460000	0.460000	0.460000	55	4		276-0000
006-48-01-12-02-3122-04	006-48-1450-0	NOAA: ORF	0.460000	0.460000	0.460000											0.000000	0.000000	0.000000	0.460000	0.460000	0.460000				
006-48-01-12-02-3122-04	006-48-1460-0	NOAA: PAC	0.000000	4.300000	2.100000											0.000000	4.300000	2.100000	0.000000	0.000000	0.000000				
006-48-01-12-02-3122-09	Funding Source Subtotal		0.460000	4.760000	2.560000											0.000000	4.300000	2.100000	0.460000	0.460000	0.460000				
006-48-01-12-02-3123-00	NOAA/NWS-CS/ Automated Surface Observing System (ASOS) Operations and Maintenance	ASOS is the nation's primary surface weather observing network supporting aviation operations and weather forecasting. By replacing manual surface observation	2.450000	2.950000	2.950000	108	023	0.00	0.00	0.00	8.00	8.00	0.00	0.000000		0.000000	0.000000	0.000000	2.450000	2.950000	2.950000	55	4		276-0000

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		techniques, it provides improved efficiency to acquire and record surface atmospheric phenomena.																							
006-48-01-12-02-3123-04	006-48-1450-0	NOAA: ORF	2.450000	2.950000	2.950000											0.000000	0.000000	0.000000	2.450000	2.950000	2.950000				
006-48-01-12-02-3123-09	Funding Source Subtotal		2.450000	2.950000	2.950000											0.000000	0.000000	0.000000	2.450000	2.950000	2.950000				
006-00-01-13-00-0000-00	NOAA - Climate		107.217490	84.859800	85.340780											9.007000	9.128000	8.130000	98.210490	75.731800	77.210780				
006-48-01-13-01-3205-00	NOAA/NESDIS/ Comprehensive Large Array-data Stewardship System (CLASS)	The CLASS project will implement efficient management of high volumes (petabytes) of data and automate the means of data ingest, quality control and access.	8.780000	8.966000	8.966000	108	023	0.00	0.00	0.00	7.00	10.00	0.00	0.000000		5.707000	5.828000	4.830000	3.073000	3.138000	4.136000	55	1		276-0000
006-48-01-13-01-3205-04	006-48-1460-0	NOAA: PAC	6.315000	6.476000	6.476000											4.742000	4.838000	3.840000	1.573000	1.638000	2.636000				
006-48-01-13-01-3205-04	006-48-1460-0	NOAA: PAC B	0.965000	0.990000	0.990000											0.965000	0.990000	0.990000	0.000000	0.000000	0.000000				
006-48-01-13-01-	006-48-1450-0	NOAA: ORF	1.500000	1.500000	1.500000											0.000000	0.000000	0.000000	1.500000	1.500000	1.500000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
3205-04																									
006-48-01-13-01-3205-09	Funding Source Subtotal		8.780000	8.966000	8.966000											5.707000	5.828000	4.830000	3.073000	3.138000	4.136000				
006-48-01-13-01-3209-00	NOAA/NESDIS-CS/ NOAA National Data Centers (NNDC)	The NOAA NESDIS National Data Centers have the ultimate responsibility for the long term-management and stewardship of the bulk of NOAA's data, in addition to environmental data collected by other Federal agencies, countries and research programs.	77.158000	53.608000	53.608000	108	023	0.00	0.00	0.00	6.00	6.00	0.00	0.000000		0.000000	0.000000	0.000000	77.158000	53.608000	53.608000	55	1		
006-48-01-13-01-3209-04	006-48-1450-0	NOAA: ORF	77.158000	53.608000	53.608000											0.000000	0.000000	0.000000	77.158000	53.608000	53.608000				
006-48-01-13-01-3209-09	Funding Source Subtotal		77.158000	53.608000	53.608000											0.000000	0.000000	0.000000	77.158000	53.608000	53.608000				
006-48-01-13-01-3214-00	NOAA/NESDIS-CS/National Integrated Drought Information System (NIDIS) Implementation	NIDIS will provide drought information through a web-based drought portal that offers user-friendly access to historical and real-time climate and weather data.	3.300000	3.300000	3.300000	108	023	0.00	0.00	0.00	7.00	7.00	0.00	0.000000		3.300000	3.300000	3.300000	0.000000	0.000000	0.000000	00	1		

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		Coupled with soil moisture sensors, NIDIS supports US GEO Near-Term Opportunities.																							
