NOAA
ANNUAL OPERATING PLAN
FY 1991

March 1991

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

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U.S. DEPARTMENT OF COMMERCE
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PREFACE

As NOAA enters its twentieth year we stand ready to fulfill the goal of being the nation's premier earth systems agency. NOAA faces urgent national and international problems involving the environment and the economy.

Total Quality Management (TQM) as our management philosophy is the key to NOAA's meeting these challenges. TQM provides a systematic, consistent, organization-wide perspective to achieve high-level quality performance.

During FY 1991, NOAA will be guided by the long-term vision set forth in NOAA's Strategic Plan. This FY 1991 Annual Operating Plan presents specific objectives for the year which are designed to move the agency toward the overall goals in the Strategic Plan. This document will continue to serve as the "agenda" for NOAA management and progress will be measured through the Monthly Operating Reviews involving NOAA's senior management team. Objectives will be incorporated, as appropriate, in performance plans of all employees.

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EXECUTIVE SUMMARY

The NOAA Annual Operating Plan for FY 1991 is divided into three sections. Each section represents a distinct organizational approach to NOAA management.

NOAA-wide, high priority cross-cutting programs, such as Climate and Global Change, are long-term commitments by the entire agency to address urgent problems of national concern. These programs are managed and budgeted in an integrated manner, and they involve significant efforts by all NOAA components.

Line Office program objectives, discussed in the second section, reflect the specific operational mission requirements of each of NOAA's major components. Although these objectives emphasize the internal organization of effort to carry out programs, they also include important linkages to and interdependencies with other NOAA components.

NOAA-level objectives, presented in the third section, reflect management initiatives that support all NOAA programs. The successful achievement of these NOAA-level objectives requires significant effort by all NOAA components.

An appendix provides a cross reference of specific Line Office objectives to the NOAA-wide, high priority programs.

NOAA'S

HIGH PRIORITY

PROGRAMS

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S MISSION IS TO DESCRIBE, MONITOR, AND PREDICT CONDITIONS IN THE ATMOSPHERE, OCEAN, SUN, AND SPACE ENVIRONMENT; TO ISSUE WARNINGS AGAINST IMPENDING DESTRUCTIVE NATURAL EVENTS; TO ASSESS THE CONSEQUENCES OF INADVERTENT ENVIRONMENTAL MODIFICATION OVER SEVERAL SCALES OF TIME; TO MANAGE AND DISSEMINATE LONG-TERM ENVIRONMENTAL INFORMATION; TO EXPLORE, MAP, AND CHART THE GLOBAL OCEAN AND ITS LIVING RESOURCES AND TO MANAGE THE USE AND CONSERVATION OF THOSE RESOURCES.

NOAA-1

OBJECTIVE:

DESIGN AND IMPLEMENT THE AGENCY-WIDE CLIMATE AND GLOBAL CHANGE PROGRAM AS NOAA'S CONTRIBUTION TO THE U.S. GLOBAL CHANGE RESEARCH PROGRAM

BACKGROUND:

The long-term goal of NOAA's Climate and Global Change Program is to establish a new national information service based on the achievement of reliable assessments and quantitative predictions of changing global climate with a particular emphasis on time scales ranging from seasons to decades and centuries. NOAA's Climate and Global Change Program is a vital component of the interagency U.S. Global Change Research Program (USGCRP) a high-priority Presidential initiative. The Agency is able to bring its unique talents and special capabilities to bear on some of the Nation's highest scientific priorities identified by the Office of Science and Technology Policy's Committee on Earth and Environmental Sciences (CEES).

In FY 1991, NOAA will expand its efforts to fulfill its responsibilities in the areas of:

- DOCUMENTING EARTH SYSTEM CHANGE with a particular emphasis on information derived from operational satellite and IN SITU observations and ground-based systems to complement environmental satellite missions.

-UNDERSTANDING EARTH SYSTEM CHANGE through mission-directed research focused on some of the highest priorities in the USGCRP with a particular emphasis on ocean-atmosphere interactions, trace gas studies, the global hydrological cycle, and marine ecosystem response;

-MODELLING, ANALYTICAL STUDIES AND PREDICTION with an emphasis on climate prediction on time scales of seasons to decades; and

-DATA AND INFORMATION MANAGEMENT SYSTEM in support of the USGCRP.

NOAA's Climate and Global Change Program will initiate new projects in: Marine Ecosystem Response; Measurement Technique Development and Testing; and Climate Modelling and Analytical Centers.

The hallmark of NOAA's Climate and Global Change Program will continue to be the synthesis of individual monitoring, research, modelling and data management projects into higher-order information products and predictive services. The results of NOAA's efforts will provide NOAA officials, other agencies, the scientific community, the public and decision-makers at all levels with an integrated view of how the Earth's climate system currently behaves and is likely to change in thefuture.
The following milestones identify some of the high-priority activities that will characterize the Climate and Global Change Program in FY 1991.

PLANNED ACTIONS:

- Provide the focus for NOAA participation in the development and implementation of international scientific activities in support of the U.S. Global Change Research Program (continuing) Executive Secretary, Climate and Global Change.

- Review and provide comments on FY 1991 Climate and Global Change core project proposals with external advisory Panel (10/90) Director, Climate and Global Change.

- Allocate FY 1991 core project resources (11/90) Director, Climate and Global Change.

- Conduct annual Climate and Global Change strategic planning meeting with external advisory Panel (2/91) Director, Climate and Global Change.

- Complete detailed NOAA-wide "accounting" of NOAA base program contributions to the U.S. Global Change Research Program (3/91) Executive Secretary, Climate and Global Change.

- Initiate expansion of the TOGA TAO observational array in the tropical Pacific (4/91). TOGA Project Manager

- Develop, through a dialogue with the Coastal Ocean Program, the Climate and Global Change Program, and relevant NOAA line offices, a cohesive, agency-wide scientific strategy for an effective NOAA contribution to studying the global carbon cycle as a high-priority objective of the U.S. Global Change Research Program (5/91) Executive Secretary, Climate and Global Change.

- Complete and begin to implement the science plan for the GEWEX continental-scale international field research project. Working draft of plan (5/91); review by international community completed (9/91). GEWEX Project Manager.

- Complete review of short-term random access proposals submitted in response to the FY 1991 Program Announcement and allocate remaining FY 1991 resources (6/91) Executive Secretary, Climate and Global Change.

- Establish a TOGA Program on (Seasonal to Interannual Climate) Prediction (6/30). TOGA Project Director

- In preparation for FY 1992, complete strategic plans for new Climate and Global Change core projects in Solar Variability, Socio-Economic Studies and Public Education (8/91) Executive Secretary, Climate and Global Change.

- Initiate the enhanced monitoring phase of the TOGA-COARE program (9/91). TOGA Project Manager

- Conduct annual program review with external advisory Panel; FY 1991 core projects to be reviewed include: Radiatively Important Trace Species (RITS), Global Sea Level, TOGA, and Paleoclimate (9/91) Director, Climate and Global Change.

- Initiate comprehensive planning effort for key elements of the long-term development of the USGCRP's global observing system. Include in these plans the data management and data base development components needed to support the program (9/91) Director, Climate and Global Change.

- Complete reorganization of the Office of Global Programs (OGP) and enhance OGP staff as appropriate to implement the FY 1991 Program (9/91) Director, Climate and Global Change.

NOAA-2

OBJECTIVE:

TO IMPLEMENT THE NOAA COASTAL OCEAN PROGRAM TO STRENGTHEN NOAA'S MARINE PROGRAMS AND THE SCIENTIFIC BASIS FOR COASTAL ENVIRONMENTAL DECISION MAKING

BACKGROUND:

NOAA's Coastal Ocean Program has made substantial progress toward identifying and addressing priority marine-related requirements of NOAA line offices. A management structure and protocol is in place to ensure effective development, implementation, and review of program activities. This structure includes the Coastal Ocean Council (Assistant-Administrator representatives from each line office); a National Academy of Science (NAS) science advisory panel to ensure quality science and appropriate involvement of the academic community, and a series of Theme/Implementation Teams to construct, propose, and implement major program elements.

A 9-agency team, lead by COP, has prepared for the Committee on Earth and Environmental Sciences a proposal to support development of a U.S. Coastal Ocean Science Program. The proposed framework outlines a strategy to enhance the scientific basis for assessment and forecasting in support of coastal ocean policy.

The past year saw major progress in forging constructive relationships to address critical management needs of NOAA, such as the Coastal Zone Management program and the Habitat Conservation Program. These relationships will help to ensure that COP is responsive to a rapidly changing suite of coastal issues.

The Director, Coastal Ocean Program Office is responsible for the following planned actions.

PLANNED ACTIONS:

- Implement projects funded in FY91 (12/90).
- Develop Implementation Plan for the Physical Impacts portion of the Coastal Ocean Program (6/91).
- Develop strategies to integrate/synthesize output from relevant portions of COP themes (e.g. toxics, nutrients, habitats, ecosystems) and other programs to fill gaps between monitoring and research findings and management/policy needs (9/91).
- Complete the strategic plan for NOAA's habitat mapping, research, restoration, and protection programs (1/91).
- Prepare a plan for phased implementation of appropriate elements of the strategic habitat plan (9/91).
- Work with the Line Offices and the Climate and Global Change Program to create a strategic approach to NOAA fisheries oceanography using the Ecosystems Response and Dynamics Project (USGCRP) and the Coastal Fisheries Ecosystems Project (NOAA COP) (8/91).

- Through dialogue with other agencies, develop a U.S. Coastal Ocean Science Program that outlines the Nation's strategy for enhancing coastal ocean science (6/91).

- Use the current and proposed Coastal Ocean Program science efforts to support and help define the elements of the most effective modernization of marine programs (6/91).

- Conduct periodic Coastal Ocean Program Science Advisory Group and User Advisory Group meetings and incorporate review comments in program guidance and implementation plans (8/91).

NOAA-3

OBJECTIVE:

IMPLEMENT THE NEW MESOSCALE WEATHER PREDICTION OPERATIONS OF NWS THROUGH AN INTEGRATED NOAA-WIDE EFFORT

BACKGROUND:

This objective complements the more detailed NWS objectives 4-8, elsewhere in this document, which encompass efforts at specific systems implementation in the NWS Modernization. NOAA's fundamental weather mission is to provide warnings to the public about severe weather and floods. In the past, weather prediction as a science has focused on the large ("synoptic") scale, approaching continental dimensions, due to scientific and technological limitations. Most severe weather events, including hurricanes, occur in atmospheric disturbances of lesser geographical scope, called the storm-scale or mesoscale of weather events.

Currently, e.g., flash flood warnings of the National Weather Service announce there severe events in progress. In the modernized NWS of the 1990s new tools such as Doppler radars and more sophisticated satellite sensors can be used to initiate mesoscale numerical models that can predict such severe weather events. The public must have maximum lead time, as well as geographical and reliability, specificity for effective protection. Mesoscale prediction capability will improve weather and flood warnings. Recognizing the enormous social and economic benefits that would be forthcoming from accurate weather forecasts, NOAA has taken the lead in coordinating a national interagency effort (the U.S. Weather Research Program) aimed at: improving weather prediction, increasing scientific knowledge of mesoscale weather, decreasing vulnerability to weather, and enhancing the economic benefit of modernization.

During the 1990s, NOAA must sustain and expand its mesoscale weather prediction. Major investments by NWS, NESDIS, and OAR will be made to upgrade systems and implement new operational procedures. Marine weather hazards pose some of the greatest risks to the public, and user groups of NMFS and NOS can benefit greatly from NOAA's new mesoscale prediction capabilities.

PLANNED ACTIONS:

- Complete a coordinated U.S. Weather Research Plan (STORM), that will develop nationally the strategy to be used to make significant improvements in mesoscale weather forecasting into the next century (1/90). Director, National STORM Program Office (NSPO)

- Complete the plans for the first scale interaction experiments that will be conducted over the central United States in 1993 and 1994. The primary focus of these experiments will be to improve the forecasting of winter and summer storms over the central United States through improved understanding of the structure and dynamics of these storms and how they interact with larger and smaller scales of motion (3/91). (NSPO)

- Working with the universities and other Federal agencies, develop a multi-agency plan and schedule for the selective development of Experimental Forecast activities to expedite the transfer of new mesoscale forecast techniques from research into operations (7/91). (NSPO, OAR, NWS)

- Implement a NOAA-wide strategy to present NOAA's planned mesoscale weather prediction capabilities to the public and user groups (on-going). Director, NWS Transition and Director, National Storm Program Office (NSPO)

- Work with COMET to present an 8-week residence training course (Mesoscale Analysis and Prediction) drawing on the expertise of NWS meteorologists, NOAA scientists and university professors, as instructors (deliver first course 9/91). Director, NWS Office of Meteorology (OM)

- OAR and NWS will work through COMET to produce computer based training modules on such topics as Doppler radar interpretation and Convective Initiation (first module ready for review, 1/91). Director, NWS OM

- Continue installation of wind profilers in the central U.S. and begin intensive meteorological and engineering assessment, in an operational environment, of their data and systems characteristics. (Director, Environmental Research Laboratory [ERL]). Begin building and testing prototype components of Telesonde upper-air sounding system (Directors, ERL, Wave Propagation Laboratory [WPL]). This objective complements the more detailed NWS objectives 4-8, elsewhere in this document, which encompass efforts at specific systems implementation in the NWS Modernization.

NOAA-4

OBJECTIVE:

DEVELOP AND IMPLEMENT THE FRAMEWORK FOR A NOAA-WIDE DATA MANAGEMENT STRATEGY AS A BASIS FOR A LONG-TERM, COORDINATED NOAA DATA AND INFORMATION MANAGEMENT PROGRAM

BACKROUND:

As a major earth science-based agency, NOAA routinely collects large quantities of environmental data to provide information and predictive services, as well as to expand the base of knowledge about the Earth. NOAA also utilizes environmental data collected by other domestic and international organizations.

Scientific and operational data management, an activity that is the responsibility of all NOAA program managers, ranges from the preliminary design of environmental observation or sampling to easily accessible stored data. Instrumentation in the earth sciences continues to advance the rate, sophistication, and quantity of environmental data. The increase in volume, complexity, and need for continuity over time and space, as well as unprecedented interdisciplinary, interagency, and international requirements, all demand a new approach to NOAA-wide data and information management now to avoid approaching information management disasters.

PLANNED ACTIONS:

- Coordinate NOAA-wide data and information management planning with data management activities of NOAA Line and Program Offices (ongoing). Director, Earth System Data and Information Management Program Office

- Define the role of the Data and Information Management Program Office in NOAA and establish its relationship with NOAA's Line Offices and Program Offices (10/90). Deputy Under Secretary for Oceans and Atmosphere

- Define and coordinate NOAA-wide data management policies and standards (3/91). Director, Earth System Data and Information Management Program Office

- Convene a data continuity workshop during Winter, 1990 to identify existing and potential problems in the continuity of NOAA data sets, and plan a national event to address this issue on a much wider scale (3/91). Director, Earth System Data and Information Management Program Office

- Develop and begin to implement a plan for imporving the common elements of data and information management upon which all NOAA's programs depend, including rescue of environmental data at risk of being lost and improving access to NOAA data and information (06/91). Director, Earth System Data and Information Management Program Office

- Assess the current software and hardware systems available in NOAA to manage and distribute environmental data. A requirements study is underway and due to be completed in June 1991. A concept plan for replacing or upgrading NOAA's data and information management systems will be developed by August 1991 (8/91). Chief, NESDIS Data Management Systems Division

- Prioritize the utility of data archived at NOAA's data centers through periodic reviews by panels of external scientists (9/91). Project future scientific needs for NOAA's environmental data through evaluation of requirements established by science working groups. NOAA has recently established the Land Surface, Oceanic Variables, and Atmospheric Science Working Groups (9/91). Assistant Administrator for Satellite and Information Services

- Produce, in concert with NOAA's Line Offices and Program Offices, a FY 1993 budget submission and implementation planfor the NOAA Earth System Data and Information Management Program (9/91). Director, National Oceanographic Data Center

NOAA-5

OBJECTIVE:

DEVELOP AND IMPLEMENT A COMPREHENSIVE APPROACH TO MODERNIZATION OF OPERATIONAL MARINE PROGRAMS TO IMPROVE MARINE PRODUCTS AND SERVICES IN THOSE CASES WHERE IMPROVEMENTS ARE NECESSARY, TO SEEK MAXIMUM PRODUCTIVITY THROUGH AUTOMATION AND STREAMLINING OF OPERATIONS, AND TO ACHIEVE A HIGH LEVEL OF COST EFFECTIVENESS

BACKGROUND:

NOAA's Atmospheric Services Modernization is now well underway, and it is time to begin addressing long-standing deficiencies in NOAA's science services programs dealing with the oceans and the living marine resources within them.

Except where noted, the Deputy Under Secretary, as strategic policy coordinator for operations in the Policy Task Force system, is responsible for the following actions.

PLANNED ACTIONS:

- Hold meetings of the Task Force and its Working Group to develop an effective strategy for modernization of marine programs (11/90).
- Write a stand alone strategic plan for the modernization of marine programs (12/90). Deputy AA, NOS
- Incorporate the goals of the marine program modernization plan into the NOAA Strategic Plan (12/90). Deputy AA, NMFS
- Work with the fleet modernization team to ensure that their goals complement the goals set forth in the marine program modernization plan (1/91). Deputy AA, NWS modernization
- Work with NESDIS to ensure that satellite remote sensing requirements are met through coordination with the marine program modernization effort (1/91). Deputy AA, NESDIS
- Seek National Academy of Sciences and Engineering advice and counsel (2/91).
- Work with other federal agencies and private organizations to ensure appropriate recommendations within the context of all U.S. coastal and ocean programs (2/91).
- Seek Departmental approval (2/91).
- Write a FY 1993 budget initiative to begin modernization based on careful planning (3/91). Deputy AA, OAR
- Begin a facilities program (not including platforms) to implement the objectives of the modernization strategic plan (5/91). Deputy AA, Office of NOAA Corps Operations (ONCO)

NOAA'S

NATIONAL MARINE

FISHERIES SERVICE

NMFS'S MISSION IS TO ACHIEVE A CONTINUED OPTIMUM USE OF LIVING MARINE RESOURCES FOR THE BENEFIT OF THE NATION. THIS MISSION IS ACCOMPLISHED THROUGH FOUR MAJOR AREAS OF ENDEAVOR WITHIN NMFS: RESOURCE SCIENCE, RESOURCE MANAGEMENT, HABITAT CONSERVATION, AND TRADE AND INDUSTRY SERVICES.

NMFS-1

OBJECTIVE:

COASTAL OCEAN PROGRAM - IMPLEMENT ACTIVITIES TO IMPROVE CONSERVATION AND MANAGEMENT OF LIVING MARINE RESOURCES BY PROVIDING INFORMATION ON THE PHYSICAL AND BIOLOGICAL PROCESSES THAT AFFECT THEIR PRODUCTIVITY

BACKGROUND:

NMFS will participate heavily in two major programs within the Coastal Ocean Effort: Coastal Fisheries Ecosystems, and Estuarine Habitats.The goal of Coastal Fisheries Ecosystems research is to reduce the uncertainty in resource conservation and management decisions that results in either unnecessarily restrictive or inadequate regulations on the harvest of fishery resources. Program objectives are: (1) to determine the processes that control recruitment, and the degree to which improved knowledge of these processes can be used for management (e.g., catch quotas); (2) to identify the mechanisms of biological feedback that control populations; and (3) to define interactions of marine populations, within and between trophic levels (e.g., changes in species composition), and mechanisms for using this information in management strategies.

Research will focus on testable hypotheses, developing conceptual and mathematical models, synthesizing past research efforts, and adapting new technologies. Studies will be NOAA-wide, multi-agency and coordinated internationally to utilize the most capable and appropriate expertise available; comparisons will be made among ecosystems and among components (e.g., species) within ecosystems. NMFS projects for FY 1991 focus on the South Atlantic Bight Recruitment Experiment (SABRE), and Bering Sea Fisheries Oceanography of Walleye Pollack (FOCI).

The goals of Estuarine Habitats research are to monitor trends, assess threats, and improve restoration and creation techniques to help resource managers and policy-makers make decisions to protect and enhance the habitats and valuable resources they support. Objectives are to: (1) determine habitat extent and rates of loss; (2) develop the capability to predict consequences of habitat loss and to restore habitat function; and (3) assess function and status of critical habitats and provide information to coasal resource managers.

Habitat research will concentrate on characterizations (e.g., variations in salinity, bottom sediment type, etc.), computer software model development, wetlands and living marine resources data base expansion, and habitat/fisheries trends analysis. A significant effort will be placed on planning and coordinating future research efforts, and evaluating present studies.

PLANNED ACTIONS:

- Coordinate planning of Coastal Fisheries Ecosystems and Estuarine Habitats research (Ongoing). NMFS Senior Scientist
- Develop internal and cooperative Federal/university proposals for ecosystems research (Ongoing). NMFS Senior Scientist
- Participate in NOAA Coastal Ocean Program activities (Ongoing). NMFS Senior Scientist
- Implement Coastal Ocean Program studies (Ongoing) NMFS Science Directors

OBJECTIVE:

CLIMATE AND GLOBAL CHANGE PROGRAM, MARINE ECOSYSTEM RESPONSE - IMPLEMENT ACTIVITIES TO DETERMINE THE EFFECTS OF LONG-TERM GLOBAL CHANGES ON LARGE AQUATIC ECOSYSTEMS

BACKGROUND:

Global-scale climate and related environmental changes may produce major alterations in the marine environment and the valuable resources they support. Characterizing, quantifying and anticipating the response of natural ecosystems to such changes was identified as a high priority objective of the U.S. Global Change Research Program work on Ecological Systems and Dynamics. NOAA's expertise and regulatory responsibilities extend to living marine resources, thus it is particularly important to assess ecosystems changes that are attributable to climate change.

The NMFS Marine Ecosystem Response Project is designed to determine whether, and how, large aquatic systems and their living resources may be altered directly by changes in atmospheric gasses, solar radiation, temperature, precipitation, and sea-level, and, indirectly, by changes in large-scale circulation, vertical mixing, and nutrient transport and regeneration. It will also seek to determine if changes are already occurring. The project involves (1) retrospective analyses; (2) long-term monitoring, including methodological studies to improve accuracy and reliability; (3) focused process studies of how climatically-induced physical forcing alters the biological characteristics of ecosystems most likely to be sensitive to climate change (the Bering Sea, the North Atlantic, the Great Lakes and coastal upwelling of the California Current); and (4) modeling, including interdisciplinary systems models.