006-48-01-13-01-3214-04	006-48-1450-0	NOAA: ORF	3.300000	3.300000	3.300000											3.300000	3.300000	3.300000	0.000000	0.000000	0.000000				
006-48-01-13-01-3214-09	Funding Source Subtotal		3.300000	3.300000	3.300000											3.300000	3.300000	3.300000	0.000000	0.000000	0.000000				
006-48-01-13-01-3504-00	NOAA/OAR-CS/ NOAA Research Scientific Computing Support	Periodic technical refreshment of IT computing resources and associated IT maintenance and support services used to conduct short, mid and long term climate and weather research.	17.979490	18.985800	19.466780	108	023	0.00	0.00	0.00	8.90	9.04	0.00	0.000000		0.000000	0.000000	0.000000	17.979490	18.985800	19.466780	55	4		
006-48-01-13-01-3504-04	006-48-1450-0	NOAA: ORF	17.979490	18.985800	19.466780											0.000000	0.000000	0.000000	17.979490	18.985800	19.466780				
006-48-01-13-01-3504-09	Funding Source Subtotal		17.979490	18.985800	19.466780											0.000000	0.000000	0.000000	17.979490	18.985800	19.466780				
006-00-01-14-00-0000-00	NOAA - Ecosystems		12.459000	12.953000	12.243000											2.805000	2.985000	1.730000	9.654000	9.968000	10.513000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-14-02-3168-00	NOAA/NMFS/ Vessel Monitoring System	The Vessel Monitoring System (VMS) is a satellite based tool for monitoring control and surveillance of the 3.4 million mile jurisdiction of the NOAA Office for Law Enforcement.	9.259000	9.348000	9.348000	115	045	0.00	0.00	0.00	6.00	6.00	5.00	0.008000	1	0.000000	0.000000	0.000000	9.259000	9.348000	9.348000	55	1		
006-48-01-14-02-3168-04	006-48-1450-0	NOAA: ORF	9.259000	9.348000	9.348000											0.000000	0.000000	0.000000	9.259000	9.348000	9.348000				
006-48-01-14-02-3168-09	Funding Source Subtotal		9.259000	9.348000	9.348000											0.000000	0.000000	0.000000	9.259000	9.348000	9.348000				
006-48-01-14-02-3304-00	NOAA/NMFS/ Fisheries Information System	Harmonization and integration of disparate state and federal information collection systems to enhance the ecosystems-based management of marine fisheries through improved data quality and management.	0.620000	0.620000	0.620000	117	057	0.00	0.00	0.00	7.00	7.00	0.00	0.000000		0.250000	0.200000	0.180000	0.370000	0.420000	0.440000	55	1		
006-48-01-14-02-3304-04	006-48-1450-0	NOAA Operations Research and Facilities	0.620000	0.620000	0.620000											0.250000	0.200000	0.180000	0.370000	0.420000	0.440000				
006-48-01-14-02-3304-09	Funding Source Subtotal		0.620000	0.620000	0.620000											0.250000	0.200000	0.180000	0.370000	0.420000	0.440000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-14-02-3305-00	NOAA/NMFS/ Permits	The investment will enable NMFS to better serve customers with an improved national fisheries permit system. The agency wide online system will be utilized by NMFS and the public to process permit applications and renewals.	0.940000	0.945000	0.400000	755	638	0.00	0.00	0.00	5.00	5.00	0.00	0.000000		0.940000	0.945000	0.000000	0.000000	0.000000	0.400000	00	1		
006-48-01-14-02-3305-04	006-48-1450-0	NOAA: ORF	0.940000	0.945000	0.400000											0.940000	0.945000	0.000000	0.000000	0.000000	0.400000				
006-48-01-14-02-3305-09	Funding Source Subtotal		0.940000	0.945000	0.400000											0.940000	0.945000	0.000000	0.000000	0.000000	0.400000				
006-48-01-14-02-3306-00	NOAA/NMFS/ Northeast Fisheries Information Management System (NE-FIMS)	The intent of the Northeast Fisheries Information Management System is to design, develop and implement an integrated fisheries-dependent information management system for the Northeast Region.	0.990000	0.990000	0.925000	117	057	0.00	0.00	0.00	5.00	5.00	0.00	0.000000		0.965000	0.940000	0.850000	0.025000	0.050000	0.075000	25	2		
006-48-01-14-02-3306-04	006-48-1450-0	NOAA: ORF	0.990000	0.990000	0.925000											0.965000	0.940000	0.850000	0.025000	0.050000	0.075000				
006-48-01-	Funding Source		0.990000	0.990000	0.925000											0.965000	0.940000	0.850000	0.025000	0.050000	0.075000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