PLANNED ACTIONS:

- Coordinate planning and NMFS management of ecosystem activities and studies through the NOAA Climate and Global Change Ecosystems Working Group (Ongoing). NMFS Senior Scientist

- Establish a permanent scientific advisory committee to ensure program oversight and involvement of the academic community (2/91). NMFS Senior Scientist

- Develop internal and cooperative Federal/university proposals for ecosystems research (Ongoing). NMFS Senior Scientist; Science Directors

- Participate in appropriate U.S. Global Change Research Program activities (Ongoing). NMFS Senior Scientist

- Implement initial-year ecosystems research as appropriate, pending FY 1991 Climate and Global Change Program funding (5/90). NMFS Senior Scientist; Science Directors

NMFS-3

OBJECTIVE:

MANAGEMENT OF ENVIRONMENTAL DATA - INTEGRATE COMMON ELEMENTS OF DATA AND INFORMATION MANAGEMENT THROUGH TECHNOLOGY MODERNIZATION

BACKGROUND:

NOAA's Earth System Data and Information Management (ESDIM) has two major objectives: (1) to rescue critical NOAA environmental data currently at risk of being lost due to deterioration of storage media and outmoded data handling equipment; and (2) to make NOAA's data and information accessible.

Within NMFS, most computer systems supporting science programs are obsolete, costly, and do not support future growth in data bases and analytical requirements. Such growth is expected to result from increasing requirements for many kinds of information that must be collected and managed for decisions on living marine resources: observer programs; catch and effort data, including fishery bycatch and incidental take of protected species; socioeconomic data; biological information; and the basic oceanographic (environmental) data that will be needed to develop models for predicting changes in the fisheries and marine ecosystems.

PLANNED ACTIONS:

- Participate in appropriate NOAA ESDIM Program planning and management activities (Ongoing). Director, Office of Research and Environmental Information
- Obtain and install Phase I of a new nationwide computer system (9/91). Director, Office of Research and Environmental Information
- Install FTS2000 wide-area network (WAN) linking agency management and research facilities (1/91). Director, Office of Research and Environmental Information
- Participate as appropriate in ESDIM documentation and publishing activities (Ongoing). Director, Office of Research and Environmental Information
- Develop procedures to identify NOAA data sets that are of importance to fishery research and management (Ongoing). Director, Office of Research and Environmental Information

OBJECTIVE:

FISHERY RESOURCE CONSERVATION AND MANAGEMENT - IMPLEMENT PROGRAMS TO IMPROVE THE STATUS OF U.S. FISHERY RESOURCES

BACKGROUND:

Under the Magnuson Fishery Conservation and Management Act goal of "Americanization", the nation's fishery resources are almost fully utilized, and many fish stocks have suffered from excessive fishing effort. Increasing competition for limited resources has resulted in conflicts among users (commercial vs. recreational, between fishing gears and practices, at-sea vs. shoreside processors, and among states and between nations). The increase in effort also often involves significant incidental catches of nontarget and protected species.

There has been widespread concern that current monitoring efforts yield insufficient data, frequently resulting in management regulations that are inadequate to conserve resources, or unnecessarily restrictive. The emergence of advanced management regimes, such as controlled access, and new requirements to scientifically define overfishing for managed species and to provide stock assessment and fishery evaluation (SAFE) reports, in turn will require improvements in state-Federal, international, and other cooperative data collection and management systems. New management systems will also improve efforts to gain compliance with regulations.

PLANNED ACTIONS:

- Work closely with the Regional Fishery Management Councils and Interstate Marine Fisheries Commissions to ensure that proposed management measures are adequate, appropriate, and consistent with 602 guidelines, and enforceable (Ongoing). All Regional Directors

- Continue efforts to implement Individual Transferable Quotas or other controlled access schemes in appropriate fisheries (Ongoing). Director, Office of Conservation and Management; All Regional Directors

- Develop coordinated national and Regional strategic plans to identify priority needs, define goals and objectives, and develop regimes for providing the information and services needed for wise management (Ongoing). NMFS Senior Scientist

- Improve the international framework for the conservation of those transboundary resources that require international cooperation and commitment to maintain their productivity (Ongoing). Director, Office of International Affairs

- Implement streamlined procedures to facilitate the delegation of authority to the Assistant Administrator for Fisheries (Ongoing). Director, Office of Conservation and Management

- Develop procedures to improve enforcement effectiveness (Ongoing). Director, Office of Enforcement

- Monitor the effectiveness of fishery management regulations and activities to improve NMFS science, management and enforcement, through quarterly reports on significant actions to the

DOC Office of Program Planning and Evaluation (3/91; 6/91; 9/91). Director, Office of Conservation and Management

- Strengthen assessments of the status of fish stocks and their fisheries, from both biological and economic perspectives, through production of a national annual Status of Stocks Report to the DOC Director for Budget and Planning and Organization (9/91). NMFS Senior Scientist

NMFS-5

OBJECTIVE:

FISHERY HABITAT PROTECTION - FULLY IMPLEMENT NMFS HABITAT POLICY; ACHIEVE NO NET LOSS OF LIVING MARINE RESOURCE HABITAT

BACKGROUND:

The United States is currently losing 275-400 thousand acres of wetlands annually, of which approximately 40 thousand are intertidal wetlands (excluding Alaska). In the U.S., only 95 million acres of the original 215 million remain.

Under the auspices of the Domestic Policy Council, Federal water resources agencies, including NOAA, EPA, the Corp of Engineers and Interior's Fish and Wildlife Service, are examining how to be responsive to President Bush's stated goal of "no net loss of wetlands". NMFS, through implementation of its Habitat Conservation Program, is entirely supportive of this goal especially as it applies to habitats essential to fishery and other living marine resources.

Responses to agency concerns on the Department of Commerce proposed draft amendments to the Fish and Wildlife Coordination Act (FWCA) have been forwarded to OMB. We anticipate Administrative transmittal of the proposed amendments to the Second Session of the 101st Congress.

PLANNED ACTIONS:

- Develop program guidance in response to recommendations derived from the Internal Control Review of NMFS interaction with the Corps of Engineers Section 10/404 permitting decisions which affect habitat (12/90). Director, Office Protected Resources

- Carry out program activities in accordance with Commerce-Army Section 404(q) Memorandum of Agreement [MOA] (12/90). Director, Office of Protected Resources

- Submit for approval of the Under Secretary a NMFS-Corps of Engineers agreement and Program Plan to restore and create habitats (10/90). Director, Office of Protected Resources

- Conduct a national testing of regulatory compliance with NMFS recommendations to protect essential fishery habitats (9/91, subject to funding). Director, Office of Protected Resources

- Work with the Councils to strengthen "Habitat" sections of FMPs; utilize MFCMA authority and Council habitat positions to conserve fisheries through habitat protection, mitigation, and restoration (Ongoing). All Regional Directors

- Continue efforts with Superfund trustees to plan effective use of Superfund settlements in conservation and restoration of fishery resources (Ongoing). Regional Directors, as appropriate

- Develop implementation strategy for applying Superfund settlements to planned restoration efforts (Ongoing). Director, Office of Protected Resources

- Assess impacts and monitor trends of chemical contaminants in marine habitats as a leading participant in NOAA's Coastal Ocean Program (Ongoing). Science Directors, as appropriate

- Implement a public and constituent education program (6/91). Director, Office of Protected Resources

NMFS-6

OBJECTIVE:

IMPROVE SEAFOOD SAFETY - IMPLEMENT PROCEDURES AND SYSTEMS TO REDUCE HUMAN HEALTH RISKS ASSOCIATED WITH FISHERY RESOURCES, AND ENHANCE THE COMPETITIVENESS OF U.S. SEAFOOD PRODUCTS IN WORLD MARKETS

BACKGROUND:

Most seafood is safe, wholesome and of high quality. However, improper handling and contaminants can lessen quality and threaten human health. The perception of a health risk can cause significant economic loss, as when an oil spill reduces consumer demand. Unsafe products may result from contamination by biotoxins, chemicals and bacteria in the environment; and/or poor handling onboard fishing vessels, during processing, during shipping or retailing, or by restaurants or consumers.

Increasing pressure by consumer activists, several trade associations, and the seafood industry concerning seafood safety, wholesomeness, and labeling have resulted in significant seafood-inspection legislative proposals. The sale of seafood harvested from polluted waters and of adulterated or mislabeled fishery products is injurious to the public welfare and destroys markets for properly labeled fishery products.

The Congressionally mandated Model Seafood Surveillance Project (MSSP) recommended development of the Hazard Analysis Critical Control Point (HACCP) inspection system for all fishery products. Workshops to train inspectors in HACCP methodology were held in August 1990, preparatory to integrating it into the present voluntary inspection program.

PLANNED ACTIONS:

- Conduct research on analytical methodologies for assaying the quality, safety and accurate labeling of U.S.-produced seafood (Ongoing). NMFS Science Directors

- Complete the Model Seafood Surveillance Project draft final report (1/91). Director, Office of Trade and Industry Services

- Implement the new voluntary HACCP Inspection Program jointly with the FDA (Ongoing). Director, Office of Trade and Industry Services

- As head of the U.S. delegation, organize, identify priorities and positions, and participate in the U.S. Bilateral Technical Consultation on Seafood Inspection (Ongoing). Director, Office of Trade and Industry Services

- Schedule, organize and attend meetings of the Work Group on Harmonization of Fishery Product Standards and Inspection under the U.S.-Canada Free Trade Agreement (FTA); develop and present U.S priorities, in consultation with industry (Ongoing). Director, Office of Trade and Industry Services

- Complete development of a joint mandatory seafood inspection system (Ongoing). Director,Office of Trade and Industry Services

NMFS-7

OBJECTIVE:

INTEGRATE MANAGEMENT OF FISHERIES AND PROTECTED SPECIES - IMPLEMENT MEASURES TO REDUCE IMPACTS OF FISHERIES AND OTHER HUMAN ACTIVITIES ON PROTECTED SPECIES

BACKGROUND:

Living marine resources that are afforded protection under the Marine Mammals Protection Act (MMPA) and the Endangered Species Act (ESA) are known as "protected species". Specifically, the 1988 Amendments to the MMPA require assessing the populations of marine mammals as well as the level of incidental take per fishery to determine measures necessary to conserve the populations through fisheries management. Fishery resources and protected species are interactive members of the same ecosystems. Protected species are sometimes taken in fishery operations, and some of these eat the same species as fishermen catch. The NMFS has legislative mandates to conserve, manage, and protect both fishery resources and protected species, but these responsibilities and the activities that support them must be better integrated to be effective.

The ESA requires NMFS to develop and implement recovery plans for species that are listed as endangered or threatened; these are prepared with the assistance of expert recovery teams, following guidelines that include a priority setting system for plan management and implementation tasks. Historically, NMFS has focused much of its ESA effort on sea turtles and some marine mammals. Recently, however, there have been many requests to add separate "stocks" of Pacific salmon to the list of protected species. Listing of these stocks may cause problems since it is difficult to distinguish these from other, non-listed stocks.

Another major concern focuses on the incidental take of protected species in both domestic and foreign fisheries. For example, the MMPA requires nations fishing for tunas that school in association with porpoise using purse seine gear to have a marine mammal regulatory program comparable to the U.S. program, leading to increased international efforts to eliminate porpoise mortality. Other efforts are directed toward reducing the mortality of endangered and threatened sea turtles associated with domestic and foreign shrimp trawl fisheries, and reducing other, non-fishing interactions (e.g., feeding dolphins) that threaten wild stocks of dolphin.

PLANNED ACTIONS:

- Implement procedures to improve training and deployment of observers on domestic and foreign fishing vessels (Ongoing). All Regional Directors

- Develop and implement recovery plans for endangered or threatened species (Ongoing). Director, Office of Protected Resources

- Develop and implement procedures to regulate interactions between marine mammals and humans that threaten the health of marine mammal populations (Ongoing). Director, Office of Protected Resources; Director, Office of International Affairs

- Conduct regional data collection programs, through observer and scientific studies and the exempted fishery program, to establish data bases for determining the status of protected species and respective fishery interactions (Ongoing). All Regional and Science Directors

- Determine the status, as necessary, of species requested to be listed under the Endangered Species Act (Ongoing). Regional Directors; Science Directors, as appropriate

NMFS-8

OBJECTIVE:

AGENCY MANAGEMENT - DEVELOP LONG-TERM REGIONAL, PROGRAMMATIC, AND HEADQUARTERS OPERATIONS PLANS TO IMPLEMENT THE NMFS STRATEGIC PLAN AND COORDINATE WITH OTHER NOAA PLANNING EFFORTS

BACKGROUND:

Rapid expansion of fisheries and other uses of living marine resources, degradation of fishery habitats, increased international relationships, and concern for the safety and quality of seafood have led to the agency's review of its effectiveness in conserving resources for which it is responsible. In keeping with NOAA policy for Total Quality Management to effect sound agency administration, NMFS has initiated a course of comprehensive planning and evaluation, beginning with the NMFS Strategic Plan, developed in FY 1990.

The plan sets forth nine goals, with strategic objectives to accomplish them, to guide agency decisions and policies. It seeks to modernize operations, provide efficient administration of research and management activities, including grant programs, and communicate clearly, not only internally, but also with NOAA, other government agencies, Congress, the fisheries constituencies and the general public. It maintains and improves NMFS human capital through leadership development, outlines strategies to train employees and make them more productive, and addresses development of the technological competence needed in an increasingly complex management environment. Achieving the goals of the Strategic Plan will require careful coordination of NMFS regional programs, and close linkage with other NOAA Line Offices through the NOAA Strategic Plan, and with other organizations that conduct research that supports NMFS' mission.

PLANNED ACTIONS:

- Establish agency mechanisms for coordinating planning and evaluation activities among the regions and with headquarters, and with other NOAA planning elements (12/90). NMFS Senior Scientist

- Develop draft regional and headquarters office five-year plans that indicate how resources and program activities will achieve Strategic Plan goals and objectives (9/91). NMFS Senior Scientist; All Regional Directors

- Develop a system to monitor performance of headquarters offices and the regions, relative to the Strategic Plan (Ongoing). Director of Management Services

- Develop budget strategies to make optimal use of available funds and provide additional resources to accomplish Strategic Plan objectives (Ongoing). Deputy Assistant Administrator

- Improve NMFS grants management (Ongoing). All NMFS Directors

- Work with other NOAA Line Offices to develop a long-term NOAA-wide Marine Programs Modernization initiative (3/91). Deputy Assistant Administrator

OBJECTIVE:

HUMAN CAPITAL IMPROVEMENT - DEVELOP PROGRAMS AND ACTIVITIES AT THE REGIONAL AND HEADQUARTERS LEVELS TO IMPROVE TECHNICAL AND PROFESSIONAL EXPERTISE AND RECRUIT HIGH-QUALITY PERSONNEL

BACKGROUND:

The agency's most important products are credible scientific information and sound conservation decisions. These products are dependent on the people that make up NMFS. There are widespread concerns that the external pool of highly-trained professionals needed to manage the Nation's living marine resources is too small, not sufficiently diversified to represent America's work force, and more likely to choose non-government careers. Additionally, the internal reservoir of trained managers has been narrowed by past hiring constraints, heavy attrition, and inadequate professional growth opportunities.

In spite of budget constraints, NMFS must invest in staff training and development, and recruitment of high-quality personnel. The regions and headquarters must find new opportunities to cooperate with universities, professional organizations, and other government agencies to attract promising individuals into the profession and the agency. It is especially important to develop training, hiring and growth opportunities for minorities and women, who are badly represented in the resource management work force. And finally, the agency must establish an organizational environment that will attract individuals with talent and promise, and help its people fully realize their potential to contribute to fishery science and management.

PLANNED ACTIONS:

- Develop strategies to foster career ladders for NMFS personnel, especially in areas that will contribute to solving fishery management problems (Ongoing). Regional, Science and Office Directors; NMFS Senior Scientist

- Provide new opportunities for NMFS personnel at all levels to make scholarly contributions to the field of fishery science and management (Ongoing). Regional, Science and Office Directors; NMFS Senior Scientist

- Increase opportunities for NMFS personnel to participate in the recruitment of young people, especially minorities and women, into the field of fishery science (Ongoing). Regional, Science, and Office Directors

- Develop cooperative arrangements with regional colleges, universities, and other NOAA units to undertake needed research and provide educational opportunities for promising students in ocean sciences (Ongoing). Science Directors; NMFS Senior Scientist

- Seek opportunities for NMFS employees to promote government service in resource conservation and expand the public awareness of the NOAA and NMFS missions (Ongoing). Regional, Science and Office Directors

- Develop activities in the work place that encourage employee feedback to management, foster personal commitment to the agency, and improve morale overall (Ongoing). Regional, Science and Office Directors

NOAA'S

NATIONAL OCEAN

SERVICE

NOS'S MISSION IS TO PROVIDE SCIENTIFIC AND MANAGEMENT PROGRAMS THAT: PROVIDE AERONAUTICAL AND NAUTICAL CHARTS AND TIDE TABLES; A NETWORK OF GEODETIC CONTROL AND PROCEDURES; AND, WORKING WITH STATE AND LOCAL GOVERNMENTS, PROGRAMS IN PHYSICAL, BIOLOGICAL, AND CHEMICAL OCEANOGRAPHY THAT ASSESS AND PRESERVE THE HEALTH OF THE NATION'S COASTAL, MARINE, AND ESTUARINE RESOURCES; AS WELL AS THE MONITORING AND PREDICTION OF THE GLOBAL OCEAN ENVIRONMENT.

NOS-1

OBJECTIVE:

MODERNIZE BASIC OCEAN SERVICES

BACKGROUND:

Investment in new technology to support NOS programs has lagged in recent years. Aging systems and equipment are now seriously impacting NOS' ability to meet basic statutory responsibilities. Several program initiatives are underway to correct these deficiencies. Foremost among these is a major effort to modernize all phases of the nautical charting program — from data collection through compilation, printing, and distribution. Another major effort is to acquire and deploy a new National tide and water level network. Future plans include upgrading and expanding basic oceanographic data collection systems. Many of NOS' upgrades are tied to upgrades of other NOAA facilities (e.g., ships).

PLANNED ACTIONS:

- Continue Modernization of Nautical Charting and Coastal Mapping Programs. Outfit NOAA Ship DAVIDSON with HDAPS (6/91) and complete data collection for 50 charts needed for ANCS II trial production (9/91). Director, Office of Charting & Geodetic Services

- Continue Progress Toward Implementation of Next Generation Water Level Measurement System (NGWLMS). Contract for the fifth set of 50 production field units (6/91) and continue installation of third set of 50 field units (9/91). Director, Office of Oceanography & Marine Assessment

- Continue Development of the Next Generation of Shipboard Environmental (Data) Acquisition System (SEAS). Develop capability to routinely compare statistics of SEAS reports at the National Centers and take action to remedy discrepancies (7/91). Director, Office of Ocean Services

- Develop Requirements for Upgrades to the Digital Ice Forecasting and Analysis System (DIFAS). Implement initial operating capability for DIFAS (9/91). Director, Office of Ocean Services

- Develop and Implement Capabilities at the NOAA Center for Ocean Analysis and Prediction (COAP) to Use Coastal Ocean Radar (CODAR) Systems to Provide Real-Time Mapping of Coastal Ocean Circulation and Nearshore Wave Fields. Provide near real-time distribution of CODAR products to support NOAA's Coastal Ocean Program and related users (3/91). Director, Office of Ocean Services

NOS-2

OBJECTIVE:

STRENGTHEN THE APPLIED OCEAN SCIENCE PROGRAM

BACKGROUND:

A strong, interdisciplinary oceanographic program is critical to expanding our knowledge base and advancing our understanding of the ocean system. It is our goal to incorporate the best available scientific understanding and techniques into our operational data collection, monitoring, assessment, and prediction activities. Particular efforts will be directed toward the NOS geodesy program, circulation program, global sea-level program, and the developing global ocean observation network. Cooperative research projects and planning will be undertaken with NOAA research laboratories.

PLANNED ACTIONS:

- Strengthen Very Long Baseline Interferometry (VLBI) to Support Geodesy and Earth Sciences. Reduce VLBI data and provide reports to the U.S. Naval Observatory (12 times/Qtr). Director, Office of Charting & Geodetic Services

- Coordinate U.S. Intergovernmental Oceanographic Commission (IOC) and Integrated Global Ocean Services System (IGOSS) Activities. Prepare for and participate in the IOC Executive Council and Assembly (3/91). Host IGOSS-International Oceanographic Data & Information Exchange (IODE) meeting (11/90). Director, Office of International Affairs

- Conduct Circulation Program and Modelling Studies. Furnish EPA 3-dimensional model for Long Island Sound and assist with development of preliminary management plan (11/90). Complete circulation survey of Tampa Bay and complete sensitivity analysis of Tampa Bay 3-dimensional circulation model (9/91). Director, Office of Oceanography & Marine Assessment and Director, Office of Ocean Services

- Conduct Ocean Minerals Research in Support of Licensing Program. Contingent on availability of suitable vessel, conduct field experiment to investigate potential chronic impacts of deep seabed mining on the benthic community (TBD). Director, Office of Ocean & Coastal Resource Management

- Design Research Program for the National Marine Sanctuary Program (NMSP). Complete the final NMSP Plan (9/91). Director, Office of Ocean & Coastal Resource Management

- Strengthen National Marine Sanctuary Program On-Site Research Support. Provide on-site research coordinators or sanctuary managers as needed for seven (7) National Marine Sanctuaries (8/91). Director, Office of Ocean & Coastal Resource Management

- Improve the Quality Control on All NOS Data, Analyses and Products. Install hardware and software for an improved Quality Improvement Performance System (QUIPS II) (3/91). Director, Office of Ocean Services

- Work With Science Community on Scope, Type, and Frequency of Global Ocean Observations.

Develop science based strategy for basin-wide Pacific Expendable Bathythermograph (XBT) observing program (6/91). Director, Office of Ocean Services

- Strengthen NOS Oceanography Program. Increase the flow of real-time coastal ocean observations through the development of low-cost PC systems to handle coastal marine observations, quality control, data transmission, processing, and display (6/91). Director, Office of Ocean Services

- Implement Modeling Studies to Enhance Understanding of the Ocean Sciences. Initiate development of regional and coastal ocean wave models at the NOAA Center for Ocean Analysis and Prediction (COAP) and prepare a Development Plan for implementation of operational, high-resolution shallow-water, spectral wave forecast models (3/91). Implement and test a high resolution, coupled ocean-atmosphere circulation model for the eastern North Pacific (9/91). Director, Office of Ocean Services

- Develop NOS Satellite Remote Sensing Capability. Establish a Technical Development Plan for NOS's satellite oceanography program (9/91). Director, Office of Ocean Services

- NOS and the U.S. Geological Survey, through their Joint Office of Mapping and Research (JOMAR), will continue to support and provide scientific and technical guidance to the Pacific Mapping Program, University of Hawaii (on-going). Deputy Assistant Administrator

- NOS will continue to provide support to the NOAA Chief Scientist for National Academy of Sciences activities, particularly NOAA efforts with the Marine Board and the Ocean Studies Board (on-going). Deputy Assistant Administrator

NOS-3

OBJECTIVE:

DIRECT SCIENCE/INFORMATION TOWARD COASTAL AND OCEAN MANAGEMENT NEEDS

BACKGROUND:

The development of and increasing population pressures in coastal areas have greatly increased the requirements for more detailed and timely information for decision-makers at all levels of government. NOS will expand its focus and direct its efforts to develop cost effective and easy-to-use systems for disseminating data and information to users. Efforts will be directed at the development of new interactive work stations and Geographic Information Systems (GIS) capabilities and the establishment of a National Ocean Communications Network for dissemination of products.