14-02-3306-09	Subtotal																								
006-48-01-14-02-3307-00	NOAA/NMFS/Marine Recreational Information Program (MRIP)	The investment will enable NMFS to better serve customers with improved recreational fisheries surveys. The agency wide online system will be utilized by NMFS to construct the comprehensive telephone/address directories to conduct effient surveys.	0.650000	1.050000	0.950000	117	057	0.00	0.00	0.00	7.00	7.00	0.00	0.000000		0.650000	0.900000	0.700000	0.000000	0.150000	0.250000	00	1		
006-48-01-14-02-3307-04	006-48-1450-0	NOAA: ORF	0.650000	1.050000	0.950000											0.650000	0.900000	0.700000	0.000000	0.150000	0.250000				
006-48-01-14-02-3307-09	Funding Source Subtotal		0.650000	1.050000	0.950000											0.650000	0.900000	0.700000	0.000000	0.150000	0.250000				
006-00-01-15-00-0000-00	NOAA Commerce and Transportation		15.226000	16.932700	15.856600											0.469000	0.231000	0.223000	14.757000	16.701700	15.633600				
006-48-01-15-01-3401-24	NOAA/NOS-CS/ Nautical Charting System	The Nautical Charting System (NCS) supports the production of essential navigation products that currently comprise a suite of 1000 paper and raster products and ultimately	3.119000	4.021700	3.904600	118	062	0.00	0.00	0.00	8.00	8.00	0.00	0.000000		0.000000	0.000000	0.000000	3.119000	4.021700	3.904600	55	4		

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		1000 Electronic Navigational Charts (ENC).																							
006-48-01-15-01-3401-04	006-48-1450-0	NOAA: ORF	3.119000	4.021700	3.904600											0.000000	0.000000	0.000000	3.119000	4.021700	3.904600				
006-48-01-15-01-3401-09	Funding Source Subtotal		3.119000	4.021700	3.904600											0.000000	0.000000	0.000000	3.119000	4.021700	3.904600				
006-48-01-15-01-3402-00	NOAA/NOS/ PORTS & NWLON	The PORTS and NWLON IT System generates an integrated set of environmental information that is used as a decision support tool by its customers for improving the safety and efficiency of maritime commerce and coastal resource management.	4.302000	4.169000	4.604000	118	062	0.00	0.00	0.00	7.00	10.00	0.00	0.000000		0.000000	0.000000	0.000000	4.302000	4.169000	4.604000	55	2		276-0000
006-48-01-15-01-3402-04	006-48-1450-0	NOAA: ORF	4.302000	4.169000	4.604000											0.000000	0.000000	0.000000	4.302000	4.169000	4.604000				
006-48-01-15-01-3402-09	Funding Source Subtotal		4.302000	4.169000	4.604000											0.000000	0.000000	0.000000	4.302000	4.169000	4.604000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-15-02-3208-00	NOAA/NESDIS/ Search and Rescue Satellite-Aided Tracking (SARSAT)	SARSAT system locates those in distress almost anywhere in the world at anytime. Its Mission Control Center processes the distress signal and alerts the appropriate search and rescue authorities to who is in distress and where they are located.	2.813000	3.605000	2.938000	104	010	0.00	0.00	0.00	31.00	31.00	0.00	0.000000	5	0.469000	0.231000	0.223000	2.344000	3.374000	2.715000	55	2		
006-48-01-15-02-3208-04	006-48-1460-0	NOAA: PAC	0.469000	0.951000	0.223000											0.469000	0.231000	0.223000	0.000000	0.720000	0.000000				
006-48-01-15-02-3208-04	006-48-1450-0	NOAA: ORF	2.344000	2.654000	2.715000											0.000000	0.000000	0.000000	2.344000	2.654000	2.715000				
006-48-01-15-02-3208-09	Funding Source Subtotal		2.813000	3.605000	2.938000											0.469000	0.231000	0.223000	2.344000	3.374000	2.715000				
006-48-01-15-02-3403-00	NOAA/NOS/ Geodetic Support System	The Geodetic Support System processes data for the National Spatial Reference System and geoid models. Plans are to expand to 1,500 Continously Operating Reference Stations	1.720000	1.815000	1.910000	703	525	0.00	0.00	0.00	14.00	16.00	0.00	0.000000		0.000000	0.000000	0.000000	1.720000	1.815000	1.910000	55	1		

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		(CORS).																							
006-48-01-15-02-3403-04	006-48-1450-0	NOAA: ORF	1.720000	1.815000	1.910000											0.000000	0.000000	0.000000	1.720000	1.815000	1.910000				
006-48-01-15-02-3403-09	Funding Source Subtotal		1.720000	1.815000	1.910000											0.000000	0.000000	0.000000	1.720000	1.815000	1.910000				
006-48-01-15-02-3601-00	NOAA/OMAO/ NOAA Marine and Aviation Operations	NOAA ships and aircraft use IT resources to support data acquisition capabilities, which enable scientists and environmental managers to make decisions based on real-time data access and visualization.	3.272000	3.322000	2.500000	404	139	0.00	0.00	0.00	8.00	7.00	0.00	0.000000		0.000000	0.000000	0.000000	3.272000	3.322000	2.500000	25	1		
006-48-01-15-02-3601-04	006-48-1450-0	NOAA: ORF	3.272000	3.322000	2.500000											0.000000	0.000000	0.000000	3.272000	3.322000	2.500000				
006-48-01-15-02-3601-09	Funding Source Subtotal		3.272000	3.322000	2.500000											0.000000	0.000000	0.000000	3.272000	3.322000	2.500000				
006-00-01-16-00-0000-00	NOAA - Satellite Services		183.654500	262.201000	463.704500											90.685500	167.508000	365.931500	92.969000	94.693000	97.773000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-16-01-3201-00	NOAA/NESDIS/ GOES Ground System	The Geostationary Operational Environmental Satellite (GOES) ground system monitors and controls NOAA's geostationary environmental satellites.	19.652000	19.744000	19.636000	108	023	0.00	0.00	0.00	7.00	10.00	0.00	0.000000	5	0.200000	0.000000	0.000000	19.452000	19.744000	19.636000	55	1		276-0000
006-48-01-16-01-3201-04	006-48-1460-0	NOAA: PAC	19.652000	19.744000	19.636000											0.200000	0.000000	0.000000	19.452000	19.744000	19.636000				
006-48-01-16-01-3201-09	Funding Source Subtotal		19.652000	19.744000	19.636000											0.200000	0.000000	0.000000	19.452000	19.744000	19.636000				
006-48-01-16-01-3202-00	NOAA/NESDIS/ POES Ground System	POES ground system monitors and controls NOAA's polar-orbiting operational environmental satellites. IT hardware/software upgrades are underway for future satellites.	15.954000	15.274000	15.773000	108	023	0.00	0.00	0.00	8.00	10.00	0.00	0.000000		2.200000	0.000000	0.000000	13.754000	15.274000	15.773000	55	1		276-0000
006-48-01-16-01-3202-04	006-48-1460-0	NOAA: PAC	15.954000	15.274000	15.773000											2.200000	0.000000	0.000000	13.754000	15.274000	15.773000				
006-48-01-16-01-3202-09	Funding Source Subtotal		15.954000	15.274000	15.773000											2.200000	0.000000	0.000000	13.754000	15.274000	15.773000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-01-16-01-3206-00	NOAA/NESDIS/ Satellite Operations Control Center Command and Data Acquisition (SOCC/CDA)	This investment is used by the Office of Satellite Operations (OSO) to command and control the POES and GOES satellites, to track the satellites, and to acquire their data.	35.257000	37.938000	39.151000	108	023	0.00	0.00	0.00	7.00	10.00	0.00	0.000000		0.000000	0.000000	0.000000	35.257000	37.938000	39.151000	55	1		
006-48-01-16-01-3206-04	006-48-1450-0	NOAA: ORF	35.257000	37.938000	39.151000											0.000000	0.000000	0.000000	35.257000	37.938000	39.151000				
006-48-01-16-01-3206-09	Funding Source Subtotal		35.257000	37.938000	39.151000											0.000000	0.000000	0.000000	35.257000	37.938000	39.151000				
006-48-01-16-01-3212-00	NOAA/NESDIS-CS/ NPOESS Ground System	IT support for the Nation's civil and military polar-orbiting operational meteorological satellite system into a single national entity capable of satisfying both civil and national security requirements for space-based remotely sensed environmental data.	41.944500	47.115000	63.463500	108	023	0.00	0.00	0.00	4.00	3.00	0.00	0.000000		41.944500	47.115000	63.463500	0.000000	0.000000	0.000000	00	1	Yes	276-000