PLANNED ACTIONS:

- Continue North American Vertical Datum (NAVD 88) Network Adjustment Project. Complete the final adjustment for NAVD 88 (12/90). Director, Office of Charting & Geodetic Services

- Improve User Access to National Geodetic Survey Integrated Data Base (NGSIDB). Provide on-line access to NGSIDB and relocate distribution to the Rockwall Building (9/91). Director, Office of Charting & Geodetic Services

- Continue Exclusive Economic Zone (EEZ) Mapping Program. Compile for printing 20 bathymetric maps of the EEZ using multibeam data (5/Qtr). Director, Office of Charting & Geodetic Services

- Participate in Bilateral and Multilateral Scientific Efforts to Support Coastal and Ocean Management Decision-making. Coordinate participation in the international development of a global ocean observatory system that includes coastal monitoring (Ongoing). Director, Office of International Affairs and Director, Office of Ocean Services

- Publish Strategic Assessments of the Quality of Coastal and Ocean Resources and Environment. Complete reports on the magnitude and extent of biological effects of toxic contamination in Boston Harbor and San Francisco Bay (3/91). Publish the second annual report assessing the state of environmental quality of the Nation's coastal oceans (8/91). Director, Office of Oceanography and Marine Assessment.

- Develop New Geographic Information Systems for Effective Dissemination of Coastal and Ocean Environmental Data. Initiate implementation of the Coastal Ocean Management Planning, & Assessment System (COMPAS) in the state of Florida (3/91), and complete implementation of COMPAS desktop information management system for State of Texas (9/91). Develop and implement a relational data base management system to support NOAA's Coastal Ocean Program (3/91). Director, Office of Oceanography & Marine Assessment and Director, Office of Ocean Services

- Expand and Enhance the NOAA Ocean Communications Network (NOCN). Implement NOCN service at the Pacific Marine Environmental Lab (3/91), the NMFS Bay St Louis facility (7/91),

and the NMFS La Jolla facility (9/91). Director, Office of Ocean Services

- Implement State and Local Portions of Ocean Data Collection Platform Inventory. Initiate follow-up survey of the state and local platform inventory (3/91). Director, Office of Ocean Services

- Fulfill Requirements of NOAA/Navy Memorandum of Understanding (MOU). Lead NOAA effort to establish 3 new MOUs with the Navy in the following areas: Operational Centers, Data/ Product Communications, and Ocean Observations (3/91). Director, Office of Ocean Services

- Publish a special report on the magnitude and distribution, by county and by estuary, of coastal wetlands of the conterminous U.S. (2/91). Director, Office of Oceanography and Marine Assessment.

- Publish a national summary of pesticide use in coastal areas, including pesticide hazards to estuarine ecosystems, and specific coastal areas impacted (7/91). Director, Office of Oceanography and Marine Assessment

- Complete development and testing of latest NOAA air dispersion model for toxic substances (ALOHA 5.0) and deliver to National Safety Council for distribution (12/90). Revise NOAA oil spill planning and response strategy to accommodate new directives from The Oil Pollution Act of 1990 (6/91). Director, Office of Oceanography and Marine Assessment

- Work with the Environmental Protection Agency on Assessment of Toxic Pollutants in the Marine Environment. Complete report on results from joint NOAA/EPA coastal environmental monitoring activities (9/91). Director, Office of Oceanography and Marine Assessment

NOS-4

OBJECTIVE:

ENSURE EFFECTIVE COASTAL AND OCEAN MANAGEMENT

BACKGROUND:

Through a number of programs such as the Coastal Zone Management (CZMA) program, NOS has a tremendous opportunity to advance NOAA interests toward better management of coastal and ocean resources. Efforts will be directed toward strengthening the Federal-state partnership under CZMA and building closer cooperative ties with EPA, Interior's Minerals Management Service (MMS) and U.S. Geological Survey (USGS), and the "coastal community." Closer internal coordination will also be pursued with other NOAA Line offices, particularly NMFS.

PLANNED ACTIONS:

- Ensure Effective Implementation of CZMA Amendments, Contingent on September 30, 1990, Reauthorization and New Appropriation Levels. Complete final guidance, expand technical assistance program and undertake analysis of state coastal programs since Federal approval (9/91). Director, Office of Ocean & Coastal Resource Management

- Maintain the Basic National Geodetic Reference System (NGRS) Network by Incorporating State High Precision Networks. Complete final adjustment into the NGRS for five states (6/91). Director, Office of Charting & Geodetic Services

- Participate in Bilateral and Multilateral Activities to Promote Effective Coastal and Ocean Management. Participate in U.S. AID/University of Rhode Island international CZM program, Coastal Zone '91 conference, Pacific Congress on Marine Science and Technology 12th International Conference on The Coastal Society, and International Maritime Organization activities (9/91). Participate in international initiatives to provide training and assistance to other countries in developing comprehensive coastal zone management plans multilaterally and bilaterally (2/91); Develop cooperative international programs and workshops in planning and management of marine-protected areas; Coastal disaster response and hazard mitigation. (9/91) Director, Office of Ocean & Coastal Resource Management and Director, Office of International Affairs

- Complete capability to provide satellite and conventional oceanographic observations and tailored products to support "dump site 106" monitoring activities (11/90). Director, Office of Ocean Services

- Increase Coordination with Department of Interior - Minerals Management Service (MMS). Support tidal datum and baseline determinations (9/91). Establish interagency agreement with MMS's Pacific Outer Continental Shelf Office to incorporate historical MMS-sponsored oceanographic and atmospheric data into the COAP data base management system (3/91). Director, Office of Oceanography & Marine Assessment and Director, Office of Ocean Services

- Provide Engineering and Scientific Services to Selected Federal and State Agencies. Conduct cooperative projects that provide special tidal information products to U.S. Navy facilities (3/91

& 9/91). Director, Office of Oceanography & Marine Assessment

- Assist the State of Texas in the Establishment of Local Real-Time Water Level Measurement Networks in Support of the State's Coastal Hazards Program and Coastal Datum Determinations. Establish real-time water level networks in Corpus Christi Bay (11/90) and Galveston Bay (11/91). Director, Office of Oceanography & Marine Assessment

- Improve Field Operational Capabilities of National Marine Sanctuaries and National Estuarine Research Reserves (NERRS). Augment management staff at four National Marine Sanctuaries (3/91) and improve on-site state management of all NERRS (9/91). Director, Office of Ocean & Coastal Resource Management

- Revise the Natural Resources Based Site Evaluation List for National Marine Sanctuaries. Meet with Federal, state and local agencies, affected interest groups and the general public and complete information analysis concerning changes to the SEL (5/91). Director, Office of Ocean & Coastal Resource Management

- Conduct Joint National Science Foundation/NOAA Marine Education Project and produce Curriculum Materials for Elementary Schools on USS MONITOR National Marine Sanctuary. Prepare final curriculum materials and present at National Science Week (4/91). Director, Office of Ocean and Coastal Resource Management

- Ensure Effective Management of Coastal Zone Management Act (CZMA). Conduct annual Coastal Program Managers Meeting (4/91) and produce one technical assistance bulletin and a "Citizens Guide to Participation" in the CZM Program (9/91). Director, Office of Ocean & Coastal Resource Management

- Support NOAA's Fisheries Enforcement Activities. Provide training in the analysis and interpretation of satellite and physical oceanographic data for fisheries enforcement applications (7/91). Director, Office of Ocean Services

- NOS will provide leadership representing NOAA and the Department, in the development of Federal policies to better manage marine and coastal resources. These efforts support the President's goals for no-net-loss of wetlands and protection of water quality and the marine environment. Activities will include participation on the Domestic Policy Task Force on Wetlands and the interagency task group developing a National Marine Protection Policy (on-going). Assistant Administrator

- Improving interaction and coordination between NOS programs and other Federal agencies will strengthen our respective coastal and ocean resource management efforts through increasing efficiency and effectiveness. During FY 1991, NOS will continue to work toward development of an interagency coastal resource management initiative focused on Federal management activities in habitat protection, contaminated sediments, and non-point source pollution. In addition, NOS will represent NOAA in coordinating with the Department of Interior's National Water Quality Assessment program and the Department of Agriculture's Water Quality Program (on-going). Assistant Administrator

NOS-5

OBJECTIVE:

CONTRIBUTE TO THE PROTECTION OF LIFE AND PROPERTY

BACKGROUND:

NOS makes a primary contribution to protecting the life and property of those who live and work around the coastal and offshore waters of the nation, as well as users of the national airspace. Through a range of programs including the nautical and aeronautical charting program, Hazardous Materials (HAZMAT) program, tide and water level program, ice forecasting program, and coastal hazards program, NOS provides products and services to make the coastal and ocean areas a safe environment. During the year major efforts will be directed at updating nautical charts, expanding support for hazardous spills, and strengthening coastal hazard planning and coordination. Cooperative activities with National Weather Service will be continued in the areas of storm surge and in high seas and ice forecasting and prediction.

PLANNED ACTIONS:

- Continue Modernization of Aeronautical Charting Program. Prepare and distribute the 2nd prototype compact disk-read only memory (CD-ROM) (1/91). Director, Office of Charting & Geodetic Services

- Produce Timely and Accurate Aeronautical Charts. Meet National Airspace System FAA requirements every 56 days. Director, Office of Charting & Geodetic Services

- Produce Timely and Accurate Nautical Charts. Produce 380 new chart editions for printing (95/Qtr). Director, Office of Charting & Geodetic Services

- Develop a capability to provide satellite and conventional oceanographic observations and tailored products to support HAZMAT (5/91). Director, Office of Ocean Services

- Produce National Tide Tables and operate National Water Level Observations Network. Furnish special tide and water level predictions to 48 National Weather Service Forecast Offices (9/91). Director, Office of Ocean Services

- Expand and Maintain Coverage and Services Provided by the Joint Ice Center (JIC) and NOAA's Ocean Products Center. Work with NWS/National Meteorological Center (NMC) to implement an interactive computer worded high seas forecast capability for the Atlantic and Pacific (5/91). Manage the U.S./Canada Joint Ice Working Group. Implement the communications link between JIC and Ice Centre Environment Canada to exchange ice products and data (5/91). Director, Office of Ocean Services, Director, International Affairs

- In conjunction with the South Carolina Sea Grant and Coastal Zone Management Programs, NOS will conduct a workshop to evaluate NOS hurricane/natural disaster response capabilities using Hurricane HUGO as a "case study" (3/91). The Sea Grant Program will prepare a follow-up report providing recommendations for improving NOS emergency response capabilities (9/91). Deputy Assistant Administrator and Director, Office of Ocean and Coastal Resource Management.

NOS-6

OBJECTIVE:

IMPLEMENT THE TECHNICAL ASPECTS OF NOAA'S NATURAL RESOURCE TRUSTEESHIP UNDER THE SUPERFUND AND OIL POLLUTION ACTS

BACKGROUND:

In implementing NOAA's natural resource trustee responsibilities under the Superfund Act, NOS' Coastal Resource Coordination program has evaluated nearly 500 coastal hazardous waste sites since 1984 and concluded that approximately half of them may pose a threat to marine and coastal resources. NOAA's new Damage Assessment and Restoration Center, a joint operation that combines the scientific capabilities of NOS and the legal expertise of the General Counsel's Office, is now using this information to pursue damage claims against identified potentially responsible parties.

Building on experience gained from NOS' prototype damage assessment of the 1978 AMOCO CADIZ oil spill and its landmark 1983 Superfund case in New Bedford, Massachusetts, the Center is developing assessment plans for two major West Coast cases filed in the spring and summer of 1990 and evaluating the technical merits of the other potential cases on all three coasts. It has also played a key role in organizing Federal/state efforts to determine injury and assess damages from a series of major oil spills that occurred in 1989 and 1990. All natural resource damages recovered under the Superfund and Oil Pollution Acts must be used to restore, replace, or acquire the equivalent of the injured and resources.

The Center, working in close cooperation with the General Counsel is responsible for the technical aspects of the following planned actions:

PLANNED ACTIONS:

- Develop criteria for the selection of new natural resource damage cases (11/90). Director, Office of Oceanography and Marine Assessment

- Develop a Memorandum of Agreement with EPA governing coordination of NOAA and EPA activities under the Superfund Act (12/90). Director, Office of Oceanography and Marine Assessment

- Establish and direct panels of outside scientific and economic experts to design and peer review damage assessment and restoration plans and critique their implementation (12/90). Director, Office of Oceanography and Marine Assessment

- Prepare the conceptual framework and delineate the staffing and support requirements for writing the damage assessment regulations required by the Oil Pollution Act of 1990 (1/91). Director of Office of Oceanography and Marine Assessment

- Select a prime contractor to provide economic, scientific and management support to the Center (4/91). Director, Office of Oceanography and Marine Assessment

- Complete the Southern California damage assessment plan (5/91). Assistant Administrator and Director, Office of Oceanography and Marine Assessment

- Develop criteria, oversight and monitoring procedures to promote sound restoration planning and implementation (9/91). Director, Office of Oceanography and Marine Assessment

- Develop recommendations for continuing EXXON VALDEZ damage assessment projects in coastal Alaska (2/91). Director, Office of Oceanography & Marine Assessment

NOS-7

OBJECTIVE:

CONTRIBUTE TO THE NOAA CLIMATE AND GLOBAL CHANGE PROGRAM

BACKGROUND:

NOS global ocean observation and monitoring programs provide key scientific data and information to aid researchers in studying changes in the earth system. The Geostationary Satellite (GEOSAT) program provides an operational space-based measurement of global sea-level. The global sea-level program, employing the Next Generation Water Level Measurement System (NGWLMS), will provide accurate in-situ measurements of sea-level change. NOS also provides operational support for the International Tropical Ocean and Global Atmosphere (TOGA) program, deploying and collecting Expendable Bathythermograph (XBT) data, and data from ocean buoys and other platforms. NOS will place the ocean observation program on sound footing and continue the deployment of the new global sea-level network. Operational GEOSAT products also will be continued. NOS plans to provide substantial support to the development of the global ocean observing system.

PLANNED ACTIONS:

- Strengthen Application of Very Long Baseline Interferometry (VLBI) Global Positioning System (GPS) and Absolute Gravity to Support NOAA's Climate and Global Change Program. Provide VLBI/GPS support to the global absolute sea level project by including Japanese and German operated stations in Antarctica and working with Brazil to establish a VLBI station at Fortaleza (9/91). Director, Office of Charting & Geodetic Services

- Develop and Support a Global Ocean Observing program. Develop plans for cryospheric activities within the NOAA Climate and Global Change Program (4/91). Participate in IOC and World Meteorological Organization (WMO) committees to support intergovernmental coordination for a global observing program (Ongoing). Introduce Ships-of-Opportunity program to the Peoples Republic of China, providing information, equipment and training (6/91). Provide staff support to IOC to expedite the implementation of observing systems (1/91). Director, Office of Ocean Services and Director, Office of International Affairs

- Establish Global Sea Level Monitoring Network. Conduct preliminary analysis of data from existing Global Sea Level Monitoring Project stations (9/91). Install 10 Next Generation Water Level Measurement stations (9/91). Director, Office of Oceanography & Marine Assessment

- Support International TOGA Monitoring Program. Initiate Ocean Products Center capability to provide real-time quality control for TOGA moored and drifting buoys (2/91). Director, Office of Ocean Services

- Support the Joint Global Ocean Flux Study (JGOFS) Monitoring and Research Activities. Provide satellite and conventional oceanographic data and tailored products to the JGOFS time series station at Bermuda (11/90). Director, Office of Ocean Services

- Participate in the NOAA Climate and Global Change Program's Marine Ecosystem Response Working Group and develop internal and cooperative Federal/state/university proposals to

assess ecosystem response to climate-induced changes (8/91). Director, Office of Oceanography and Marine Assessment

- Participate in the preparation of strategic plans for the new Climate and Global Change core project in Socio-Economic Studies (8/91). Director, Office of Oceanography and Marine Assessment

- Continue analysis of GEOSAT Altimeter data. Participate in the ERS-2 Satellite Altimeter Program. Prepare maps of tropical ocean sea-level from ERS-1 data (9/91). Director, Office of Ocean Services

NOS-8

OBJECTIVE:

CONTRIBUTE TO THE NOAA COASTAL OCEAN PROGRAM

BACKGROUND:

Through NOS' National Status and Trends (NS&T) program, strategic assessment program, and coastal mapping activities, NOAA is building an up-to-date scientific information base on all aspects of our coastal ocean environment. The systematic monitoring of changes in the coastal ocean environment is essential to documenting natural and human-induced changes and making effective public management decisions that address problem areas. In support of the President's "no-net-loss of wetlands" policy, special focus will continue on wetland and water body management.

PLANNED ACTIONS:

- Conduct Specialized Coastal and Wetlands Mapping Projects. Conduct submerged aquatic vegetation aerial photo survey for NMFS and complete digital compilation of survey data (9/91). Director, Office of Charting & Geodetic Services

- Participate in Bilateral and Multilateral Activities to Promote Marine Environmental Research. Participate in International Mussel Watch, 3-year joint IOC-UNEP coastal pollution program to help develop a global assessment of pesticides and industrial chemicals in the global coastal oceans (Ongoing). Director, Office of International Affairs

- Establish Nutrient Overenrichment Component of National Status and Trends Program. Initiate a pilot nutrient overenrichment monitoring program in one estuarine system (7/91). Director, Office of Oceanography & Marine Assessment

- Support Development of New Center for Ocean Analysis and Prediction (COAP) and Ocean Modelling Capability. Work with the Great Lakes Environmental Research Laboratory (GLERL) to support the development of real-time monitoring, analysis and forecast systems for the Great Lakes (3/91). Director, Office of Ocean Services

- Support NOAA's CoastWatch and Nutrient Enhanced Coastal Ocean Productivity Programs. Provide satellite and conventional oceanographic observations and tailored products to CoastWatch sites at GLERL (11/90), NMFS Narragansett, RI (2/91), and NMFS Bay St Louis, MS (9/91). Director, Office of Ocean Services

- Lead the Observations and Prediction Element of NOAA's Coastal Ocean Program. Implement an ocean observing array in the South Atlantic Bite (SAB) region that directly supports Coastal Ocean Program requirements (9/91). Director, Office of Ocean Services

- Evaluate Indicators for Monitoring Bioeffects of Contaminants. Complete progress report on first year research of bioindicators applicable to environmental monitoring (8/91). Director, Office of Oceanography & Marine Assessment

- Develop a comprehensive strategic plan setting forth the goals and objectives of NOAA's

coordinated research, monitoring, and assessment program for toxic contaminants and their biological effects in U.S. coastal waters in the 90's (9/91). Director, Office of Oceanography and Marine Assessment

NOS-9

OBJECTIVE:

CONTRIBUTE TO NOAA'S GLOBAL ENVIRONMENTAL SCIENCE DATA MANAGEMENT PROGRAM

BACKGROUND:

NOAA has accumulated extensive, valuable files of seafloor and geodetic data and information that could be useful for assessment of environmental trends, scientific studies, and Global Information System (GIS) applications. By converting these data to digital format and applying new data storage technologies, NOS can provide rapid access to historical data that date back to the 19th century. These data are now stored in paper or analog form such as text, figures, maps, drawings, and numerical tables. These files currently require extensive manual efforts to reproduce and distribute; instability of much of the data storage media has resulted in loss of data.

PLANNED ACTIONS:

- Enhance GEOSAT Data to Support Geodesy and Oceanography. Derive global sea level variability from GEOSAT Crossover Difference Records (XDRs) (9/91). Director, Office of Charting & Geodetic Services

- Digitize Historic Ocean Data Sets to Provide Long-Term Time Records for Analyzing Global Trends. Digitize selected historical water level and tidal current data that extend back to 1854 (9/91). Director, Office of Oceanography & Marine Assessment

- Upgrade Existing DIFAS System to Permit Automatic Digitization and Processing of Synthetic Aperture Radar (SARCOM) Data on Polar Ice Conditions to Build Long-Term Records for Analyzing Global Trends. Develop plans to make DIFAS compatible for SARCOM image products (9/91). Director, Office of Ocean Services

- Augment Existing NOS Data Handling Capability at the Ocean Products Center (OPC). Develop a plan for augmenting computer capability at OPC to accommodate the expected volume of satellite oceanographic data (9/91). Director, Office of Ocean Services

- Assemble and Analyze Historical Data Sets of Physical and Biological Parameters for the Global, Regional, and Coastal Oceans to Diagnose Interannual Variability, Long-Term Trends, and Impacts of Climate Change on Global Ecosystems (9/91). Director, Office of Ocean Services

NOAA'S

OFFICE OF OCEANIC AND

ATMOSPHERIC RESEARCH

OAR'S MISSION IS TO CONDUCT RESEARCH AND TECHNOLOGY DEVELOPMENT TO IMPROVE THE PREDICTION OF THE ATMOSPHERIC AND MARINE ENVIRONMENTS AND THE MANAGEMENT OF MARINE RESOURCES. ITS COMPREHENSIVE RESEARCH PROGRAMS PROVIDE THE BASIS FOR IMPROVEMENTS IN NOAA'S PRESENT SERVICES AND THE DIRECTION FOR MEETING THE PROBLEMS OF TOMORROW.

OAR-1

OBJECTIVE:

IMPROVE UNDERSTANDING AND DEVELOP PREDICTIVE CAPABILITY IN SEASONAL, INTERANNUAL, AND LONG-TERM CLIMATE AND AIR QUALITY

BACKGROUND:

OAR's interannual and seasonal climate research has made substantial progress in understanding the mechanisms behind climate events such as the El Nino-Southern Oscillation (ENSO). This understanding is being applied to develop a predictive capability for these types of phenomena. NOAA/OAR administers the U.S. component of the international Tropical Oceans-Global Atmosphere (TOGA) program, the primary activity in this area. Many activities in this area are directly relevant to the Climate and Global Change Program.

OAR has a tradition of research and monitoring of long-term climate changes and has developed some of the world's best climate models, data sets, and theories (e.g., why the Antarctic ozone hole forms). Much of OAR's long-term climate research activities are the foundation of the NOAA-wide program, Climate and Global Change.

OAR's air quality research is focused on natural processes which contribute to problems like acidic deposition and high levels of surface ozone. This research focuses on atmospheric chemistry, transport, fluxes, and trends. Air quality is a major focus of OAR's research in order to provide scientific expertise for policy discussions, including development of legislation and regulations.