006-48-01-16-01-3212-	006-48-1460-0	NOAA: PAC	41.944500	47.115000	63.463500											41.944500	47.115000	63.463500	0.000000	0.000000	0.000000				

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
04																									
006-48-01-16-01-3212-09	Funding Source Subtotal		41.944500	47.115000	63.463500											41.944500	47.115000	63.463500	0.000000	0.000000	0.000000				
006-48-01-16-01-3213-00	NOAA/NESDIS/ Environmental Satellite Processing Center (ESPC)	This investment is for the development and maintenance of one central processing system for environmental satellite data, Environmental Satellite Processing Center (ESPC).	26.632000	24.750000	24.370000	108	023	0.00	0.00	0.00	8.00	9.55	0.00	0.000000		3.617000	4.818000	3.394000	23.015000	19.932000	20.976000	55	4		
006-48-01-16-01-3213-04	006-48-1450-0	NOAA: ORF	26.632000	19.932000	20.976000											3.617000	0.000000	0.000000	23.015000	19.932000	20.976000				
006-48-01-16-01-3213-04	006-48-1460-0	NOAA: PAC	0.000000	4.818000	3.394000											0.000000	4.818000	3.394000	0.000000	0.000000	0.000000				
006-48-01-16-01-3213-09	Funding Source Subtotal		26.632000	24.750000	24.370000											3.617000	4.818000	3.394000	23.015000	19.932000	20.976000				
006-48-01-16-01-3215-00	NOAA/NESDIS - CS-1/ GOES-R Series Ground Segment	The Geostationary Operational Environmental Satellite (GOES-R) Ground Segment monitors and controls NOAA's GOES-R satellites.	41.512000	114.608000	298.539000	108	023	0.00	0.00	0.00	10.00	10.00	0.00	0.000000		41.512000	114.608000	298.539000	0.000000	0.000000	0.000000	00	1		276-0000
006-	006-48-	NOAA: PAC	41.512000	114.6080	298.5390											41.51200	114.6080	298.5390	0.000000	0.000000	0.000000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
48-01-16-01-3215-04	1460-0			00	00											0	00	00							
006-48-01-16-01-3215-09	Funding Source Subtotal		41.512000	114.608000	298.539000											41.512000	114.608000	298.539000	0.000000	0.000000	0.000000				
006-48-01-16-02-3204-00	NOAA/NESDIS/ Office of Satellite Data Processing and Distribution (OSDPD) Systems Critical Infrastructure Protection (CIP)	The NESDIS OSDPD-CIP project will provide a backup facility to the Environmental Satellite Processing Center (ESPC) primary facility that is the central processing system for environmental satellite data.	2.703000	2.772000	2.772000	302	095	0.00	0.00	0.00	10.00	10.00	0.00	0.000000		1.212000	0.967000	0.535000	1.491000	1.805000	2.237000	55	1		
006-48-01-16-02-3204-04	006-48-1460-0	NOAA: PAC	2.703000	2.772000	2.772000											1.212000	0.967000	0.535000	1.491000	1.805000	2.237000				
006-48-01-16-02-3204-09	Funding Source Subtotal		2.703000	2.772000	2.772000											1.212000	0.967000	0.535000	1.491000	1.805000	2.237000				
006-00-01-17-00-0000-00	NOAA - Modeling and Observation		67.025000	67.578000	76.533000											9.118000	0.000000	0.000000	57.907000	67.578000	76.533000				
006-48-01-17-01-3104-00	NOAA/NWS/ NCEP Weather and Climate Operational Supercomputer Systems (WCOSS Primary and	The NOAA NCEP Weather & Climate Supercomputer Systems (Primary and Backup) produces environmental	20.344000	23.369000	23.369000	108	023	0.00	0.00	0.00	5.00	5.00	0.00	0.000000	5	0.000000	0.000000	0.000000	20.344000	23.369000	23.369000	55	1		

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
	Backup)	forecasts and assimilate data used to execute the numerical models that form the basis for all routine weather and climate forecasts produced in the US.																							