PLANNED ACTIONS:

- Interannual and Seasonal Climate. OAR will continue to contribute to TOGA and the Climate and Global Change program through:

  - Investigation of atmospheric circulation, particularly the TOGA Cooperative Ocean Atmosphere Response Experiment (COARE) (3/91, 5/91, 8/91). Directors, Climate Monitoring and Diagnostics Laboratory (CMDL), Aeronomy Laboratory (AL), and Wave Propagation Laboratory (WPL); TOGA Program Manager

  - Modeling and prediction of the equatorial Pacific Ocean (3/91, 8/91). Director, Atlantic Oceanographic and Meteorological Laboratory (AOML); TOGA Program Manager

  - Development of ocean observing instrumentation focused on currents, ocean temperature, and ocean color and complete initial expansion of TOGA TAO array (6/91, 8/91, 9/91). Directors, AOML, Pacific Marine Environmental Laboratory (PMEL), and WPL; TOGA Program Manager

- Long-Term Climate. OAR will continue its contributing and focused research for the Climate and Global Change program as follows:

  - Improve sea level monitoring networks and analyze measurements (1/91, 9/91). Director, AOML

- Analyze trace gas measurements and processes (2/91, 7/91, 9/91). Directors, AL, CMDL, AOML, and WPL

- Investigate stratospheric ozone depletion (2/91, 7/91). Directors, GFDL and AL

- Develop model scenarios and data assimilation (3/91). Director, Geophysical Fluid Dynamics Laboratory (GFDL)

- Perform radiation studies on solar irradiance and clouds (4/91, 8/91). Director, WPL

- Generate data bases for solar UltraViolet (UV) irradiance, flux of energetic particles, upper ocean temperature, and global tropospheric water vapor and (7/91, 8/91, 9/91). Directors, Space Environment Laboratory (SEL), AOML, and Air Resources Laboratory (ARL)

- Study Atlantic ocean sea surface temperature variability (9/91). Director, AOML

• Climate and Global Change.

- Calculate radiative forcing of various greenhouse gases using a radiative transfer model (12/90). Director, GFDL

- Determine the reaction rate of methane with the hydroxyl radical (12/90). Director, AL

- Obtain and analyze tropospheric ozone data using lidar (1/91). Director, AL

- Determine the distribution, sources, and sinks of oceanic carbon dioxide (5/91, 9/91). Directors, GFDL, PMEL, and AOML

- Report on the seasonal cycle of sea surface temperature and test model results (7/91). Director, PMEL

- Investigate the chemistry of proposed chlorofluorocarbon replacement species (hydrochlorofluorocarbons (HCFCs)) (9/91). Director, AL

• Air Quality. OAR will continue scientific research relevant to the policy and regulatory needs of Congress and EPA by:

- Developing models of oxidizing capacity (3/91). Director, AL

- Analyzing tropospheric ozone and its precursors (3/91, 4/91, 6/91). Directors, AL and WPL

- Using and developing remote sensing techniques to analyze air quality (6/91, 7/91). Directors, WPL and AL

- Constructing a plume trajectory forecast system (9/91). Director, ARL

OAR-2

OBJECTIVE:

IMPROVE OPERATIONAL 1-TO-48-HOUR PREDICTION OF HAZARDOUS REGIONAL AND LOCAL WEATHER EVENTS

BACKGROUND:

OAR strengthens the understanding of mesoscale (on the order of tens of kilometers) phenomena, develops new observational techniques, and capitalizes on the deployment of new-generation remote observing systems and modernized computing and data processing technologies. This research and development is required to obtain the maximum productivity and efficiency improvements and achieve the prediction potential inherent in the modernized and restructured National Weather Service.

Severe weather events have large impacts on the economy and society of the United States. Some of these events remain largely unpredictable: precise timing and location of thunderstorms and blizzards; the intensity of accompanying winds, lightning and precipitation; resulting phenomena, such as floods, whiteouts, and hail; and impacts on local and regional hydrology. If these events could be accurately forecast, hundreds of lives and $15 billion could be saved annually.

Much of OAR's weather research will be devoted to the NOAA Mesoscale Weather Research Program that has been developed through an extensive NOAA planning process involving key senior scientists. This program is a fundamental component of an interagency and national meteorological community effort to meet NOAA's long-range objective for weather research.

PLANNED ACTIONS:

- Systems Research. OAR will continue to improve ground-based remote-sensing capability and forecasting systems by:
  - Installing and supporting the Norman Risk Reduction and Requirements Evaluation (10/90, 1/91, 4/91, 7/91). Director, Forecast Systems Laboratory (FSL)
  - Providing profiler data to National Climatic Data Center and National Weather Service (1/91, 6/91, 9/91). Director, FSL
  - Developing techniques and technology for upper air profiling in support of TELESONDE (1/91, 7/91, 8/91). Director, WPL
  - Improving the ability of Next Generation Weather Radar (NEXRAD) algorithms to detect severe weather events (4/91). Director, National Severe Storms Laboratory (NSSL)
  - Designing an airborne microwave radiometer (7/91). Director, WPL
- Forecasting Research. OAR will work for improvements in severe weather, short-range, long-range, and hurricane forecasts through the following:
  - Forecasting applications such as development of forecast improvements for downslope

windstorms and investigation of limitations in current guidance products in predicting significant weather (11/90, 3/91, 8/91, 9/91). Directors, FSL, GFDL, and NSSL

- Studies of mesoscale processes, such as winter storms and intense thunderstorm systems (5/91, 7/91, 9/91). Directors, FSL, WPL, and NSSL

- Hurricane forecast model improvements (6/91, 7/91). Directors, AOML and GFDL

- Numerical forecasting activities such as installing the Mesoscale Analysis and Prediction System (MAPS) at the National Meteorological Center and conducting data assimilation experiments (9/91). Directors, FSL and NSSL

OAR-3

OBJECTIVE:

OBTAIN THE NECESSARY INFORMATION AND MAKE COMPLETE AND ACCURATE FORECASTS AND WARNINGS OF THE NEAR-EARTH ENVIRONMENT

BACKGROUND:

OAR's Space Environment Service Center (SESC), operated jointly with the Air Force, is the Nation's only civilian operational monitoring and forecasting facility for solar activity and its effects on the Earth's atmosphere.

This operational capability is of great economic importance because solar activity has tremendous influence on communications, satellite orbits, and power and pipeline transmissions, as well as creating a radiation hazard for humans in space. To support this operational function, research is conducted to improve understanding and prediction of solar activity and its effects.

Solar activity follows an 11-year cycle. Currently, solar activity is at its peak and will remain high for several years, endangering current satellite programs. SESC is continuing to upgrade its services and to inform its customers of the value of such service during a solar maximum.

Within the next decade, new sources of data will be available to the forecasters and researchers which will provide new understandings of the solar-terrestrial environment.

PLANNED ACTIONS:

- Forecasting. NOAA will focus on improving forecasts and warnings of the solar-terrestrial environment by:

  - Completing Phase II of SEL Data Acquisition and Display System upgrade (6/91). Director, SEL

- Research. NOAA will conduct research on methods for giving operational forecasters the best information from the data received at the facility by:

  - Conducting SOLERS 22 workshop on Extreme Ultra-Violet (EUV) and Ultra-Violet(UV) solar fluxes and effects (7/91). Director, SEL

  - Assessing interplanetary scintillation data for operational use (8/91). Director, SEL

OBJECTIVE:

STRENGTHEN THE SCIENTIFIC BASIS FOR FORMULATING NATIONAL POLICY INVOLVING OCEANIC AND GREAT LAKES RESOURCES AND FOR PROMOTING DEVELOPMENT AND GROWTH OF MARINE-RELATED INDUSTRIES

BACKGROUND:

The NOAA role is to provide the knowledge base upon which optimal regulatory policies can be formed. OAR's approach is to increase understanding of the natural functioning and variability of a system as a basis for discerning and predicting the impact of human activities. Research at the OAR laboratories and Sea Grant universities is providing the foundation for new initiatives within the NOAA-wide Coastal Ocean Program (COP), especially Nutrient-Enhanced Productivity, Estuarine Habitat, and Coastal Fisheries Ecosystems.

Ocean and Great Lakes areas of the United States are developing at an accelerating rate, with increased impact on environmental quality and the health and productivity of aquatic resources. The challenge to the Nation is to preserve and maintain the quality and abundance of marine resources while allowing for competing uses of the environment.

NOAA's National Sea Grant College Program has a strong infrastructure of marine research, education, and technology transfer at academic institutions. This program will assume many mission-related marine R&D responsibilities that NOAA no longer has the resources to conduct in-house.

OAR operates the National Undersea Research Program (NURP), the only Federal program for providing undersea research support to the scientific community.

PLANNED ACTIONS:

- Marine Environmental Research. NOAA laboratories and Sea Grant institutions will:
  - Study functioning of coastal habitats and effects of perturbations (12/90, 1/91, 6/91, 9/91). Director, Office of Oceanic Research Programs (OR)
  - Research hydrothermal venting in the Pacific and Atlantic (6/91, 9/91). Directors, AOML and PMEL
  - Develop remote sensing techniques for coastal currents (8/91). Director, WPL
  - Participate in studies of Nutrient Enhanced Coastal Ocean Productivity in the Mississippi River/Louisiana Shelf region (9/91). Directors, AOML and OR
  - Implement Physical Impacts of the Coastal Ocean and Toxic Contaminant programs of the Coastal Ocean Program (9/91). Director, OR
- Large (Great) Lake Processes. NOAA will participate in international (International Joint Commission) and interagency (EPA, FWS) research directed at:

- Examining ecosystem dynamics, including toxic cycling and biomass production in the Great Lakes (10/90, 11/90, 6/91, 9/91) Director, Great Lakes Environmental Research Laboratory (GLERL)

- Determining water level distributions in the Great Lakes (1/91, 9/91). Directors, GLERL and OR

- Analyzing the spread of exotic species through the Great Lakes (7/91, 8/91). Director, GLERL

• Marine Resources. NOAA will broaden its research to understand the processes and mechanisms controlling the productivity of living resources in coastal ecosystems by:

- Relocating the AQUARIUS habitat (10/90. 12/90, 5/91, 7/91). Director, National Undersea Research Program

- Developing seafood science and technology to improve quality and safety and aid industry in dealing with processing wastes (11/90). Director, OR

- Continuing to look at processes controlling recruitment variability in Alaskan waters (12/90, 2/91, 5/91). Directors, PMEL and AOML

- Completing physical oceanographic observations for the 1990 Marine Mammal Survey (1/91). Director, AOML

- Enhancing science and technology for commercial aquaculture (6/91). Director, OR

- Initiating Coastal Fisheries Ecosystem theme of the Coastal Ocean Program (7/91). Director, OR

- Expanding the knowledge base and developing methodology for marine biotechnology (7/91, 9/91). Director, OR

OAR-5

OBJECTIVE:

IMPROVE OAR PLANNING, PROGRAM DEVELOPMENT, OUTREACH, AND MANAGEMENT PROCESSES TO CONTRIBUTE TO MEETING NOAA'S PROGRAMMATIC AND INSTITUTIONAL GOALS

BACKGROUND:

OAR has pursued a programmatic approach to management in its personnel performance, budget development, program review, outreach, and management control systems. Last year, OAR addressed issued related to infrastructure, including personnel, ships, and computing capability. This year, OAR will focus on developing programs and strategies to address issues that will be of high concern in the future. This planning process will identify logistic and facility requirements for research and will actively seek inter-LO and interagency cooperation. In addition, OAR will pursue ways to enhance its technology and information transfer mechanisms.

PLANNED ACTIONS:

- Develop a strategy for rural ozone (10/90). Director, AL
- Develop a multi-organizational program on Atmospheric Aerosols and their influence on global climate (12/90). Director, ARL
- Develop and implement an interagency research and technology transfer plan to help understand, control, and limit adverse impact of nuisance exotic species (3/91). Director, OR
- Continue development and implementation of plans for a large-scale interagency program on Global Change Education (3/91). Director, OR
- Develop a monitoring strategy for regional air quality (4/91). Director, ARL
- Develop a Coastal Business Initiative (6/91). Director, OR
- Analyze upper air data/instrumentation requirements (8/91). Director, Environmental Research Laboratories (ERL)
- Complete a study and report on maximizing future benefits of the Sea Grant Marine Advisory Service to react to contemporary issues and technology (8/91). Director, OR

OAR-6

OBJECTIVE:

PROMOTE COOPERATION IN OCEANIC AND ATMOSPHERIC SCIENCE BETWEEN AMERICAN AND FOREIGN SCIENTISTS

BACKGROUND:

International cooperation allows NOAA to: (1) secure access to experts, facilities and geographic areas that would otherwise not be available, (2) acquire scientific data that would otherwise be difficult to obtain, and (3) reduce the cost of oceanographic and atmospheric research through international joint support of research activities.

In some cases, OAR's international activities staff acts on behalf of the entire U.S. government, especially in administering research agreements with the People's Republic of China, the Soviet Union, and France.

In coordination with the Deputy Assistant Secretary for International Interests and other line offices, OAR seeks to foster cooperation within NOAA on technical exchanges, joint projects, and information exchanges. Scientists in NOAA's Environmental Research Laboratories, the National Sea Grant College Program, and NOAA's joint institutes play major roles on the American side of these activities.

PLANNED ACTIONS:

- People's Republic of China.
  - Hold Preparatory Meeting and 10th Working Group Meeting to plan activities under the U.S.-P.R.C. Marine and Fisheries Science and Technology agreement (3/91, 7/91). Chief, International Activities Staff (IA)
  - Promote P.R.C. participation in the international Coupled Ocean-Atmosphere Response Experiment (COARE) (6/91). Chief, IA
  - Fisheries biology and aquaculture research will be areas for increased cooperation as the agreement enters its second decade, with Sea Grant playing a major role in their development (6/91). Chief, IA
- USSR.
  - Facilitate and conduct joint Soviet-American research on circulation in the Chukchi and Bering Seas under the new US-USSR Ocean Studies Agreement (1/91). Chief, IA and Director, PMEL
  - Coordinate and complete Phase I of a US/Soviet study of the Caspian Sea (12/90). Chief, IA and Director, GLERL

- Japan.

  - The U.S.-Japan Cooperative Program in Natural Resources (UJNR) has completed its 26th year. It provides a forum for: (1) developing and conserving natural resources, (2) sharing information on research activities, and (3) providing a forum for applied science and technology cooperation. The next joint session is tentatively scheduled for Spring 1991 in Tokyo (6/91). Chief, IA

- Eastern Europe.

  - Develop cooperative research programs between NOAA and newly independent Eastern European countries (5/91). Chief, IA

- France.

  - Plan field research for 1991-93 of the French-American Ridge Atlantic Program (FARA), focused on the structure and dynamics of the Mid-Atlantic Ridge (9/91). Chief, IA and Director, AOML

- Israel.

  - Hold the first bilateral workshop to discuss relationships between mariculture and the environment and identify trends for future research and development (6/91). Chief, IA

- India.

  - Continue monitoring and oversight of climate study and solar-terrestrial research grants to Indian institutions (9/91). Chief, IA

NOAA'S

NATIONAL ENVIRONMENTAL

SATELLITE, DATA, AND

INFORMATION SERVICE

NESSIS'S MISSION IS TO PROVIDE MONITORING OF THE EARTH'S SURFACE AND SPACE ENVIRONMENT CONDITIONS; NEAR-CONTINUOUS OBSERVATIONS OF THE EARTH'S WESTERN HEMISPHERE; AND IMPROVED OCEANIC AND ATMOSPHERIC OBSERVATIONS AND DATA DISSEMINATION CAPABILITIES. IT ALSO PROVIDES WORLDWIDE ENVIRONMENTAL DATA AND INFORMATION PRODUCTS AND SERVICES TO THE GENERAL PUBLIC, AND TO FEDERAL, STATE, AND LOCAL AGENCIES.

NESDIS-1

OBJECTIVE:

PLAN LONG-TERM PROGRAM REVISIONS FOR NOAA OPERATIONAL SATELLITE OBSERVATION SYSTEMS, DATA, AND PRODUCTS

BACKGROUND:

A major review of NOAA-wide requirements for operational satellite observations was completed in FY 1990, resulting in the document NOAA Requirements for Support From Polar Orbiting Satellites. The NOAA Satellite Modernization Task Force has now assumed the function of developing plans and policies for considering new instruments for flight on future NOAA Satellites. A study of the requirements for NOAA GOES spacecraft following GOES I-M was also initiated.

There is a strong interest in considering NOAA satellite observations that meet more than meteorological needs, which have historically received priority, while there continues to be special concern about the high inherent cost of NOAA satellites. NOAA's role under the National Space Policy as manager of federal civilian operational remote sensing programs needs to be examined in light of apparent opportunities for spacecraft and instruments that are not exclusively operational or non-operational.

PLANNED ACTIONS:

- Develop a set of criteria for NOAA to determine when it is necessary and appropriate for it to be responsible for new earth observation instruments (1/91). Assistant Administrator and Deputy Assistant Administrator

- Further refine the NOAA-wide requirements for satellite observations and develop proposals for the highest priority new instruments that NOAA should fly (3/91). Assistant Administrator and Deputy Assistant Administrator

- Expand the Foreign Satellite Data Acquisition Team to include representatives from all NOAA line and program offices, and develop a NOAA plan for acquiring, processing, disseminating, and archiving data required by NOAA and obtained from non-NOAA satellites (6/91). Director, Office of Satellite Data Processing and Distribution and Chief, International and Interagency Affairs

- Identify and evaluate new strategies having the potential for lower risk and cost of procuring NOAA satellites (6/91). Director, Office of Systems Development

NESDIS-2

OBJECTIVE:

CONTINUE NOAA GOES SATELLITE COVERAGE

BACKGROUND:

Continuity of GOES satellite coverage is threatened by a series of technical development problems on the NASA contract with Loral/Ford Aerospace/ITT for GOES I-M which have led to delays in projected availability of GOES I for launch and to large cost growth. GOES 7, the only current imaging GOES, has enough fuel to last until late 1993; however, it could fail earlier. The primary difficulty is the inability of ITT, the imager and sounder instrument subcontractor, to apply adequate technical staff and management to instrument development. NOAA and NASA have taken steps to attempt to reduce schedule delay and cost growth by providing technical help to ITT through the establishment of tiger teams of experts from other contractors and the Government.

PLANNED ACTIONS:

- Maintain the pressure on NASA and the GOES contractors and closely monitor progress and arrange for outside technical help when necessary (continuing). Assistant Administrator, Deputy Assistant Administrator and Director, Office of Systems Development

- Press for full performance, and accept only those limited performance compromises necessary to minimize schedule delays and cost increases, while assuring that essential National Weather Service requirements are met (continuing). Assistant Administrator and Deputy Assistant Administrator

- Manage operation of GOES 7 so as to conserve fuel and extend its life (continuing). Perform a complete test of the No-GOES Contingency Plan (11/90). Director, Office of Satellite Operations and Director, Office of Satellite Data Processing and Distribution

- Evaluate the results of the preliminary planning for the follow-on to GOES I-M and propose the next steps for this program (6/91). Assistant Administrator, Deputy Assistant Administrator, and Director, Office of Systems Development

- Improve NOAA GOES satellite product quality and distribution (continuing). Director, Office of Research and Applications and Director, Office of Satellite Data Processing and Distribution

NESDIS-3

OBJECTIVE:

CONTINUE PRESENT/EXPANDED NOAA POLAR SATELLITE COVERAGE AT LEAST COST

BACKGROUND:

NOAA's requirements for long-term continuation and possible expansion of its operational polar satellite program will be documented by the NOAA Satellite Modernization Task Force, which will address the acceptability of relying on other agencies and nations for some of the satellite data that NOAA requires. Recognizing the need to continue and possibly expand this program, and with special concern about the large cost, NOAA has obtained a preliminary commitment from Europe to provide a series of polar spacecraft in the "morning" orbit on which NOAA remote sensing instruments can be flown as an extension of the current arrangement, in which other nations contribute some of the instruments that fly on both the morning and afternoon NOAA polar orbiters. This expanded cooperation with Europe is expected to reduce the cost for continuing the present NOAA polar satellite program by an estimated $1 billion through the year 2010.

PLANNED ACTIONS:

- Monitor the development of the next seven polar satellites and planning for follow-on instruments, necessary to maintain continuity of the NOAA polar satellite program (continuing). Launch NOAA D and possibly NOAA I, if it can be accelerated (9/91). Director, Office of Systems Development

- Obtain further assurance from the European Space Agency and EUMETSAT that Europe will pay for a substantial part of the costs of continuing morning/afternoon polar orbiting satellite coverage (9/91). Assistant Administrator, Deputy Assistant Administrator, and Chief, International and Interagency Affairs

- Complete preliminary planning for new NOAA polar orbiting spacecraft to fly in the late 1990s and beyond, including expansion of capabilities to accommodate additional high-priority instruments and the evaluation of alternative spacecraft configurations and procurement approaches (9/91). Director, Office of Systems Development

- Improve NOAA polar satellite product quality and distribution (continuing). Director, Office of Research and Applications and Director, Office of Satellite Data Processing and Distribution

NESDIS-4

OBJECTIVE:

PLAN AND IMPLEMENT NOAA ROLE IN THE LANDSAT PROGRAM

BACKGROUND:

NOAA is responsible for assuring continued Landsat operations and spacecraft development through 1996. The Administration has not yet decided on the management and funding for the long-term acquisition of Landsat-type data.

PLANNED ACTIONS:

- Monitor contractor development of Landsat 6, coordinate with the Air Force for its launch, and oversee the contractor's performance in operating Landsat 6, including data distribution (continuing). Assistant Administrator, Deputy Assistant Administrator, and Director, Office of Systems Development

- Maintain international Landsat program relationships for Landsats 4, 5, and 6 (continuing). Assistant Administrator, Deputy Assistant Administrator, Director, Office of Systems Development, and Chief, International and Interagency Affairs Office

- Support Landsat 4/5 operations, consistent with available funding (continuing). Assistant Administrator, Deputy Assistant Administrator, and Director, Office of Systems Development

- Support the Administration's planning for future acquisition of Landsat-type data (continuing). Assistant Administrator, Deputy Assistant Administrator, and Director, Office of Systems Development

NESDIS-5

OBJECTIVE:

IMPROVE THE ACCESSIBILITY, STORAGE INTEGRITY, AND QUALITY CONTROL OF ENVIRONMENTAL DATA AND INFORMATION

BACKGROUND:

NOAA has assigned a high priority to improving its management of environmental data. The emphasis is on rescuing the large amount of valuable environmental data for which NOAA has responsibility so as to assure its long-term storage integrity and to make that data more readily accessible for the full range of operational and research data users.

To accomplish this, it is necessary for NOAA to modernize the information technology systems that support its handling of environmental data, to improve the quality control techniques that are necessary to assure that the data is acceptable to users, and to complete and extend the prototype NOAA Earth Systems Data Directory System.

PLANNED ACTIONS:

- Develop a detailed plan for rescuing environmental data for which NOAA is responsible and which is in danger of being lost due to the age of the magnetic or other media on which these data are stored or other factors (12/91). Directors, NCDC, NODC, and NGDC

- Complete the rescue of a substantial part of the most endangered environmental data (9/91). Directors, NCDC, NODC, and NGDC

- Place into widespread use the prototype NOAA Earth Systems Data Directory System developed last year, and expand its coverage of NOAA data sets (12/90). Director, NODC

- Improve the accessibility of both real-time and archival NOAA environmental data through initial upgrading of supporting information technology systems (9/91). Directors, NCDC, NODC, NGDC, and Director, Office of Satellite Data Processing and Distribution

- Support NEXRAD, Advanced Surface Observing System (ASOS), wind profiler network, and other NOAA modernization programs by arranging for archiving of data from these systems (continuing). Director, NCDC

NESDIS-6

OBJECTIVE:

CONTRIBUTE TO NOAA-WIDE HIGH PRIORITY CLIMATE AND GLOBAL CHANGE AND COASTAL OCEAN PROGRAMS

BACKGROUND:

Although all NESDIS programs contribute to NOAA's high priority cross-cut programs, special attention is being given to specific NESDIS scientific and supporting activities for the Climate and Global Change and the Coastal Ocean programs.