006-48-01-17-01-3104-04	006-48-1460-0	NOAA: PAC	20.344000	23.369000	23.369000											0.000000	0.000000	0.000000	20.344000	23.369000	23.369000				
006-48-01-17-01-3104-09	Funding Source Subtotal		20.344000	23.369000	23.369000											0.000000	0.000000	0.000000	20.344000	23.369000	23.369000				
006-48-01-17-01-3113-00	NOAA/NWS-CS/ NCEP Weather and Climate Computing Infrastructure Services (WCCIS)	The NOAA NWS NCEP Weather and Climate Commuting Infrastructure Services (WCCIS) provide support resources for (a) weather and climate forecasting capabilities and (b) operational model development for forecasts and warnings.	21.118000	13.683000	17.191000	108	023	0.00	0.00	0.00	10.00	10.00	0.00	0.010000	4,5	9.118000	0.000000	0.000000	12.000000	13.683000	17.191000	55	1		
006-48-01-17-01-3113-04	006-48-1450-0	NOAA: ORF	12.000000	13.683000	17.191000											0.000000	0.000000	0.000000	12.000000	13.683000	17.191000				
006-48-01-17-01-3113-	006-48-1460-0	NOAA: PAC	9.118000	0.000000	0.000000											9.118000	0.000000	0.000000	0.000000	0.000000	0.000000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
04																									
006-48-01-17-01-3113-09	Funding Source Subtotal		21.118000	13.683000	17.191000											9.118000	0.000000	0.000000	12.000000	13.683000	17.191000				
006-48-01-17-01-3804-00	NOAA/OCIO-CS/ NOAA R&D High Performance Computing System	High performance computing resources are used for weather and climate research in the development and use of sophisticated numerical models to predict and understand atmospheric and oceanic phenomena.	25.563000	30.526000	35.973000	108	023	0.00	0.00	0.00	4.00	5.00	0.01	0.065000		0.000000	0.000000	0.000000	25.563000	30.526000	35.973000	55	1		
006-48-01-17-01-3804-04	006-48-1460-0	NOAA: PAC	15.281000	19.900000	19.900000											0.000000	0.000000	0.000000	15.281000	19.900000	19.900000				
006-48-01-17-01-3804-04	006-48-1450-0	NOAA: ORF	10.282000	10.626000	16.073000											0.000000	0.000000	0.000000	10.282000	10.626000	16.073000				
006-48-01-17-01-3804-09	Funding Source Subtotal		25.563000	30.526000	35.973000											0.000000	0.000000	0.000000	25.563000	30.526000	35.973000				
006-00-02-00-00-0000-00	**Part 2. IT Infrastructure and Office**		**120.808190**	**125.142410**	**126.642570**											**0.000000**	**0.000000**	**0.000000**	**120.808190**	**125.142410**	**126.642570**				
006-48-02-00-01-0511-00	NOAA/NOAA/ IT Infrastructure	For NOAA consolidated infrastructure.	120.808190	125.142410	126.642570	404	139	0.00	0.00	0.00	6.58	6.76	0.25	0.000000		0.000000	0.000000	0.000000	120.808190	125.142410	126.642570	55	4		

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
006-48-02-00-01-0511-04	006-48-1450-0	NOAA: ORF	114.100660	117.672490	118.544230											0.000000	0.000000	0.000000	114.100660	117.672490	118.544230				
006-48-02-00-01-0511-04	006-48-1460-0	NOAA: PAC	6.707530	7.469920	8.098340											0.000000	0.000000	0.000000	6.707530	7.469920	8.098340				