PLANNED ACTIONS:

- Develop detailed plans for global change quality products based on NOAA operational satellite data, working with established product advisory teams and the NOAA precipitation science team. These plans are to include improvements in calibration, data quality, validation, and continuity of long-term monitoring (3/91). Director, Office of Research and Applications, and Director, Office of Satellite Data Processing and Distribution

- Fully implement the NOAA Paleoclimatology Program in support of NOAA's Climate and Global Change Program, collaborating with the scientific community and all parts of NOAA (continuing). Director, NGDC

- Complete a demonstration relational database system for interactive access to global archives of oceanographic data, supporting both the Coastal Ocean and the Climate and Global Change Programs (9/91). Director, NODC

- Improve the quality control, storage, integrity, and accessibility of research quality climatological data and information included in regional and global climate baseline and research data sets (continuing). Director, NCDC

- Manage NOAA CoastWatch activities in support of the Coastal Ocean Program, including application of numerical modelling and satellite data analyses to bays and estuaries (continuing). Director, NODC, and Director, Office of Research and Applications

- Develop detailed plans and begin development of systems and prototype data sets in support of data management for global change, based on data acquired by NOAA and available to NOAA from other sources (12/90). Director, Office of Satellite Data Processing and Distribution and Directors, NCDC, NODC, and NGDC

NOAA'S

NATIONAL WEATHER

SERVICE

NWS'S MISSION IS TO PROVIDE WEATHER AND FLOOD WARNINGS, FORECASTS, AND ADVISORIES FOR ALL OF THE UNITED STATES, ITS TERRITORIES, ADJACENT WATERS AND OCEAN AREAS PRIMARILY FOR THE PROTECTION OF LIFE AND PROPERTY.

NWS-1

OBJECTIVE:

FORECASTING - MAINTAIN EFFECTIVE LOCAL WARNING AND FORECAST SERVICES

BACKGROUND:

Provision of warnings is critical to the mission of the NWS. One of NWS's important methods of warnings dissemination is through activation of the Emergency Broadcast System (EBS). This system currently requires intensive manual effort by personnel both at NWS and EBS stations. This manual effort cannot be sustained given NWS current and future staffing levels and the large personnel turnover at many EBS stations. The Federal Communications Commission (FCC) is planning to modernize the EBS and has asked the NWS for assistance. The NWS has begun the dialogue with the FCC including offering them information on the NOAA Weather Radio Specific Area Message Encoder (WRSAME) technology for automated EBS activation from NWS offices.

The existing NWS telecommunications gateway and field distribution systems are saturated and need to be upgraded in order to sustain field operations until the future systems being acquired under the modernization program are implemented.

Most existing operational systems are obsolete and increasingly difficult to maintain; a number of these current systems are not covered in the new suite of technologies planned for the modernization (e.g., upper air weather balloon system, and assorted meteorological and hydrological sensors). Efforts to maintain and to extend existing systems continue. The experts needed to maintain these critical systems are in high demand. The salaries offered by other federal agencies (FAA) and private industry are higher.

To ensure a continuous supply of radiosondes for upper air sounding, the NWS will issue a solicitation inviting vendors to submit for testing radiosondes they believe meet NWS requirements.

A communications system will be implemented for transmitting high seas weather charts from the National Meteorological Center and the National Hurricane Center, through the NWS Telecommunications Gateway, to the U.S. Coast Guard at Pt. Reyes, California for radiofacsimile broadcasts. This system is required to complete the transfer of high seas responsibility from the field to the national centers.

The volcanic eruptions from Mt. Redoubt in Alaska that occurred in late 1989 through April 1990, emphasized the serious threat that the ingestion of volcanic ash poses to aviation and must be addressed in real-time. NOAA initiated a program to enhance the capabilities to monitor and forecast the location and extent of volcanic ash. This project includes installing a satellite ground station, a weather radar, and a wind profiler to provide improved monitoring capabilities. The data will also be used to support enhancement in the numerical forecast and trajectory models used to forecast the dispersion of the volcanic ash clouds.

PLANNED ACTIONS:

- Promote and implement WRSAME for automated EBS activation within the regions on an office-by-office basis (9/91). Directors, all Regional Offices and Office of Meteorology

- Issue qualified products list (QPL) solicitation package for radiosondes. (1/91) Director, Office of Systems Operations

- Initiate design and construction of a prototype upper air replacement system. Complete a critical design review (6/91). Director, Office of Systems Operations

- Develop approaches to retaining staff and create competitive grade levels.

  - Coordinate a decision on the alternate standard issue for multiple grade promotions (GS 5/7/9) of field maintenance trainees. (7/91) Director, Management and Budget

- Complete the facility modifications and physical equipment installation of the Patent and Trademark Office excess NAS 9000 computer systems in Silver Spring Metro Center 2 (SSMC2) and initiate the operational phase-over of the NWS Telecommunications Gateway from the Suitland Federal Center (9/91). Director, Office of Systems Operations

- Continue development of hardware and software (System Z) for upgrading the Automation of Field Operations and Services (AFOS) System to relieve the saturation of the field distribution system. Complete (a) a field office upgrade for the Forecast Offices (9/91), (b) a design for an upgrade to the System Monitoring and Coordination Center (6/91), and (c) a modem procurement to upgrade the operational communications network (9/91). Directors, Offices of Systems Operations and Systems Development

- Complete the RFP for the Point Reyes High Seas Radiofax Upgrade (12/90). Director, Office of Systems Operations
- Award contract for Digital Decode/Converter for Radiofax Upgrade (9/91). Director, Office of Systems Operations

- Deploy and operate weather radar, satellite ground station and wind profiler systems (9/91). Directors, Office of Meteorology and Alaska Region

- Coordinate enhancements in numerical forecast and trajectory models used in support of volcanic ash dispersion forecasts (9/91). Directors, Office of Meteorology, Alaska Region, and National Meteorological Center

NWS-2

OBJECTIVE:

FORECASTING - PROVIDE RIVER AND FLOOD FORECAST SERVICES FOR THE PROTECTION OF LIFE AND PROPERTY AND SUPPORT OF THE NATION'S ECONOMY.

BACKGROUND:

Reliable supplies of fresh water are increasing in value. Flood damages continue to rise in real dollars. Man's capacity to impact the hydrologic cycle remains one of the primary connections between human activities and potential climate change.

Current hydrologic services focus primarily on flood forecasting. There are over 30,000 U.S. flood-prone locations. Of these locations, 3,000 receive site specific flood forecasting services. The remaining sites are served by the NWS county/multi-county flash flood watch and warning program.

The NOAA Hydrologic Services Program operates in an interagency arrangement for data collection and water management decision making. Major cooperating federal departments include the Departments of Interior, Defense, and Agriculture, as well as hundreds of state, local, regional, private, and quasi public-sector organizations.

PLANNED ACTIONS:

- Implement replacement and/or enhancement of operational systems in the Hydrologic Services Program. (Support for some of these systems will be subsumed under Advanced Weather Interactive Processing System (AWIPS) implementation.)

  - Develop software development schedule and plan for the Next Generation River Forecast Center (RFC) Gateway system which will include WSR-88D support (11/90). Director, Office of Hydrology

  - Complete implementation of the new Remote Job Entry System at 12 RFCs (9/91). Director, Office of Hydrology

- Implement a national verification program for flood forecasting services.

  - Develop a national implementation plan (2/91). Director, Office of Hydrology

  - Complete initial baseline software for verification of flood forecasting services (9/91). Director, Office of Hydrology

- Maintain operational readiness of Hydrologic Services Program.

  - Provide training on both the operations and calibration of the NWS River Forecast System (NWSRFS) (9/91). Director, Office of Hydrology

  - Develop enhancements for the NWSRFS, which include an Antecedent Precipitation Index baseflow model and river rating curve shift model (9/91). Director, Office of Hydrology

- Maintain day-to-day support for the timely distribution of data from data collection platforms and for the NWSRFS (9/91). Director, Office of Hydrology

- Provide effective field management to continue operational readiness while supporting modernization activities (9/91). Director, Office of Hydrology

NWS-3

OBJECTIVE:

FORECASTING - PROVIDE NATIONAL METEOROLOGICAL GUIDANCE PRODUCTS AND ANALYSIS IN SUPPORT OF NOAA AND NWS OPERATIONS.

BACKGROUND:

Numerical weather prediction by state of the art computer models at National Centers provides the underpinnings to NWS forecast operations. Significant economic benefits can be derived from improved forecasting. Increased computer power will reduce error in meteorological forecasts.

National Center operations are supported by an interim Cray YMP-8, and a Cyber 205, which is no longer in production and has uncertain future vendor support. The Cray YMP8 interim computer system has provided continued reliable operations and some limited computer capacity to develop new, improved models that are essential to NWS field operations.

As a part of the NWS Modernization and Associated Restructuring, funding has been requested to provide next generation Class VII computers, at least an order of magnitude faster than the preceding class. The Center needs to develop improved numerical operational models to exploit the power of the Class VII systems.

Severe storm power interruptions continue to be very disruptive and are impacting NMC's ability to provide needed products as scheduled. Protection from such interruptions is vital to reliable operations. Protection from such interruptions is vital to reliable operations. In addition to the mainframe computer, high speed data storage and access systems are essential.

PLANNED ACTIONS:

- Implement the first phase of an operational Regional Data Assimilation System (RDAS), developed under NWS Objective 11, for forecast guidance out to 48 hours on the interim computer (1/91). Director, National Meteorological Center

- Initiate operational usage of model output from the new RDAS system (2/91). Director, National Meteorological Center

- Initiate routine assessment of mesoscale model output by the NMC Meteorological Operations Division and the National Severe Storms Forecast Center, in support of the Mesoscale Initiative (3/91). Director, National Meteorological Center

- Implement the Forecast Systems Laboratory's Mesoscale Analysis and Prediction System (MAPS) to become NMC's Rapid Analysis Update Cycle (7/91). Director, National Meteorological Center

- Improve the operational aviation guidance from the global forecast system by increasing the resolution (5/91). Director, National Meteorological Center

- Improve the operational hurricane track guidance by improving the objective analysis and quality control in the global forecast system (7/91). Director, National Meteorological Center

- Acquire and install disk and magnetic tape systems to provide up to 1 terabyte of computer accessible data storage (7/91). Director, National Meteorological Center

- Begin a phased program to provide full electrical power conditioning for the Federal Building 4 Computer Center. Phase I, which will include power conditioning equipment for support devices, will be acquired and installed (4/91). Director, National Meteorological Center

- Supplement high speed (56 kbps) communications with the National Severe Storms Forecast Center for more timely transmission of NMC model grids needed for severe weather forecasts (2/91). Directors, National Meteorological Center and National Severe Storms Forecast Center

- Complete the integration of the VDUC interactive work stations to enhance data handling and display capabilities in support of the routine operations of the National Hurricane Center (9/91). Director, National Hurricane Center

NWS-4

OBJECTIVE:

MODERNIZATION - REALIZE SERVICE IMPROVEMENT THROUGH NEW AND ENHANCED PRODUCTS AND SERVICES AND ASSOCIATED TRAINING FOR THE MODERNIZED AND RESTRUCTURED NATIONAL WEATHER SERVICE

BACKGROUND:

National Weather Service employees must have the scientific knowledge and skills to fully utilize new data sets and deliver improved warning and forecast services. NWS needs to recruit and retain highly skilled scientific and technical personnel.

New systems must be deployed and integrated with existing systems and old systems must be decommissioned. Facilities must be constructed and offices relocated.

NWS must accomplish these changes to personnel, systems, and facilities, in an operational environment without degradation to ongoing services.

PLANNED ACTIONS:

- Implement initial NEXRAD maintenance training for NWS maintenance technicians (11/90). Directors, NEXRAD Joint System Program Office, and Training Center

- Forward new personnel qualification standards for Hydrometeorologists/Meteorologists for Departmental clearance (11/90). Director, Office of Management and Budget

- Develop plans for publicizing and recruiting new NWS positions which will include implementation schedules and career paths (12/90). Director, Office of Management and Budget

- Develop system commissioning and decommissioning plans for ASOS (12/90) and NEXRAD (5/91). Director, Office of Systems Operations

- Expand "Hydrometeorological Service Operations for the 1990s" which includes a comprehensive hydrometeorological training and systems support plan (1/91). Director, Office of Hydrology

- Develop a plan for the evaluation of the new weather summary and short-term forecast (Area Weather Update) risk reduction exercise for the WFO Norman/Oklahoma City pre-MARD emulation (2/91). Director, Office of Meteorology

- Begin year-long Weather Forecast Office (WFO) emulation at Norman, OK (2/91). Directors, Southern Region and Office of Systems Development

- Develop a detailed NWS training plan that will address scientific education, and operational and maintenance training (4/91). Directors, Office of Meteorology, Hydrology

- Demonstrate modernized hydrometeorological field operations.

- Complete implementation and integration testing of the Weather Forecast Office (WFO) hydrometeorological component in the Norman, Oklahoma pre-AWIPS Workstation (6/91). Director, Office of Hydrology

- Implement River Forecast Center (RFC) baseline forecast system for risk reduction activities in (MARD) area. (9/91). Director, Office of Hydrology

- Implement baseline software for NEXRAD precipitation estimates for hydrologic operations for risk reduction activities in MARD area. (9/91). Director, Office of Hydrology

- Provide NEXRAD operations training for NWS operational meteorologists and hydrologists in Norman, Oklahoma (9/91). Directors, Joint System Program Office, Office of Hydrology, and Office of Meteorology

- Perform operational tests of hydrometeorological interfaces between "modernized" RFCs and WFOs (9/91). Director, Office of Hydrology and Director, Office of Meteorology

- Develop field maintenance staffing approaches which lead to improved near-term retention rates and stable transition to the future maintenance program.

  - Develop a draft field maintenance plan (9/91). Director, Office of Systems Operations

  - Develop a draft training plan for future NWS maintenance positions. (9/91) Director, National Weather Service Training Center

NWS-5

OBJECTIVE:

MODERNIZATION - DEVELOP INTEGRATE AND DEPLOY NEW/UPGRADED SYSTEMS AND FACILITIES REQUIRED FOR THE MODERNIZATION AND ASSOCIATED RESTRUCTURING OF THE NATIONAL WEATHER SERVICE

BACKGROUND:

NWS must deploy a new national weather radar network of WSR-88D's to maintain effective warning and forecast services. Major new technical components must be integrated in the 1990's, including Next Generation Weather Radar (NEXRAD), Automated Surface Observing Systems (ASOS), Advanced Weather Interactive Processing System (AWIPS) and Class VII computers as well as advanced geostationary and polar orbiting satellites.

This year the NWS will complete negotiations and award the contract for the ASOS production. The initial ASOS systems will be deployed in the Modernization and Associated Restructuring Demonstration (MARD) area of the central United States.

The NOAA Weather Radio Console system must be upgraded since it is an antiquated technology that is becoming increasingly difficult to maintain. Future staffing profiles are not sufficient for continued manual operation of the consoles.

The NWS is engaged in risk reduction program to test the operating concept of WFO operations using the Norman, Oklahoma office. The Norman office is collocated in the vicinity of the National Severe Storms Laboratory (NSSL). This will allow NSSL researchers to attain experience with the new data sets and will complement the continued joint efforts between the two arms of NOAA-ERL and NWS. In particular, this interface will provide real-time data in support of the Profiler Assessment Program (COPS-91) which will evaluate experimental data sensors and is scheduled for the spring of 1991.

PLANNED ACTIONS:

NEXRAD

- Complete Government acceptance activities for the first five NEXRAD Limited Production systems (9/91). Director, NEXRAD Joint System Program Office

- Complete Government conditional commissioning of the first three NEXRAD Limited Production systems (9/91). Director, Office of Systems Operations

AWIPS

- Complete the plan for evaluating the AWIPS-90 development phase proposals, and complete the evaluation of those proposals received (3/91). Director, Office of System Development

- Issue the call for the best and final offers (BAFO's) for the AWIPS-90 development phase contract and complete their evaluation (8/91). Director, Office of Systems Development

- Request A-109 key decision for the AWIPS-90 development phase contract (9/91). Director, Office of Systems Development

- Complete AWIPS software risk reduction tasks as specified in the extension of the Definition Phase contracts (9/91). Director, Office of Systems Development

ASOS

- Seek reaffirmation by the Secretary of Commerce of the ASOS mission need statement to maintain ASOS schedule in awarding the production contract (10/90). Director, Office of Systems Development

- Advise the Deputy Under Secretary in the selection of an ASOS production contractor (11/90). Director, Office of Systems Development

- Complete deployment readiness reviews for ASOS (4/91). Director, Office of Systems Development

- Complete installation of the first ASOS MARD system (6/91). Director, Office of Systems Development

NOAA WEATHER RADIO CONSOLE REPLACEMENT SYSTEM

- Assemble and release the Request for Proposals (RFP) package for the NOAA Weather Radio Console Replacement System (7/91). Director, Office of Systems Operations

- Develop requirements for product formatting and personnel training for inclusion in the NOAA Weather Radio Console Replacement Systems (CRS) RFP. The formatting requirements include developing initial product sets for the CRS in Initial Stage 2 (5/91). Director, Office of Meteorology

RISK REDUCTION

- Installation of information processing system at Norman (1/91). Directors, NWS Office of Systems Development and OAR Forecast Systems Laboratory

- Implementation of NSSL-Norman interface to support COPS-91 (4/91). Directors, NWS Office of System Development and OAR Forecast Systems Laboratory

NWS-6

OBJECTIVE:

MODERNIZATION - GAIN CONGRESSIONAL, PUBLIC, AND EMPLOYEE ACCEPTANCE AND SUPPORT FOR THE MODERNIZATION AND ASSOCIATED RESTRUCTURING OF THE NATIONAL WEATHER SERVICE

BACKGROUND:

The National Weather Service must continue to inform all affected organizations and individuals about the goals of modernization and associated restructuring.

Targeted audiences include:

- NWS employees and their union
- Congressional and state delegations
- Federal, state and local agencies
- Print and broadcast media
- Private industry
- Academic and scientific community
- Professional societies and trade associations

The Strategic Plan defines the hierarchy of plans required to effect modernization and associated restructuring:

- National Implementation Plan
- Modernization and Associated Restructuring Demonstration (MARD) Implementation and Evaluation Plan
- Regional Transition Plans
- Site Implementation Plans

Structured agency-wide and headquarters Transition Management Meetings are held routinely to set objectives, resolve policy issues, and review progress.

PLANNED ACTIONS:

- Incorporate annual changes to the National Implementation Plan to be submitted to Congress as notification of significant events as required by P.L. 100-685 (10/90). Transition Director

- Develop concrete plans to assess the needs of the media, sophisticated emergency management users, and the general emergency management community (12/90). Director, Office of Meteorology and Transition Director

- Implement the Community Outreach Program Plan to ensure a flow of information to and from communities selected for NEXRAD sites (1/91). Transition Director and Director, NEXRAD Joint System Program Office

- Conduct the second national field office managers meeting for the deputies unable to attend the

1990 meeting to foster understanding and commitment to the modernization among NWS employees (2/91). Transition Director

- Complete and approve Regional Transition Plans and Site Implementation Plans (9/91). Transition Director and Directors, Regional Offices

- Implement a plan to brief constituencies on the FY 1991 activities of the Modernization and Associated Restructuring (MAR). Congress, Governors, Regional, State and local officials, other Federal agencies, trade associations and professional societies, academia, private companies, the media and the general public will be briefed. Every constituency will be contacted by personal briefings, workshops, direct mail, conference speakers or by exhibits at public events (9/91). Transition Director

NWS-7

OBJECTIVE:

MODERNIZATION - ENSURE OPERATIONAL NWS FIELD OFFICES AND NATIONAL CENTERS ACCESS TO SATELLITE IMAGERY AND PRODUCTS CRITICAL TO THE WARNING AND FORECAST PROGRAM

BACKGROUND:

Delays in the launch of GOES-I increase the potential of not having geostationary satellite data and products through the first half of the 1990's.

Weather Service Modernization/Transition requires satellite data access at NEXRAD Weather Service Offices (WSOs). Redundancy or backup of the current operational Satellite Weather Information System (SWIS) is not available at the Weather Service Forecast Offices (WSFOs).

A well-coordinated effort involving all the NOAA line offices is required to effectively address all operational satellite data and product requirements for the 1990's and beyond.

PLANNED ACTIONS:

- Complete procurement of a satellite processing and display system (MicroSWIS) for use at NEXRAD WSO and as a back-up to the current satellite data terminals at the Weather Service Forecast Offices (12/90). Director, Office of Systems Operations

- Complete MicroSWIS field implementation (5/91). Director, Office of Systems Operations

- Update NOAA, and NWS No-GOES plans to reflect any changes in the GOES situation and to keep abreast of progress with MAR. Conduct test(s) of the NOAA No-GOES contingency plan and evaluate results (9/91). Directors, Offices of Meteorology, Systems Development, Systems Operations and the Transition Director

- Coordinate with NESDIS to ensure real-time and unrestricted access to environmental satellite data from other U.S. agencies (Defense Meteorological Satellite Program) and foreign governments (European Space Agency - METEPSAT and Environmental Remote Sensing Satellite (ERS -1); Soviet Union - METEOR and ALMAZ; Japanese Space Agency - GMS) (9/91). Director, Office of Meteorology

- Update NWS requirements for operational environmental satellite observations and products from both geostationary and polar satellites in support of NOAA's Foreign Satellite Acquisition Team and Satellite Modernization Task Force (9/91). Director, Office of Meteorology

NWS-8

OBJECTIVE:

MODERNIZATION - WATER RESOURCES FORECASTING SERVICES (WARFS)

BACKGROUND:

WARFS is an enhanced hydrological forecasting service to improve management of the Nation's Water Resources can be provided by: (1) capitalizing on the data and computer systems developed by the NWS modernization Initiatives; and (2) integrating these systems with state-of-the-art hydrologic and climatologic forecasting technologies. This integrated approach will also improve flood forecasting services as well as provide support for the NOAA Environmental Data Management, Climate, and Coastal Ocean Programs.

The drought of 1988 highlighted deficiencies of the current information base. Proven techniques exist to provide critical forecast information, including forecast reliability, for risk-based decision making in all water-sensitive sectors.

The Under Secretary for Oceans and Atmosphere has recognized the importance of this program in dealing with the economic and environmental problems of the next decade.

The NWS is a conducting a demonstration project (Colorado Basin) to test the integrated technologies and justify the benefits of enhancing NOAA hydrological forecasting services.