006-48-02-00-01-0511-09	Funding Source Subtotal		120.808190	125.142410	126.642570											0.000000	0.000000	0.000000	120.808190	125.142410	126.642570				
006-00-03-00-00-0000-00	**Part 3. Enterprise Architecture & Planning**		**4.193000**	**4.278000**	**4.278000**											**0.000000**	**0.000000**	**0.000000**	**4.193000**	**4.278000**	**4.278000**				
006-48-03-00-02-3702-00	NOAA/NOAA Systems/ NOAA-Wide Enterprise IT Architecture	IT resources are used to support NOAA-wide IT Architecture activities for strategic, operational and capital planning and investment management.	1.393000	1.393000	1.393000	304	103	0.00	0.00	0.00	0.00	0.00	0.00	0.000000		0.000000	0.000000	0.000000	1.393000	1.393000	1.393000				
006-48-03-00-02-3702-04	006-48-1450-0	NOAA: ORF	1.393000	1.393000	1.393000											0.000000	0.000000	0.000000	1.393000	1.393000	1.393000				
006-48-03-00-02-3702-09	Funding Source Subtotal		1.393000	1.393000	1.393000											0.000000	0.000000	0.000000	1.393000	1.393000	1.393000				
006-48-03-00-02-3703-00	NOAA/NOAA Systems/ NOAA-Wide Enterprise IT Planning	IT resources are used to support NOAA-wide IT Planning activities for strategic, operational and capital planning	2.800000	2.885000	2.885000	304	102	0.00	0.00	0.00	3.00	3.00	0.00	0.000000		0.000000	0.000000	0.000000	2.800000	2.885000	2.885000				

2010 UPI	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
		and investment management.																							
006-48-03-00-02-3703-04	006-48-1450-0	NOAA: ORF	2.800000	2.885000	2.885000											0.000000	0.000000	0.000000	2.800000	2.885000	2.885000				
006-48-03-00-02-3703-09	Funding Source Subtotal		2.800000	2.885000	2.885000											0.000000	0.000000	0.000000	2.800000	2.885000	2.885000				
006-00-04-00-00-0000-00	**Part 4. Grants Management**		**1.496000**	**1.496000**	**1.856000**											**0.000000**	**0.000000**	**0.360000**	**1.496000**	**1.496000**	**1.496000**				
006-48-04-00-01-3802-00	NOAA/OCIO-CS/ NOAA Grants On-line	The NOAA-wide Grants back-end processing system consists of a web-based application that will interface with grants.gov for the "Find and Apply" functions. Additionally, this Ex 300 explains the Grants Online-CBS interface requirements and justification.	1.496000	1.496000	1.856000	751	601	0.00	0.00	5.00	7.00	7.00	0.00	0.000000		0.000000	0.000000	0.360000	1.496000	1.496000	1.496000	55	1		
006-48-04-00-01-3802-04	006-48-1450-0	NOAA: ORF	1.496000	1.496000	1.856000											0.000000	0.000000	0.360000	1.496000	1.496000	1.496000				
006-48-04-00-01-3802-	Funding Source Subtotal		1.496000	1.496000	1.856000											0.000000	0.000000	0.360000	1.496000	1.496000	1.496000				

	Investment Title	Investment Description	PY2008 ($M)	CY2009 ($M)	BY2010 ($M)	FEA		Percentage (%)						HSPD-12 ($M)	HS	DME ($M)			Steady State ($M)			C&A	PM	HR	SA
2010 UPI						LOB	SF	BF	BE	Fin	CY IT Sec	BY IT Sec	IPv6	PY	PI	PY 2008	CY 2009	BY 2010	PY 2008	CY 2009	BY 2010				
09																									