PLANNED ACTIONS:

- Define technical elements associated with historical data base design and model calibration procedures (12/90). Director, Office of Hydrology

- Develop plan for historical data analysis and model calibration work in the demonstration area (9/91). Director, Office of Hydrology

- Prepare plan for national expansion of the program (9/91). Director, Office of Hydrology

NWS-9

OBJECTIVE:

NOAA-WIDE SUPPORT - DEVELOP NWS COASTAL OCEAN METEOROLOGICAL AND OCEANOGRAPHIC ANALYSIS, MODELING, PREDICTION, AND WARNING CAPABILITIES TO SUPPORT NOAA COASTAL OCEAN PROGRAM.

BACKGROUND:

The population within 50 miles of the coast is growing dramatically, increasing the risk for public safety, storm damage, and coastal pollution.

Citizens are focusing more attention on the coastal ocean. NOAA Line Offices must interact in addressing requirements for monitoring, prediction, and services.

The lack of necessary Coastal and Oceanic Observation Data severely constrain the NWS's capacity to monitor operationally and predict important marine weather conditions and to develop reliable models necessary for accurate and timely forecasting.

Most hurricane damage is due to storm surge coastal flooding, yet progress in modeling hurricane storm surge is slow because reimbursable funding arrangements with other federal agencies and in-base storm surge funds are only sufficient to complete a limited number of basin models per year.

PLANNED ACTIONS:

- Develop a National MAREP Plan, in coordination with NOAA Sea Grant, for program expansion, automation, and operations under uniform standards for exchange of Marine data and products (9/91). Director, Office of Meteorology

- Improve standard tsunami inundation model to predict distribution and extent of coastal flooding with funds acquired through the Coastal Ocean Program. Collection of additional deep ocean and coastal tsunami measurements and improved tsunami inundation modeling capabilities will be used to compute preliminary inundation estimates for Hilo, Hawaii (9/91). Director, Office of Meteorology

- Begin development of an extra-tropical storm surge model to study and predict coastal flooding produced by winter coastal storms with funds acquired through the Coastal Ocean Program (9/91). Director, Office of Systems Development

- Begin updates of SLOSH model basins on a more systematic basis. With funds acquired through the Coastal Ocean Program, three basins will be updated (9/91). Director, Office of Systems Development

- Develop a new SLOSH basin for Penobscot Bay, the highest priority basin of the remaining areas not yet covered by SLOSH (9/91). Director, Office of Systems Development

NWS-10

OBJECTIVE:

NOAA-WIDE SUPPORT - BUILD A CLIMATE SERVICES PROGRAM BASED ON NEAR-REAL-TIME CLIMATE MONITORING, DIAGNOSTICS, PREDICTION, AND THE DISTRIBUTION OF CLIMATE PRODUCTS AND INFORMATION

BACKGROUND:

Climate services is a natural complement to climate research and is an essential link to the science and user communities. The NOAA Climate Services Program needs to be strengthened across the line offices to meet the needs of climate data users in the academic research community, in state and regional offices, and in private industry. The most critical element is the transfer of technology from research into operational methods. Elements of this program exist at the NMC Climate Analysis Center and at the National Climatic Data Center; new programs are being developed in remote sensing, regional applications (Regional Climate Centers and Global Energy and Water Balance Experiment (GEWEX)) and climate prediction (DERF) under the Climate and Global Change Program.

PLANNED ACTIONS:

- Lead the preparation of the science plan for the GEWEX Continental Scale Project consistent with the Climate and Global Change Program.
  - Organize a GCP International workshop to develop basis for the science plan (10/90). Director, Office of Hydrology
  - Draft science plan submitted to Scientific Steering Group for GEWEX (1/91). Director, Office of Hydrology
  - Define NOAA support for GCP and submit to NOAA, Office of Global Programs (1/91). Director, Office of Hydrology
- Participate in NOAA-wide development of a NOAA Climate Services Program
  - Establish a NOAA Project Office for regional climate applications based on the existing program of six Regional Centers and consistent with the NOAA Climate and Global Change Program (8/91). Director, Climate Analysis Center
  - Identify a national user community for climate products and services in agriculture, water resources and energy drawn from private industry, state and local governments, and academe (8/91). Director, Climate Analysis Center.
- Implement a NOAA-wide project office for near-term climate forecasting (DERF) research as a component of the Climate and Global Change Program.
  - Identify the optimum conditions for numerical prediction of monthly mean climate anomalies, especially in the Northern Hemisphere (8/91). Director, Climate Analysis Center

NWS 11

OBJECTIVE:

NOAA-WIDE SUPPORT - ESTABLISH SCIENTIFIC UNDERSTANDING AND TECHNOLOGIES NECESSARY TO IMPROVE AND PROVIDE CAPABILITIES FOR OBSERVING, ANALYZING, MODELING, AND PREDICTING SIGNIFICANT WEATHER PHENOMENA

BACKGROUND:

Hazardous weather phenomena and heavy precipitation are not adequately handled by existing science and technology. It is essential to capture smaller spatial scales and shorter life cycles. New observing techniques based on remote sensing must be proven. New data analysis and "4-D data assimilation" techniques are needed.

Higher resolution models with improved physics are also needed. Additional data management, diagnostic, and interpretation aids must also be developed.

A national effort to address mesoscale research needs and opportunities has been defined (STORM Program).

PLANNED ACTIONS:

- Assist in the development of an integrated approach to an inter-agency budget initiative for FY 1993 for the National Stormscale Operational and Research Meteorology (STORM) Program (5/91). Director, Office of Meteorology

- Determine an objective method of obtaining index runoff values needed in enhanced flash flood guidance calculations, using a Geographical Information System (6/91) Director, Office of Hydrology

- Coordinate with the University Corporation for Atmospheric Research to establish the information necessary for COMET to develop an eight-week residence course on Mesoscale Analysis & Prediction and produce at least two computer-based modules in mesoscale meteorology for use in on-site training in forecast offices (9/91). Office of Meteorology

- Implement baseline software for short-term prediction of precipitation and flash flood potential from WSR-88D data .for risk reduction activities in the MARD area (9/91). Director, Office of Hydrology

- Develop improved flash flood guidance modelling through the use of the finer space and time scale data available from the WSR-88Ds (9/91). Director, Office of Hydrology

- Develop and perform initial testing of numerical model initialization schemes and 4-D data assimilation techniques that make effective use of new atmospheric observational data streams as they begin to be available during the year (9/91). Director, National Meteorological Center

- As the Wind Profiler Demonstration Network is installed in the central U.S., begin to assess its operational utility (9/91). Director, Office of Meteorology

- Develop the concept of experimental forecast activities at selected weather forecast offices to engage research scientists more directly in improving operational mesoscale predictions (9/91). Director, Office of Meteorology

NWS-12

OBJECTIVE:

NOAA-WIDE SUPPORT - DEVELOP AND MAINTAIN A COMPREHENSIVE APPROACH TO MODERNIZATION OF OPERATIONAL MARINE PROGRAMS TO IMPROVE MARINE PRODUCTS AND SERVICES.

BACKGROUND:

Environmental data monitoring is an explicit, basic function of each NOAA line office. Especially in these times when fiscal responsibility is crucial, it is imperative that, wherever possible, observational systems be developed and deployed that are able to serve multiple users. This is even more valid when such requirements are directed toward the remote, data sparse areas of the open ocean.

Data void and data sparse areas have a significant negative impact on NOAA's warning and forecast services. The Weather Service's real-time forecast and climatological data bases would benefit from data base augmentation that would provide a more accurate data analysis of existing conditions.

The Weather Service's experience with Doppler weather radar thus far has been focussed in mid-continent and has clearly demonstrated its superiority over existing conventional radar in detecting precursors to, and the existence of, weather conditions that pose threats to life and property. The deployment of Doppler systems to coastal areas will now provide an opportunity to evaluate the Doppler systems applicability to the maritime environment.

In the middle and eastern tropical Atlantic, much of the Caribbean, and parts of the Gulf of Mexico, no permanent, reliable, real-time, in situ surface observations exist. Tropical cyclone forecasts and research are hampered by the absence of data from these areas. Although estimates of surface storm intensity are obtained from satellites and reconnaissance aircraft, in situ surface observations are critical for real-time verification of these estimates and for post-storm analyses. Because of the lack of surface observations, considerable uncertainty often exists as to the strength of storm surface winds.

PLANNED ACTIONS:

- Establish two Weather Service Staff positions at the Center for Oceanographic Analysis and Prediction (COAP), a satellite meteorologist and a marine climatologist, to support and participate in cooperative COAP activities (6/91). Directors, National Meteorological Center and Office of Meteorology

- The National Weather Service, through participation in the COAP, will identify and take advantage of opportunities to enhance the marine and climatological data bases (9/91). Directors, National Meteorological Center and Office of Meteorology

- Develop, coordinate and foster activities to investigate the Doppler radar's application to the coastal maritime environment (9/90). Directors, Office of Meteorology and Southern Region

- Develop a program implementation plan for the creation of an Atlantic Tropical Cyclone Observing Network (ATCON) comprised of automated coastal stations, moored buoys, and the yearly deployment of drifting buoys, to provide reliable in situ observations in real-time from currently data-void regions (1/91). Director, Office of Meteorology.

NOAA

LEVEL

OBJECTIVES

NOAA LEVEL OBJECTIVES INCLUDE THOSE PROGRAMS THAT SERVE THE LINE AND PROGRAM OFFICES, CONTRIBUTING TO THE SUCCESS OF THE ENTIRE AGENCY.

AS - 1

OBJECTIVE:

IMPLEMENT A COHERENT AND FORWARD LOOKING POLICY DEVELOPMENT AND COORDINATION PROCESS INVOLVING ALL NOAA LINE AND STAFF OFFICES

BACKGROUND:

In a memorandum dated May 31, 1990, the Assistant Secretary created a process for policy development through the use of "task forces," groups of individuals from the Line and Staff offices to be brought together as needed to assist in policy development. These task forces are divided into five areas: Strategic Operations, Strategic Domestic Policy, Strategic Trade Policy, Strategic International Policy and Strategic Science.

The task force system was put in place to ensure that the input of all appropriate offices is considered in policy decisions, that proper emphasis is given to highest priority issues, that policy development is tracked all the way through the implementation phase, and that strategic external communication is planned to complement policy development.

The Assistant Secretary is responsible for the following actions:

PLANNED ACTIONS:

- Conduct individual Policy Task Force reviews at the initiative of Strategic Policy Coordinators (as necessary).

- Review NOAA policies with respect to program levels for use in preparation of the strategic plan for modernization of marine programs (12/90).

- Develop NOAA strategy for leadership in the Intra-Departmental Task Force on Environment and Competitiveness (1/91).

- Help develop proposed policy positions for the Department of Commerce regarding climate issues before the IPCC, the follow-on sessions for the Second World Climate Conference, the Brazil conference, and for the intergovernmental conference on the framework convention (6/91).

AS-2

OBJECTIVE:

DESIGN AND IMPLEMENT A RATIONAL PROCESS FOR ENHANCING NOAA'S VISIBILITY WITHIN THE COMMUNITY OF STATES THROUGH THE CULTIVATION OF OPPORTUNITIES FOR PERSONAL EXCHANGES BETWEEN NOAA SENIOR STAFF AND STATE CHIEF EXECUTIVES

BACKGROUND:

State governments are viewed by NOAA as principal users and beneficiaries of its science and related products and services as well as equal partners in matters concerning the implementation of national policy on competitiveness and environmental quality. The NOAA-State Partnership Program sought to engage state governments in cooperative exchanges designed to capitalize on the strengths and resources of each partner in promoting cost-effective and efficient ways in serving the needs of both local constituencies and the national interest. In those states where NOAA senior staff has played a visible role, the partnership program has achieved its greatest success in promoting the agency's contributions to ocean and atmospheric sciences and in broadening the public's recognition of the value and benefits of its services.

Using the state partnership experience as a guide, NOAA can further strengthen its beneficial working relationship with state governments by establishing a formal means for initiating discussions with individual state Governors and for developing innovative cooperative agenda that respond to the priority needs and interests of both the Federal and state partners.

The Assistant Secretary is responsible for the following:

PLANNED ACTIONS:

- Conduct initial survey of NOAA staff recommendations with respect to creating opportunities and the appropriate strategies for ensuring a successful outcome in exchanges between NOAA senior staff and state Governors (12/90).

- Develop resource documents that serve as authoritative sources on NOAA's organizational structure, plant facilities and operations, major programs in ocean and atmospheric research and development, including state and regional activities; i.e., the NOAA Product Information Catalog, a NOAA Sourcebook, and a state-by-state profile of NOAA activities (4/91).

- Prepare Program Development Plan that will serve as a blueprint for constituent building with the states' chief executives and which will include the following: (1) Information from the LOs and field offices regarding state and regional activities; (2) Opportunities cited by the DOC office of Intergovernmental Affairs for expanding intra-departmental coordination; and (3) Criteria for developing state-specific discussion agenda (4/91).

- Prepare individual state action plans that will provide basic intelligence about a state's capabilities in marshalling the resources and talent necessary to respond to NOAA initiatives and

which will take into account other information regarding: (1) its major interests and other timely issues having a NOAA linkage: (2) The relative value of pursuing specific issues in the context of the discussions with the Governor; e.g., significance with respect to national and regional interests and benefits to the state; and (3) The level of NOAA resources and the commitment necessary to achieve success; and (4) Expected or preferred outcome regarding follow-up action or future NOAA-state cooperative agenda (as necessary).

DUS-1

OBJECTIVE:

IMPLEMENT AN INTEGRATED NOAA EXECUTIVE MANAGEMENT PROCESS BASED UPON THE ESTABLISHMENT OF OBJECTIVES THROUGH STRATEGIC PLANNING

BACKGROUND:

Executive management decisions regarding agency-wide objectives, programs, and budgets will be based upon an explicit long-range strategic plan at the NOAA level.

Beginning in FY 1991 a "rolling" Strategic Plan was prepared by NOAA managers to provide a framework for agency management through Monthly Operating Reviews (MOR's), budget decision-making, and personnel performance evaluation. As an integral part of the MOR process, approximately 100 of NOAA's senior managers in the National Capital area meet after each MOR to be "debriefed" on MOR actions and to review plans and progress associated with their implementation.

From time to time, derivative strategic plans or decision documents will be prepared to support the NOAA Strategic Plan. For example, a detailed strategic plan for modernization of marine programs will be necessary to obtain approval from the Department, OMB and the Congress. Such derivative plans will be prepared, reviewed and adopted through this executive management process.

Completion of the planned actions stated below are the joint responsibilities of Assistant Administrators, NOAA-wide Program Directors, Staff Office Directors, and their senior managers. Coordination of this effort is provided by the NOAA Strategic Planning Staff and the Office of the Comptroller.

PLANNED ACTIONS:

- Prepare the NOAA Strategic Plan (10/90).
- Complete and distribute the FY 1991 Annual Operating Plan (10/90).
- Prepare SES and PMRS employee performance plans to reflect the NOAA Annual Operating Plan (10/90).
- Initiate FY 1993 budget request cycle based upon the NOAA Strategic Plan (11/90).
- Conduct Monthly Operating Reviews and Senior Managers Debriefs (monthly).
- Prepare a strategic plan for modernization of marine programs as a basis for FY 1993 initiative (2/91).
- Convene NOAA top managers for a retreat to review long-range objectives (set forth in the NOAA Strategic Plan) and their reflection in FY 1993 budget proposals (2/91).

- Every four months, convene an expanded session of a Senior Managers Debrief to provide a forum for direct dialogue with NOAA top management (1/91, 5/91, 9/91).

- Review accomplishments with respect to all FY 1991 Annual Operating Plan objectives (9/91).

DUS-2

OBJECTIVE:

IMPLEMENT TOTAL QUALITY MANAGEMENT AS NOAA'S METHOD OF MANAGEMENT

BACKGROUND:

NOAA is committed to implement Total Quality Management (TQM) as our management philosophy. TQM provides a systematic, consistent, organization-wide perspective to achieve high-level, quality performance. Its focus is on increasing the value of our products and services to our customers by assuring that all work processes are able to provide the service that customers want. Inherent in quality improvement is: a) the avoidance of rework due to errors, unclear procedures, or other causes; b) continuous reduction in cycle time; and c) the elimination of nonessential work. Resources saved by "doing the right things right the first time" translates into improved productivity and better service to NOAA's customers.

The implementation of TQM throughout NOAA will involve the active commitment of top executives, managers, and employees in creating a culture of excellence that emphasizes:

- Top management support
- Strategic planning
- Focus on the customer
- Employee training and recognition
- Employee empowerment and teamwork
- Measurement and analysis
- Quality assurance

TQM is a long term commitment to ensure that improvements in service are continuous and the desire for excellence is deeply embedded within NOAA. The use of this total organizational approach in meeting the needs and expectations of our customers is considered essential for achieving our strategic goal to be the Earth Systems Agency for the United States.

The Deputy Under Secretary will serve as NOAA's representative on the Department's Quality and Productivity Council and will Chair NOAA's Quality Council.

Assistant Administrators, Staff Office Directors, and their senior managers are responsible for the implementation of TQM throughout their organizations. The Office of Administration will provide staff support, such as training and technical assistance, for this requirement.

PLANNED ACTIONS:

- The use of TQM as NOAA's management philosophy for achieving its strategic goals and objectives will be incorporated in the Five-Year Strategic Plan (ongoing).

- The Quality Council will meet as needed to discuss cross-cutting TQM issues and policy and to

share lessons learned (ongoing).

- Assistant Administrators and Staff Office Directors will actively encourage and support the success of their TQM pilot projects and Customer Action Teams, e.g., encourage participants to seek training (ongoing).

- Assistant Administrators and Staff Office Directors will promote the formation of new pilot projects as funds for training additional employees becomes available and employees are enabled to train their fellow employees (ongoing).

- Line and Staff Offices will conduct self-assessment of their TQM environment as needed (ongoing).

- NOAA will submit nominations for the Secretary of Commerce Quality Award (6-7/91).

DUS - 3

OBJECTIVE:

IMPLEMENT METRIC USAGE IN NOAA'S MISSION ACTIVITIES IN SUPPORT OF THE COMMERCE METRIC PROGRAM

BACKGROUND:

The Commerce Metric Committee was established under Public Law 100-418, the Omnibus Trade and Competitiveness Act, and signed by the President on August 23, 1988. The Act requires, to the extent economically feasible, that each Federal Agency incorporate the metric system of measurement into its procurements, grants, and other business related activities by the end of FY 1992, except where such is impractical or likely to cause significant inefficiencies or loss of market. NOAA and its Line Offices have formed a Metrication Panel, and are in the process of developing a plan and schedule for metrication in NOAA. So far, no insurmountable barriers have been identified, and NOAA metrication is proceeding on schedule.

The Deputy Under Secretary is responsible for oversight of this program.

PLANNED ACTIONS:

- Provide FY 1990 Metric Progress Report to the DOC Metric Program Office (10/90). Director, NOS Engineering Staff
- Provide FY 1990 Metric MBO Plan to DOC Metric Program Office (10/90). Director, NOS Engineering Staff
- Outline Requirements for Metric Training in NOAA; work with GSA to provide the training needed (6/91). Director, NOS Engineering Staff
- Provide progress report the DOC Metric Program Office (6/91). Director, NOS Engineering Staff
- Develop / Finalize NOAA Metrication Plan for Line Office Guidance and Implementation (10/91). Director, NOS Engineering Staff

COMP-1

OBJECTIVE:

CONDUCT OF NOAA'S AUDIT AND INTERNAL CONTROL PROGRAM IN ACCORDANCE WITH THE INSPECTOR GENERAL ACT, THE FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT, AND DEPARTMENTAL POLICY

BACKGROUND:

By memorandum July 26, 1989, the President stated that he had selected "Government Management and Integrity" as an objective to be included in the MBO system. Identified as a selected milestone under the objective is:

"Increase the priority of, and policy and program level attention to, internal control programs mandated under the Federal Managers' Financial Integrity Act, and audit follow-up mandated by the Inspector General Act Amendments of 1988, so as to reduce the risk of unidentified fraud and waste."

PLANNED ACTIONS:

- Solicit candidates for NOAA's FY 1992 ICR Plan, and provide the Plan to the Assistant Secretary for Administration for Departmental approval (7/91). Comptroller

- Conduct eight (8) internal control reviews during FY 1991, in compliance with OMB Circular A-123, GAO Standards, and DOC guidelines (9/91). Chief, Audits and Internal Control Branch

- Provide Assistant Secretary for Administration quarterly status reports on the implementation status of Internal Control Review recommendations (10/91). Chief, Audits and Internal Control Branch

- Provide Assistant Secretary for Administration quarterly status reports on the corrective actions taken to reduce deficiencies in OMB/DOC identified NOAA High Areas, and similar reports to the Assistant Secretary on the correct ion of NOAA Material Weaknesses (10/91). Chief, Auditsand Internal Control Branch

- Assist NOAA Line and Staff Offices participate in Office of the Inspector General (OIG) and GAO audits and inspections, and reach appropriate audit resolution with the auditing agencies (9/91). Chief, Audits and Internal Control Branch

- Provide the Assistant Secretary for Administration quarterly status reports on the implementation status of Office of the Inspector General, and U.S. General Accounting Office audit recommendations (10/91). Chief, Audits and Internal Control Branch

- Provide the MOR group with monthly status reports on Internal Control Reviews and audits (9/91). Chief, Audit and Internal Control Branch

PA-1

OBJECTIVE:

ENHANCE PUBLIC AWARENESS AND UNDERSTANDING OF NOAA AND ITS PROGRAMS AS THE NATION'S PREMIER EARTH SYSTEMS AGENCY THROUGH COMPREHENSIVE INTERACTION WITH THE MEDIA

BACKGROUND:

While important strides were made in 1990 to elevate NOAA's public profile, much remains to be done to see that the agency and its employees move to the forefront in recognition for the outstanding public service they provide through leading-edge scientific research and resource management.

The Director, Office of Public Affairs is responsible for the following planned actions.

PLANNED ACTIONS:

- Continue to push toward integration of the NOAA name in all NOAA component activities. Working through the nomenclature committee formed by the Deputy Under Secretary, move toward integrated NOAA identity at every opportunity.

- Continue to develop, in concert with LEO, thorough communications plans to ensure that NOAA initiatives are well-thought-out and enjoy Departmental, Administration and public support, as well as achieve maximum NOAA identity. On controversial NOAA regulatory actions, "set the table" with the media to ensure NOAA credibility and minimize possible negative coverage.

- Aggressively market the NOAA identity to the media and public via every available tool. Bring to bear the individual strengths of NOAA's line organizations, as well as the integrated, NOAA-wide programs.

- Continue issuance of a regular series of NOAA "backgrounders" to a comprehensive media and Congressional list to acquaint the press and policy makers with NOAA's expertise and responsibilities.

- Expand the program to introduce the widest possible representation of media, ranging from the popular to the scientific, to the scientific and technological programs and projects being carried out for the national benefit at NOAA's operating centers, laboratories and other facilities.

- Improve and expand NOAA's publications within financial constraints. Continue move toward coordination of all publications to promote NOAA identity and message and aim for wider external circulation to public at large via innovative distribution through NOAA and high traffic public facilities.

- Continue to increase PA effort aimed at TV-radio coverage, the media from which most people now derive their principal news. Within financial constraints, implement a vigorous program of

audio-visual products and promotion aimed at wide audiences. Increase placement of NOAA leaders and program specialists on TV and radio.

- Enhance public awareness and understanding of NOAA's missions through media education and, as appropriate, visits to NOAA's fleet and aircraft which are basic to their success. Enhance public awareness and understanding of the programs of the NOAA Corps with the assistance, if possible, of a Corps detailee to assist the PA staff in this educational effort.

- Build on successes utilizing the NOAA fleet and aircraft to showcase NOAA research efforts and abilities. Place reporters on ship and aircraft missions wherever possible. It acceptable, reinstitute Corps detailee to PA staff to expand PA attention to Corps activities.

- Involve Secretary Mosbacher and, where possible or appropriate, the President, in NOAA activities or announcements.

- Establish ongoing partnership with Educational Affairs to maximize NOAA exposure through school programs, materials.

- Develop special media events in a variety of regional locations covering NOAA science activities; e.g., regional environmental media workshop of coastal-ocean program, outdoor writers regional workshop on NMFS activities.

LEO-1

OBJECTIVE:

DEVELOP AND COORDINATE A NOAA-WIDE EFFORT TO EDUCATE THE GENERAL PUBLIC IN EARTH SYSTEMS SCIENCE AND INCREASE AWARENESS AND USE OF NOAA SERVICES AMONG OUR CONSTITUENTS

BACKGROUND:

America's future economic prosperity will largely depend on our ability to achieve and maintain an educated workforce. Today, as never before, this entails education and training in the environmental sciences. NOAA is particularly well-suited to provide educational opportunities for the workforce and to the general public. In addition, NOAA, in cooperation with others, has a responsibility to transmit its knowledge to both the national and international citizenry.

PLANNED ACTIONS:

- Establish basic methods of operation in Division/LO representatives. NOAA's relations to external institutions of education (12/90). Chief, Educational Affairs Division

- Complete an inventory of existing educational activities conducted by NOAA staff and/or using NOAA resources (2/91). Chief, Educational Affairs Division

- Assemble a National Education Advisory Panel consisting of three groups external to the Education Affairs Division (EAD): classroom teachers, science educators and NOAA scientists. Interaction with the panel will be coordinated through EAD. (3/91). Chief, Educational Affairs Division

- Develop MOAs with NOAA LO's outlining objectives, task expectations for effectiveness in conduct of NOAA's Educational Activities (6/91). Chief, Educational Affairs Division

- Continue development of youth information networks with organizations providing/advocating educational programs in environmental science, mathematics, computer use proficiency (8/91). Chief, Educational Affairs Division

- Improve user awareness of earth systems science applications through affiliation with professional organizations, earth science educators and public education proponents. (9/91). Chief, Educational Affairs Division

GC-1

OBJECTIVE:

REFINE THE NATURAL RESOURCE DAMAGE ASSESSMENT CAPABILITY WHICH WAS DEVELOPED IN FY 90 TO EVALUATE DAMAGE TO PROTECTED RESOURCES AND BRING ACTION AGAINST ADDITIONAL RESPONSIBLE PARTIES; BEGIN PROCESS OF DEVELOPING DAMAGE ASSESSMENT REGULATIONS FOR OIL POLLUTION ACT OF 1990

BACKGROUND:

Under the Superfund Act, as amended, NOAA, as a natural resource trustee, is directed to evaluate Superfund sites for potential injury to NOAA resources. Evaluations have been conducted by NOAA Coastal Resource Coordinators since 1983. Potential injury to NOAA trust resources has been found at over 200 Superfund site. Two major cases were brought under the Superfund Act during the past year; one in Los Angeles and one in Seattle.

NOAA is also a trustee for natural resources under the Clean Water Act and its successor statute (insofar as oil spills are concerned), the Oil Pollution Act of 1990.

The General Counsel, working with NOS' Damage Assessment and Restoration Center, is responsible for the following planned actions:

PLANNED ACTIONS:

- Develop criteria for selection of second-generation cases (11/90).
- In cooperation with the Coast Guard, EPA and other natural resource trustees, develop the delegations necessary under the Oil Pollution Act of 1990 and work out funding arrangements necessary for the NOAA tasks thereunder (10/90).
- Develop Memorandum of Agreement with EPA governing coordination of the EPA/NOAA process with regard to Superfund sites (12/90).
- With the Department of Justice and other natural resource trustees, develop standardized Memorandum of Agreement for use in oil spills (12/90).
- Complete development of a centralized data-based management system to track the cases in litigation (12/90).
- Create a team of scientists, attorneys and economists to write the damage assessment regulations for the Oil Pollution Act of 1990 and initiate the process (1/91).
- Explore settlement options for superfund and oil spill cases (ongoing).
- Initiate and announce litigation on at least two more selected cases (4/91).

GC-2

OBJECTIVE:

DEVELOP LEGISLATION TO UPDATE NOAA'S AUTHORIZING STATUTES

BACKGROUND:

NOAA currently derives its authority from over 200 statutes. NOAA was created as an agency of the Department of Commerce (DOC) by Reorganization Plan No. 4 of 1970. The new agency was comprised of an already existing entity within DOC, the Environmental Science Services Administration (ESAA), which consisted of the Coast and Geodetic Survey and the Weather Bureau; and the Central Radio Propagation Laboratory of the National Bureau of Standards, now known as the Environmental Research Laboratory of the Office of Oceanic and Atmospheric Research (OAR). Reorganization Plan No. 4 also transferred to NOAA certain programs of the Department of the Interior, the Department of Transportation, the National Science Foundation, and the Department of the Navy. Consequently, unlike most agencies, NOAA does not operate under a comprehensive organic legislative document. While NOAA's principal programmatic authorities are derived from approximately 100 statutes, such as the Magnuson Fishery Conservation and Management Act and the Weather Service Organic Act of 1890, NOAA also is responsible for reporting, consulting, and other activities under more than 100 additional statutes.

A comprehensive review of NOAA's statutory authorities was completed during fiscal year 1990. It identified authorities which are no longer necessary and should be repealed. It also identified areas in which new authority is needed to further NOAA's mission. These items have been included in NOAA's legislative program proposed for the First Session of the 102nd Congress.

The General Counsel with the support of the Assistant Administrators and the Chief Scientist, is responsible for the following actions.

PLANNED ACTIONS:

- Upon receiving Departmental approval of items in the legislative program, draft legislative proposals for submission to the Department and OMB for interagency review, Administration clearance, and transmittal to Congress.

- Continue consideration of whether NOAA should seek enactment of a comprehensive Organic Act during the 102nd Congress.

OA-1

OBJECTIVE:

CONTINUE TO DEVELOP AND IMPLEMENT NOAA-WIDE HUMAN RESOURCES PROGRAMS WHICH ATTRACT AND RETAIN QUALITY INDIVIDUALS FOR NOAA'S WORK FORCE

BACKGROUND:

The future success of NOAA programs is directly tied to our investment in human resources. We need a systematic approach to attract and retain talent to meet NOAA's short and long-term human resources needs.

During FY 1990, we developed or updated a number of needed recruitment materials and guides to make us more competitive as an employer in the marketplace. These initiatives will continue to evolve and be fine tuned. We also spent time identifying projected hiring needs and identifying educational institutions which have academic disciplines compatible with our main line occupations.

Our focus for FY 1991 is to expand our recruitment and outreach efforts. We will also look at the delivery of services to those who enter NOAA's ranks. We've recognized over the past several years that a cooperative culture can be a strong "selling point" as an employer when pay scales may not be fully competitive.

PLANNED ACTIVITIES:

- Develop affiliations with professional associations and use them as potential recruitment sources (ongoing). Director, Personnel and Civil Rights Office

- Follow up with colleges and universities and arrange to attend recruitment and job fairs as appropriate and promote curriculum programs in which NOAA has an interest (11/90 - 9/91). Director, Personnel and Civil Rights Office

- Establish an Employment Center at Silver Spring Metro Center where applicants and NOAA employees can secure employment information about NOAA and leave applications for announced vacancies (6/91). Director, Personnel and Civil Rights Office

- Complete reorganization of the Office of Global Programs (OGP) and enhance OGP staff as appropriate to the FY 1991 program (6/91). Director, Climate and Atmospheric Research Office; Director, Personnel and Civil Rights Office

- Define the roles and responsibilities of the ASCs vis-a-vis the NOAA Civil Rights Division in the EEO area and assess the effectiveness of the ASC's EEO programs in attracting job candidates and providing for developmental programs (3/91). Director, Personnel and Civil Rights Office

- Develop and implement a program for newly hired clerical employees which assesses existing skills and teaches new skills (4/91). Director, Personnel and Civil Rights Office

- Develop an outreach program which familiarizes new employees with NOAA's organizational structure, programs and administrative requirements (4/91). Director, Personnel and Civil Rights Office

- Produce videos and workbooks on the Federal retirement systems as a method of providing pre-retirement counseling to NOAA employees in remote work sites (4/91). Director, Personnel and Civil Rights Office

- Design and implement a student oriented program designed to increase the applicant pool of minorities and women for NOAA's mainstream occupations (6/91). Director, Personnel and Civil Rights Office

- Identify management actions which frequently create perceptions of discrimination. Based upon these findings, develop new management policies and procedures to reduce employees misunderstanding of management actions (7/91). Director, Personnel and Civil Rights Office

- Develop an automated NOAA-wide vacancy announcement system for retrieval through PC application (9/91). Director, Personnel and Civil Rights Office

OA-2

OBJECTIVE:

INTEGRATE NOAA-WIDE ADMINISTRATIVE AND FINANCIAL SYSTEMS TO STREAMLINE RESOURCE MANAGEMENT, IDENTIFY COST EFFICIENCIES, IMPROVE PRODUCTIVITY, AND ASSURE NOAA PROJECTS ARE PROPERLY SUPPORTED

BACKGROUND:

The Office of Administration has undertaken several initiatives in the past few years to bring about integration of NOAA's financial and management information systems. Recently, the Department of Commerce has endorsed the establishment of an Resource Data Center for NOAA systems in Suitland, Maryland. Administrative systems for procurement, personnel, grants, and finance have been standardized throughout the Administrative Support Centers (ASCs). A standardized commitment tracking system has been endorsed and a formal system change committee has been established to regulate change and provide oversight and approval by Line Office representatives. In two of the regions, prototypes of the new Electronic Administrative Support Interface (EASI) software are now operational, allowing selected users to process forms electronically with the Administrative Support Centers. This software, when fully operational, will allow NOAA to move one step closer to a paperless environment for all of its administrative transactions.

PLANNED ACTIONS:

Director, Office of Information Systems and Finance:

- Establish the Resource Data Center (RDC) to replace the NOAA operation at the Parklawn Computer Center Operation (12/90).
- Convert existing Interactive FIMA system and subsystems to the new Resource Data Center (1/91).
- Enhance FIMA and FACTS tracking systems in cooperation with the Commitment Tracking Change Committee (3/91).
- Implement correspondence direct data exchange between NOAA Executive Secretariat, staff offices, and the Line Offices (3/91).
- Implement policies and guidelines endorsed by the Administrative Financial Systems Council and developed by the NOAA Administrative Standards Committee (4/91).
- Continue deployment of the Electronic Data Interchange (EDI) software, ultimately leading to automated distribution and processing of official administrative documents (ongoing).
- Expand the existing LAN wide area network to include specialized systems developed by the Line Offices to meet local requirements (ongoing).

OBJECTIVE:

IMPLEMENT AN EFFECTIVE TELECOMMUNICATIONS AND ADP SECURITY PROGRAM IN NOAA

BACKGROUND:

NOAA is implementing this program in accordance with P.L. 100-235, OMB Circular 130, OMB Circular 90-08, and the Department's Information Technology Security Handbook to develop safeguards necessary to protect sensitive information. Major accomplishments to date include developing a NOAA security directive and virus safeguard guidlines, and developing and conducting a security awareness training program.

For 1991, our goal is to develop a schedule of specific program responsibilities and methodologies. This will be done through the NOAA security directive, while building on the gains made previously through our comprehensive risk management program. We also are striving to further NOAA management and staff commitment to security awareness. Successful implementation of this program will create an environment far less subject to interruption of service or unauthorized disclosure of information. The Office of Administration will oversee and guide this program in conjunction with NOAA's major programs and their Information Technology Security Officers who will take the lead in managing implementation.

PLANNED ACTIONS:

Director, Office of Information Systems and Finance:

- Complete security workshops for ITSO's (10/90).
- Procure site license for virus detection software package (10/90).
- Complete review and update list of sensitive systems (9/91).
- Ensure all disaster recovery plans for sensitive systems are completed (9/91).
- Ensure all risk analysis has been completed (9/91).
- Conduct computer security awareness training for NOAA employees (ongoing).
- Conduct site reviews of NOAA's sensitive systems as needed to ensure compliance with applicable policies (ongoing).

OA-4

OBJECTIVE:

IMPROVE THE QUALITY OF SERVICES PROVIDED BY THE ADMINISTRATIVE SUPPORT CENTERS (ASCs) TO NOAA AND OTHER COMMERCE FIELD OFFICES

BACKGROUND:

The Administrative Support Centers were formed eight years ago to provide consolidated administrative support services to all Department of Commerce field components. The National Oceanic and Atmospheric Administration (NOAA), which accounts for the majority of clients serviced by the ASCs, is the host agency for all of the bureaus serviced and provides policy and operational direction to the ASCs. The Centers provide services in the areas of personnel, procurement, real and personal property, finance, engineering, supply and warehousing, some systems support, and other services which may be required at a particular field site.

The ASC concept was implemented based on the assumption that it would streamline the delivery of administrative support services to Commerce field components and would achieve economies of scale which would lower administrative costs. The concept has been successful. A customer survey conducted three years ago showed that most clients felt that the ASCs provided good or outstanding service. Clients have indicated during annual billing meetings that the price for ASC services is reasonable.

The ability of the ASCs to continue to seek a high level of service quality and to be responsive to clients is dependent upon top NOAA management support and interest, adjustments to base for existing programs, additional funding as new programs and services are provided, new initiatives which increase operating effectiveness and efficiency, improved communication between the ASCs and their clients, and more active participation by ASC staff as members of each client's management team.

PLANNED ACTIONS:

- Participate in client conferences, meet with client managers, involve clients in ASC functional counterpart meetings, and establish conference calls between clients and ASC managers to facilitate resolution of problems, clarify ASC and client responsibilities, and solicit and react to feedback from clients regarding service quality and delivery (Ongoing). Director, Administrative Support Center (ASC) Coordination Staff

- Continue to work closely with the ASCs to identify best practices and facilitate ASC wide initiatives for improved services and lower costs (Ongoing). Director, ASC Coordination Staff

- Develop and distribute to clients a guide which explains how to open a new office (10/90). Director, ASC Coordination Staff

- Evaluate the delivery of engineering services to clients and make recommendations for optimizing resources and improving client satisfaction (10/90). Director, ASC Coordination Staff

- Begin implementing action items from the ASC-wide Procurement Operations Review (11/90). Director, ASC Coordination Staff

- Estimate workload and resource needs associated with the National Weather Service's Modernization effort for fiscal year 1992, reach concurrence with NWS, and proceed to implement a plan for the ASCs to support NWS office openings effectively and on schedule (1/91). Director, ASC Coordination Staff

- Provide training on travel and imprest fund management for employees in the Washington metropolitan area (1/91). Director, Information Systems and Finance Office

- Develop a videotape to train BankCard holders and authorizing officials on proper use of the BankCard (2/91). Director, ASC Coordination Staff

- As part of routine self-evaluation activities, conduct an assessment of systems operations at the ASCs. Submit written findings and recommendations to the Director, OA (7/91). Director, Information Systems and Finance Office

- Establish a program for Finance and Procurement Divisions to work jointly to review and evaluate use of the Government BankCard as well as imprest fund practices (9/91). Director, ASC Coordination Staff

OA-5

OBJECTIVE:

IMPROVE AND ENHANCE THE NOAA FINANCIAL ASSISTANCE NETWORK

BACKGROUND:

NOAA initiated a major overhaul of its financial assistance (grants and cooperative agreements) operation in FY 1989 and FY 1990 by consolidating virtually all of its activities in the Grants Management Division (GMD) in the Procurement, Grants and Administrative Services Office in Silver Spring. The transition was traumatic and often painful for recipients, program staff, and grants management staff. During FY 1990 new grants management staff were hired and trained, contacts and working relationships were established with program office staff and recipients, and new policies were established for NOAA's financial assistance function.

Problems arose, however, which we will address in our FY 1991 plan along with our proposed improvements.

Our focus in the current year will be on improving our financial assistance network through input from and cooperation with NOAA's Line Offices, full and direct service to financial assistance recipients, and quick and effective communication among all three parties.

PLANNED ACTIONS:

- Establish an FY 1991 financial assistance award activity calendar (11/90). Chief, GMD; Line Office representatives

- Develop an automated data base using GLAMIS (Grant and Loan Accounting Management Information System) to track a financial assistance application from receipt in the grants management office to award document (11/90). Chief, GMD

- Based on the self-assessment of NOAA program offices, make recommendations regarding administratively effective approaches for implementation by all NOAA grant programs (12/90). Chief, GMD

- Utilize GLAMIS to communicate with the Financial Assistance Review Board (12/90). Chief, GMD; DOC, Office of Federal Assistance

- Develop a financial assistance application kit for use by potential applicants (12/90). Chief, GMD

- Conduct an assessment of NOAA's grant administration processes, in conjunction with line offices to streamline NOAA's program, reduce burdens on recipients and program staff, and eliminate delays associated with FARB and OIG clearances (2/91). Director, OA

- Develop procedures for early notification by program offices of prospective awards and early submission of award packages to the GMD for funding (2/91). Chief, GMD; Line Office representatives

- Identify Total Quality Management (TQM) opportunities within the NOAA Grants Management Division to speed clearance of awards, eliminate paperwork and requests for data, and improve responsiveness to recipients and program staff (3/91). Chief, GMD

- Establish in GMD an oversight policy function for the MASC financial assistance operations so that financial assistance policies and procedures are consistent throughout NOAA (3/91). Chief, GMD

- Line Offices in consultation with the NOAA Grants Management Division identify and correct deficiencies in announcing, awarding, and administrating their financial assistance activities (6/91). Assistant Administrators

- Complete three two-day training sessions for NOAA financial assistance recipient organizations and NOAA program officers regarding grants administration (6/91). Chief, GMD

- Improve monitoring of ongoing awards to ensure that required program and financial reports, including final reports, are submitted on a timely basis, reviewed by the appropriate staff person, and transmitted to the GMD for disposition and filing (6/91). Chief, GMD; Line Office representatives

- Utilize GLAMIS to expedite the award process and communicate current grants management activity to the program offices, as needed (6/91). Chief, GMD

- Have GMD Specialists visit several sites to familiarize themselves with program activities as well as to assess the effectiveness of recipient administrative and fiscal procedures (6/91). Chief, GMD

- Improve liaison with all major NOAA regional program offices with financial assistance activity by site visits performed by GMD staff to update staff on current developments in financial assistance (6/91). Chief, GMD

NC-1

OBJECTIVE:

PROVIDE SHIP SUPPORT TO NOAA PROGRAMS AND OTHER ACTIVITIES IN ACCORDANCE WITH THE APPROVED ALLOCATION PLAN

BACKGROUND:

NOAA Ships acquire marine data required for nautical charting, living marine resource assessment and research, environmental monitoring, exclusive economic zone surveys, and oceanographic and atmospheric research programs. The ship time is allocated to these programs annually by NOAA's Fleet Allocation Council (FAC) and the ships are operated in accordance with a Fleet Allocation Plan approved by the FAC.

PLANNED ACTIONS:

- Operate fleet in accordance with approved Fleet Allocation Plan (ongoing). Directors, Atlantic Marine Center and Pacific Marine Center

- Provide report to the FAC on FY 90 fleet accomplishments (3/91). Director, Office of NOAA Corps Operations (NC)

- Participate in the development of a Fleet Modernization and Upgrade Plan based on the results of the NOAA Fleet Assessment Study for submission to the Department of Commerce. The plan will address new ship construction, service life extensions of existing NOAA vessels, conversions, and leasing/chartering of ships required to transition the NOAA fleet from its present state to a modern and efficient fleet capable of meeting NOAA's future program requirements (3/91). Director, NC

- Lead development of FY 92 Fleet Allocation Plan (5/91). Director, NC

OBJECTIVE:

PROVIDE MISSION-READY AIRBORNE PLATFORMS AND PERSONNEL TO SUPPORT NOAA PROGRAMS AND OTHER ACTIVITIES IN ACCORDANCE WITH THE APPROVED ALLOCATION PLAN

BACKGROUND:

NOAA aircraft support NOAA research and service programs as well as those of other federal agencies. Currently, these aircraft are involved in hurricane research and reconnaissance; weather, oceanographic and environmental research; marine biological surveys; aeronautical charting; coastal mapping and airport photography. The flight time is allocated by the NOAA Aircraft Allocation Council (NAAC) on an annual basis.

PLANNED ACTIONS:

- Provide aircraft support in accordance with approved Aircraft Allocation Plan (ongoing). Director, Aircraft Operations Center (AOC)
- Provide report to NAAC on FY 90 aircraft accomplishments (3/91). Director, AOC
- Develop an Aircraft Modernization and Maintenance Plan for presentation to Commerce (DOC). Plan to assess aircraft requirements for the next 20 years and provide an analysis of options available to reduce the cost of aircraft support services (3/91). Director, NC
- Lead the development of FY 92 Aircraft Allocation Plan (4/91). Director, AOC
- Conduct a cost effectiveness/comparison study of different aircraft fleet configurations, including use of outside resources to fulfill the missions of AOC in an effort to reduce costs and improve service (2/91). Director, AOC, and Comptroller.

NC-3

OBJECTIVE:

PROVIDE TECHNICALLY COMPETENT OFFICERS TO COMMAND THE SHIPS, PILOT THE AIRCRAFT AND ASSUME POSITIONS OF LEADERSHIP IN THE PROJECTS AND PROGRAMS OF NOAA

BACKGROUND:

NOAA Commissioned Officers command and manage NOAA's fleets of ships and aircraft; provide leaders to support NOAA's charting, environmental monitoring, fisheries, oceanographic and atmospheric research weather and other programs; and provide liaison with other uniformed services. Officers are assigned to billets in accordance with an approved billets list describing all positions to be fulled by NOAA officers and the relative priority of the positions.

PLANNED ACTIONS:

- Update the NOAA Corps billets list, with the advice of NOAA program representatives, to align the billets list with on board corps strength, NOAA program priorities, and officer career development needs (6/91). Director, Commissioned Personnel Center (CPC)

- Provide report the NOAA Deputy Under Secretary on FY 1990 commissioned officer support of NOAA programs (3/91). Director, CPC.

FM-1

OBJECTIVE:

FLEET MODERNIZATION - IMPLEMENT A PROGRAM OF VESSEL REPLACEMENT AND UPGRADE TO ENSURE THAT THE NOAA FLEET IS CAPABLE OF SATISFYING THE AGENCY'S OCEAN AND ATMOSPHERIC MISSION INTO THE NEXT CENTURY

BACKGROUND:

NOAA is increasingly being viewed as the Nation's earth system agency with unique responsibilities to improve understanding of the coastal and global oceans through research, assessment, surveying and long-term monitoring. NOAA depends upon its research and survey fleet to satisfy its ocean missions. This fleet now faces several major problems: age, a backlog of deferred maintenance, and, in cases, restriction in functional capability.

NOAA's ships are at the age which the ocean community considers as maximum for research and survey vessels. With the exception of the 125-foot CHAPMAN in 1980, all NOAA vessels predate the establishment of NOAA and are largely a product of major capital investments in the early to mid 1960's. NOAA has never had a systematic capital investment program for its vessels, either for major rehabilitation or for new construction. The base program for marine services, (approximately $60 million in FY 1990) includes only $6 million for routine maintenance and repairs. At present NOAA has a $40 million backlog of critical maintenance items in ship's systems. Added to this is a $50 million backlog for replacement of obsolete instrumentation. Given the age of vessels in NOAA's fleet, the fact that no vessel has had a major service life extension, and the current material condition of the fleet, it is conservatively projected that within seven years, NOAA will have less than six ships, and by the end of the decade will not have any vessels capable of sustaining operations.

Also of concern is that some NOAA vessels cannot fully satisfy recognized mission requirements. Virtually all NOAA ships were built with the technology of the 1960's to satisfy specific oceanographic objectives of that era. Since that time there has been a dramatic evolution in methods for collecting and analyzing oceanographic data. New designs, not incorporated into NOAA ships, will provide increased efficiency in operations.

Building upon, and incorporating as appropriate, the recently completed NOAA Fleet Modernization Study, a Fleet Modernization Plan should be completed for submission as a FY 1993 budget request to DOC (2-91). This will be completed as an integral part of the Modernization of Marine Programs and as such will be under the guidance of the Deputy Under Secretary for Oceans and Atmosphere. Included in this Plan will be:

PLANNED ACTIONS:

- Priorities of the mission requirements as identified in Phase I of the Fleet Modernization Study in terms of resources.

- Identification and analysis of alternative fleet requirements to meet mission needs. The options of direct ownership, leasing, chartering, and build/lease as explored in Phases II and III of the Fleet Modernization Study should be developed.

- Benefit/cost analysis relative to all systems' configuration alternatives and the pros and cons of the alternatives.

- Economic, technical, and political feasibility studies of various fleet modernization alternatives.

- Analysis of life-cycle costs as identified in Phase III of Fleet Modernization Study.

- Coordinate with other government agencies to preclude duplication of oceanographic and atmospheric research.

OBJECTIVE:

INCREASE THE EFFECTIVENESS OF NOAA'S LEADERSHIP IN NATIONAL OCEAN POLLUTION AND CLIMATE PROGRAMS ESTABLISHED BY LAW OR EXECUTIVE ACTION

BACKGROUND:

The purpose of this objective was to take advantage of the stature and role of the current National Ocean Pollution Policy Board (NOPPB) and National Climate Policy Board (NCPB) to assist with 1) development of the Administrator's science policy and 2) assist with the planning and coordination of interagency and intra-agency environmental science programs.

Initial efforts included a review of the legislative and historical duties/responsibilities of both Boards and their respective offices, i.e., the National Ocean Pollution Program Office (NOPPO) and National Climate Program Office (NCPO). Subsequently, NOPPO began discussions with various science policy organizations both within and outside the Federal establishment to investigate ways to broaden the existing scope of the NOPPB. For example, NOPPO is working with several other agencies to convene a coastal science working group as part of the White House Office of Science and Technology Policy (OSTP)/CEES organization. Through this process, NOPPB could become a key factor in addressing the pollution aspects of coastal science and policy being developed by the Administration. In addition, NOPPO is working with the Council on Environmental Quality to develop a joint role for addressing marine pollution science and policy and with the National Academy of Science and other academia-based science organizations to develop closer ties to the non-Federal science community. NOPPO has also convened interagency working groups (WG) to address Habitat Loss and Modification and Ecosystems Monitoring issues. These WG's are currently identifying research and information gaps and developing recommendations for future Federal activities to address these gaps.

NCPO reestablished the relationship with NCPPB as its decision making body, after a long hiatus. With the encouragement of the NCPPB, NCPO delegated two operational service programs to the National Oceanic and Atmospheric Administration. The NCPO Director developed a plan for future operations, which was cleared through the Chief Scientist and the Under Secretary. This is providing the template for action.

NCPO helped organize the plenary session of the Intergovernmental Panel on Climate Change (IPCC) at Georgetown University, and led the effort to develop U.S. comments on the IPCC Working Group II document (Impacts Assessment). It is also helping support the Second World Climate Conference efforts in Geneva.

NCPO personnel are providing staff support for the CEES Working Group on Mitigation and Adaptation Research Strategies (MARS), which is chaired by Dr. John Knauss.

PLANNED ACTIONS:

- Review of current roles and responsibilities of NOPPB and NCPPB. (4/90) Directors, NOPPO

and NCPPB

- Development of Proposal to CEES for NOPPB involvement in proposed Coastal Science Working Groups (8/90). Director, NOPPO
- Negotiation of joint CEQ-NOPPO marine pollution and science policy role (6-90 and ongoing). Director, NOPPO
- Development of role for NOPPB involvement in interagency coordination of national ecosystems monitoring activities (8/90). Director, NOPPO
- Convene workshop to identify Federal mechanisms for documenting loss of habitat (wetlands) from permitted actions (8/90). Director, NOPPO
- Staff the CEES-MARS Working Group on behalf of the Under Secretary (3/90). Director, NCPO
- Lead the U.S. comments on the IPCC Working Group II Report (6/90). Director, NCPO
- Expand the U.S.-Soviet Bilateral Agreement on Climate Change to 60+ projects (9/90). Director, NCPO
- Develop renewal documents for U.S. - Canada Bilateral Agreement on Climate, and develop two workshops and several projects under the Bilateral (8/90). Director, NCPO
- Per the operational plan, transfer two operational service programs from NCPO to NOAA (8/90). Director, NCPO
- Publish the 1989-1993 Federal Plan for Climate Services (3/90). Director, NCPO

CS-2

OBJECTIVE:

IMPLEMENT APPROPRIATE PEER/USER REVIEW PROCEDURES FOR ALL NOAA PROGRAMS ON A SYSTEMATIC AND CONTINUING BASIS

BACKGROUND:

As an earth science-based operational agency, NOAA must assure that the quality of its scientific and technological activities are adequate to fulfill NOAA's mission.

Peer review is the accepted means to evaluate the quality of science-based programs. Because most NOAA operational programs provide practical products to external users, the evaluation of NOAA's programs should extend beyond the scientific community per se, to include similar experts from service-providing agencies and users or beneficiaries of NOAA's products or services. The review/evaluation process has been applied unevenly throughout the agency.

During FY 90, the Under Secretary requested the Chief Scientist to examine current peer/user review procedures in NOAA. A meeting of the Assistant Administrators and the Chief Scientist resulted in the development of a review policy that could be applied broadly throughout the agency. The policy which has been promulgated to the Assistant Administrators and Program Directors was designed to strike a balance between the flexibility needed by the diversity of agency operations and organizations while preserving discipline and accountability. The respective line offices and program offices will develop guidelines for the conduct of reviews based upon proven NOAA examples. A calendar of reviews, identifying the type or level of review, will be updated and distributed monthly. A year-end assessment of the review process will be prepared by the Chief Scientist in collaboration with the Assistant Administrators and Program Directors.

PLANNED ACTIONS:

- Line Offices and major Program Offices will provide the Chief Scientist with their plans for implementing the review process for FY 91, including a calendar of proposed reviews, and any respective guidelines they have established (10/90). Assistant Administrators, Program Directors

- Within two months following the completion of the review, the appropriate Laboratory/Program/Center Director will provide the Chief Scientist with the written results of such review (Ongoing). Appropriate directors.

- The Chief Scientist will use the line office and program office input to maintain and provide a calendar of reviews (Monthly). Chief Scientist.

- The Chief Scientist will prepare a year-end assessment of the review process (9/91). Assistant Administrators, Program Directors, Chief Scientist

CS-3

OBJECTIVE:

IMPROVE AND ENHANCE THE NOAA ENVIRONMENTAL DIGEST

BACKGROUND:

With the creation of NOAA, the Nation established a unique agency dedicated to the enhancement of knowledge about our environment. NOAA's core mission is to increase our understanding of the total Earth system, an understanding based on effective monitoring of the global environment. NOAA currently monitors the sun, atmosphere, ocean, biosphere, and cryosphere on regional to global spatial scale and synoptic to climatological time scales.

To assist in the understanding of environmental change, and to aid in the assistance of its global implications, a NOAA ENVIRONMENTAL DIGEST has been instituted. Our overall goal is to present the relevant facts, leaving the interpretation of the information to others. This report has two primary objectives. The first is to document, on a regular basis, changes in selected environmental parameters. The second is to provide information to those engaged in the development of relationships between environmental change and its consequences to society.

The wide diversity of data collected by NOAA is published in numerous reports, bulletins, journals, and the scientific literature. This report was initiated in an attempt to make this diverse collection of data more accessible, publicize its presence, and promote an awareness of environmental variability and climatic change. The NOAA ENVIRONMENTAL DIGEST focuses on selected environmental parameters considered indicators of system variability on regional and global scales.

The material presented in this report will be provided by scientists from each of the five NOAA Line Offices and the NOAA-wide high priority programs.

The Executive Director, Office of the Chief Scientist, is responsible for the following planned actions.

PLANNED ACTIONS:

- Publish and distribute first annual NOAA ENVIRONMENTAL DIGEST both internally and to selected external parties (11/90).
- Distribute "Request for Information" to over 300 NOAA scientists and managers to obtain their comments, suggestions for additional parameters, and critique on the first report (11/90).
- Coordinate activities with other agencies (12/90).
- Plan and coordinate a NOAA-wide workshop to begin the development and publication of the second edition of the NOAA ENVIRONMENTAL DIGEST (4/91).
- Finalize text of second annual NOAA ENVIRONMENTAL DIGEST (8/90).
- Publish and distribute second NOAA ENVIRONMENTAL DIGEST (10/91).

DAS-1

OBJECTIVE:

ENHANCE NOAA EFFECTIVENESS IN INTERNATIONAL AFFAIRS; IDENTIFY AND RESPOND TO MERGING INTERNATIONAL OPPORTUNITIES FOR NOAA

BACKGROUND:

There is rapidly increasing domestic and international attention to changes in the global environment. This includes not only the well publicized issue of "global change" but also several subsidiary and related issues, including biodiversity, large marine ecosystems, coastal resource management, environmental monitoring, and data management. These trends will affect both NOAA's multilateral programs and bilateral relationships.

NOAA is uniquely suited within the U.S. government to contribute to many of these issues. Effective action in any of these areas requires international cooperation, whether through research, monitoring or regulatory actions.

At present, NOAA is not well prepared to deal with emerging international issues on an integrated basis. For example, in order to make our proper contribution. NOAA must adopt a more active coordinated approach to international environmental issues.

The relationship of international competitiveness and the environment are of primary interest to the Secretary of Commerce. The NOAA Under Secretary has set up a high-level task force on this topic.

NOAA has continuing responsibilities and goals pursuant to its various bilateral and multilateral programs.

PLANNED ACTIONS:

- Convene representatives of the Line Offices to review and coordinate NOAA-wide international activities (ongoing). International Affairs Coordinating Group (IACG)

- Develop and implement an oceans initiative and data management proposals for the 1992 United Nation Conference on Environment and Development (ongoing). Deputy Assistant Secretary/ Chief Scientist/NESDIS/NMFS

- Continue to expand and integrate NOAA participation in the Caribbean and Pacific Regional Seas Programs (ongoing). DAS

- Develop a NOAA position on how to interface with the international community in developing an integrated global environmental monitoring (ocean, air, space components) and data management systems in support of global change studies (9/91). NESDIS/NWS/NOS/NMFS

- Continue coordination of NOAA participation in the Economic Summit, CSCE, IUCN, polar and

Pacific matters (ongoing). (DAS)

- NOAA will develop a plan to pursue its trade objectives, including fish and marine and meteorological instrumentation (ongoing).

NOAA - WIDE HIGH PRIORTY PROGRAMS AND THEIR SUPPORTING OBJECTIVES

CLIMATE AND GLOBAL CHANGE:

NMFS-2	Marine Ecosystems Response
NOS-7	Contribute to Climate & Global Change Program
OAR-1	Long Term Climate & Air Quality
NESDIS-6	Climate & Global Change/Coastal Ocean Program
NWS-10	Build Climate Services Program Based on Near-Real-Time Climate Monitoring, Diagnostics, Prediction, & Distrbution of Climate Products
CS-1	Increase Effectiveness of Leadership in Climate Programs
OAR-5	Improve OAR Planning, Program Development, & Management

COASTAL OCEAN PROGRAM:

NMFS-1	Conservation & Management of Living Marine Resources
NOS-3	Direct Science/Information Toward Coastal & Ocean Management
NOS-4	Ensure Effective Coastal & Ocean Management
NOS-8	Contribute to Coastal Ocean Program
NESDIS-6	Coastal Ocean Program/Climate & Global Change
NWS-9	Support Coastal Ocean Program
OAR-4	National Policy involving Oceanic & Great Lakes Resources

MODERNIZATION OF WEATHER PROGRAMS:

NWS-4	Service Improvement Through New & Enhanced Productsand Services
NWS-5	Integrate & Deploy New/Upgraded Systems & Facilities
NWS-6	Gain Acceptance & Support for MARD
NWS-7	Ensure Access to Satellite Imagery & Products
NWS-8	Enhance Hydrological Forecasting Services
OAR-2	Improve Operational 1-to-48 Hour Prediction

MANAGEMENT OF ENVIRONMENTAL DATA:

NMFS-3	Integrate Common Elements of Data
NOS-9	Global Environmental Science Data Management Program **NESDIS-5** Improve Integrity, and Quality Control of Environmental Data & Information

MODERNIZATION OF MARINE PROGRAMS:

NOAA-2	Coastal Ocean Program
NOS-1	Modernize Basic Ocean Services
NWS-12	Support Modernization of Marine Programs
FM-1	Implement a Program of Vessel Replacement & Upgrade
NMFS-8	Implement the NMFS Strategic Plan in Support of Modernization of Marine Programs
NESDIS-1	Plan Long-Term Program Revisions

ACRONYMS

ABC	Allowable Biological Catches
AFOS	Automation of Field Operations
AL	Aeronomy Laboratory
ANCS II	Automated Nautical Charting System II
AOC	Aircraft Operations Center
AOML	Atlantic Oceanographic and Meteorological Laboratory
ARL	Air Resources Laboratory
ASCs	Administrative Support Centers
ASOS	Advanced Surface Observing System
ATCON	Atlantic Tropical Cyclone Obversing Network
AWIPS	Advanced Weather Interactive Processing System
BAFOs	Best and Final Offers
CAR	Climate and Atmospheric Research
CEOS	Committee on Earth Observing Systems
CEES	Committee on Earth and Environmental Sciences
CEQ	Committee on Environmental Quality
CMDL	Climate Monitoring and Dynamics Laboratory
CPC	Comissioned Personnel Center
COAP	(NOAA) Center of Ocean Analysis and Prediction
COARE	Cooperative Ocean Atmosphere Response Experiment
CODAR	Coastal Ocean Radar
COE	(Army) Corps of Engineers
COMPAS	Coastal Ocean Management, Planning and Assessment System
COP	Coastal Ocean Program
CRS	(NOAA Weather Radio) Console Replacement Systems
CSCE	Conference on Security and Cooperation in Europe
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
CZM-NEP MOU	Coastal Zone Management - National Estuary Program Memorandum of Understanding
DAR^{3}E	Denver AWIPS Risk Reduction and Requirements Evaluation
DBMS	Data Base Management System
DERF	Dynamic Extended Range Forecasting
DIFAS	Digital Ice Forecasting and Analysis System
DOC	Department of Commerce
EASI	Electronic Administrative Support Interface
EC	European Common Market / European Community
EBS	Emergency Broadcast System
EDI	Electronic Data Interchange
EEO	Equal Employment Opportunity
EEZ	Exclusive Economic Zone
ENSO	El Nino-Southern Oscillation
EOSDIS	Earth Observation Satellite Data and Information System
EPA	Environmental Protection Agency
ERL	Environmental Research Laboratory

ESDIM	Earth System Data and Information Management
ESA	Endangered Species Act
ESSA	Environmental Science Services Administration
ESSE	Earth Systems Science Education
ETP	Eastern Tropical Pacific Ocean
EUMETSAT	The European Consortion for Meteorological Satellite
EUV	Extreme Ultra-Violet
FAC	Fleet Allocation Council
FARA	French-American Atlantic Ridge Program
FARB	Federal Assistance Review Board
FDDA	Four-Dimensional Assimilation
FEMA	Federal Emergency Management Agency
FIMA	Financial Information Management System
FMPs	Fishery Management Plans
FNOC	(Navy's) Fleet Numerical Oceanographic Center
FOCI	Fisheries Recruitment Oceanography
FSL	Forecast Systems Laboratory
FTA	(U.S./Canada) Free Trade Agreement
FWCA	Fish and Wildlife Coordination Act
FWS	Fish and Wildlife Service
GATT	General Agreement on Tariffs and Trade
GEOSAT	Geostationary Satellite
GEWEX	Global Energy and Water Balance Experiment
GFDL	Geophysical Fluid Dynamics Laboratory
GIS	Geographic Information System; also Global Information System
GLAMIS	Grant and Loan Accounting Management Information System
GLERL	Great Lakes Environmental Research Laboratory
GMD	Grants Management Division
GOES	Geostationary (Satellite)
GPC	GEWEX Continental Project
GPCP	Global Precipitation Climatology Project
GPS	Global Positioning System
HACCP	Hazard Analysis Critical Control Point
HAZMAT	Hazardous materials
HDAPS	Hydrographic Data Acquisition and Processing System
IAGC	International Affairs Coordinating Group
ICR	Internal Control Review
I-FIMA	Interactive Financial Management System
IFQs	Individual Fishing Quotas
IGOSS	Integrated Global Ocean Services System
IMAFS	Interactive Marine Analysis and Forecast System
IOC	Intergovernmental Oceanographic Commission
IODE	International Oceanographic Data and Information Exchange
IPCC	Intergovernmental Panel on Climate Change
IPS	Interplanetary Scintillation
IT	Information Technology
ITLS	International and Intergovernmental Liaison Staff

ITQ	Individual and Transferable Quotas
ITSOs	Information Technology Security Officers
IUCN	International Union for the Conservation of Nature and Natural Resources
JGOFS	Joint Global Ocean Flux Study
JIC	Joint Ice Center
JOMAR	Joint Office of Mapping and Research
LAN	Local Area Network
MAR	Modernization and Associated Restructuring
MARD	Modernization and Associated Restructuring Demonstration
MAREP	Mariner's Report
MBO	Management By Objectives
MFCMA	Magnuson Fisheries Conservation Management Act
MMPA	Marine Mammal Protection Act
MMS	(Department of Interior's) Minerals Management Service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSSP	Model Seafood Surveillance Project
NAPAP	National Acid Precipitation Assessment Program
NAAC	NOAA Aircraft Allocation Council
NAS	National Academy of Science
NAVD	North America Vertical Datum
NC	NOAA Corps
NCDC	National Climatic Data Center
NCPB	National Climate Policy Board
NCPO	National Climate Policy Office
NEDRES	National Environmental Data Referral Service
NERRS	National Estraine Reserve Research System
NESDIS	National Environmental Data and Information System
NEXRAD	Next Generation Weather Radar
NGDC	National Geophysical Data Center
NGRS	National Geodetic Reference System
NGSIDB	National Geographic Integrated Data Base
NGWLMS	Next Generation Water Level Measurement System
NIST	National Institute of Standards and Technology
NMC	National Meteorological Center
NMFS	National Marine Fisheries Service
NMSP	National Marine Sanctuaries Program
NOCN	NOAA Ocean Communications Network
NODC	National Oceanographic Data Center
NOPPB	National Ocean Pollution Policy Board
NOPPO	National Ocean Pollution Policy Office
NOS	National Ocean Service
NOSIE	National Ocean Science Information Exchange
NSF	National Science Foundation
NSPO	National Storm Program Office
NSSL	National Severe Storm Laboratory
NS&T	National Status & Trends

NURP	National Undersea Research Program
NWS	National Weather Service
NWSRFS	National Weather Service River Forecast System
OA	(NOAA's) Office of Administration
OAR	Oceanic and Atmospheric Research
OCS	Outer Continental Shelf
OGP	Office of Global Programs
OIG	Office of Inspector General
OM	Office of Meteorology
OMB	Office of Management and Budget
ONCO	Office of NOAA Corps Operations
OPC	(NOAA's) Ocean Products Center
OR	Oceanic Research
OSTP	Office of Science and Technollgy (White House)
PA	(NOAA's Office of) Public Affairs
PDC	Program Development & Coordination Staff
PDP	Program Development Plan
PIC	Product Information Catalog
PMEL	Pacific Marine Environmental Laboratory
PRC	People's Republic of China
QPL	Qualified Products List
QUIPS II	Quality Improvement Performance System
R&D	Research and Development
RDAS	Regional Data Assimilation System
RDC	Resource Data Center
RFC	River Forecast Center
RFP	Request for Proposals
RITS	Radiatively Important Trace Species
SAB	South Atlantic Bite
SAFE	Stock Assessment and Fishery Evaluation
SARCOM	Synthetic Aperture Radar
SEAS	Shipboard Environmental (Data) Acquisition System
SEL	Space Environment Laboratory
SELDADS	Space Environment Laboratory Data Acquisition and Display Systems
SESC	Space Environment Service Center
STORM	National Stormscale Operational and Research Meteorology
SWIS	Satellite Weather Information System
TAC	Total Allowable Catch
TOGA	Tropical Ocean and Global Atmosphere
UNEP	United Nation's Environmental Program
UNJR	U.S. - Japan Cooperative Program in Natural Resources
URI	University of Rhode Island
U.S. AID	U.S. Agency for International Development
USGCRP	U.S. Global Change Research Program
USGS	U.S. Geological Survey
UW	University of Washington
VDUC	VAS Data Utilization Computer

VLBI	Very Long Baseline Interferometry
WARFS	Water Resources Forecasting Services
WBS-0600	Work Breakdown Structure - 0600
WFO	Weather Forecast Office
WMO	World Meteorological Organization
WOCE	World Ocean Circulation Experiment
WPL	Wave Propagation Laboratory
WRSAME	NOAA Weather Radio Specific Area Message Encoder
WSO	Weather Service Office
WSR-88D	Weather Service Radar - 88D
XBT	Expendable Bathythermograph
XDRS	Crossover Difference Records

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