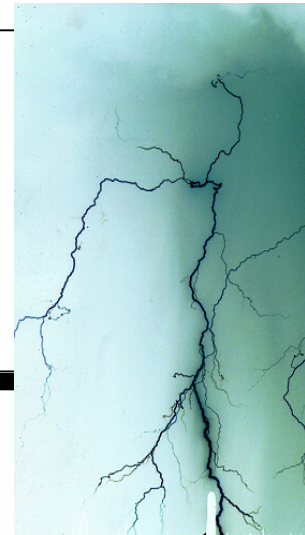


# National Weather Service

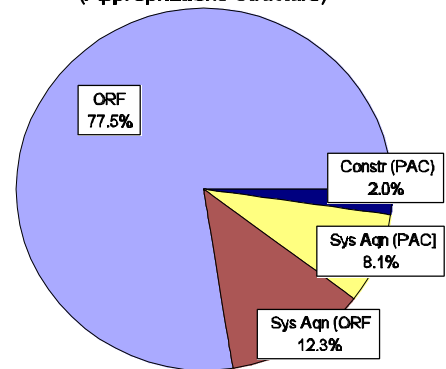
Total Request: \$687,529,000  
 ORF: \$617,897,000  
 PAC: \$69,632,000



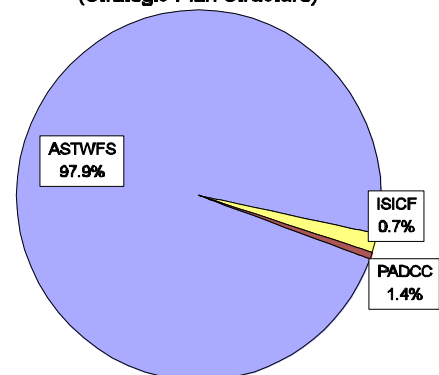
The following narrative describes the total activities of the National Weather Service (NWS) and provides a detailed narrative divided to show the Operations, Research and Facilities (ORF) and Procurement, Acquisition, and Construction (PAC) accounts. Narratives describing changes involving NWS Facilities Construction and Maintenance are contained in the separate Facilities section.

The National Weather Service provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies and the private sector, and the global community. Weather services are provided by a nationwide network of offices that collect data, utilize guidance products centrally prepared through the National Centers for Environmental Prediction (NCEP), prepare warnings and forecasts, and disseminate the information to the public. NWS modernization activities continue to apply the latest advances in science and technology to operational forecasting. The NWS contributes to the achievement of three of NOAA's Strategic Plan goals; Advance Short-Term Warning and Forecast Services, Implement Seasonal to Interannual Climate Forecasts, and Predict and Assess Decadal to Centennial Change.

**Activity Based**  
 (Appropriations Structure)



**Goal Based**  
 (Strategic Plan Structure)



## NWS

This request supports the modernized operations of the NWS and investments in the Natural Disaster Reduction Initiative (NDRI). In FY 2000, the NWS will provide weather and flood warnings and forecasts to the public and will continue to improve the overall warning lead time for tornadoes, severe thunderstorms, and flash floods as well as improve the accuracy of hurricane landfall predictions.

For FY 2000, the National Weather Service (NWS) requests a total \$687.5 million, a net increase of \$3.0 million from the FY 2000 base level. This includes a total of \$617.9 million for Operations, Research, and Facilities (ORF) and \$69.6 million for PAC. The request supports the funding and programmatic recommendations contained in the NOAA Review and a study conducted by John J. Kelly, BGD/Gen (Ret), entitled An Assessment of the Fiscal Requirements to Operate the Modernized National Weather Service during Fiscal Years 1998 and 1999.

The FY 2000 base reflects the transfer of \$3.0 million for NEXRAD WFO Maintenance from Facilities (ORF) to NWS Local Warnings and Forecasts. This account is transferred from the NOAA Facilities budget to more accurately reflect the role of WFO facilities maintenance in NWS base operations.

Also included in the FY 2000 base is the transfer of \$4.6 million for the Central Computer Upgrade from Systems Acquisition (ORF) to the Procurement, Acquisition and Construction (PAC) account to present the procurement of the Class VIII computer as a long-term capital lease.

### Detailed Program Increases

**ORF** - The FY 2000 net increase of \$38.8 million in ORF is divided in three major sections: Maintain Warning and Forecast Services, Major Initiatives, and Systems Acquisition.

#### Maintain Warning and Forecast Services

**Mandatory Pay and Inflationary Costs** - NOAA requests an increase of \$19.8 million to fund Adjustments to Base for within NWS base operations. Funding will primarily be utilized to support the FY 1999 and 2000 payraise (\$13.8 million) and increases within the GS grade structure, scheduled benefits, and for inflationary increases in non-labor categories such as maintenance and service contracts (\$6.0 million).

**Secretary's Mitigation Actions** - A total of \$4.8 million, an increase of \$1.0 million, is included in the request FY 2000 to continue mitigation actions per the Secretary's Report Team recommendations on the adequacy of NEXRAD Coverage and Degradation of

Weather Services under National Weather Service Modernization for: Caribou, Maine; Key West, Florida; and continue current operations at Erie, Pennsylvania; and Williston, North Dakota.



Ice Storm, Jan. 7-9, 1998, Mooers, New York  
<http://www.nws.noaa.gov/er/btv/html/ice98.html>

**Staffing and Associated Costs** - NOAA requests an increase of \$9.6 million to support a total staffing level of 4,412 FTEs for the NWS as recommended in the NOAA Review. After the NWS submitted the FY 2000 budget to NOAA, a special task team was appointed by the NOAA Under Secretary to review the proposed increases in NWS labor costs. As a result of the team's findings, the NOAA request incorporates the revised cost estimates for NWS labor. The increase also supports staffing in conjunction with the delay of AWIPS system deployment, continuing Automated Surface Observation Systems (ASOS) augmentation responsibilities, maintaining the six Regional Headquarters Office structure, and providing the necessary operational staffing levels at the Jackson, Kentucky and Guam Weather Forecast Offices (WFO).

**Non-labor Requirements for Field Operations** - NOAA requests of \$1.7 million to maintain and replace critical field office equipment, provide the necessary level of training to field forecasters, and maintain centralized communication and dissemination services.

### Major Initiatives

**Radiosonde Replacement Network** - The FY 2000 base of \$2.0 million is transferred from ORF to PAC to reflect the capital nature of the project.

**Advanced Hydrologic Prediction System (AHPS)** - NOAA requests an increase of \$2.2 million to initiate the national implementation of AHPS, a component of the President's National Disaster Reduction Initiative. AHPS is an integrated real-time modeling and data management/analysis system that is ready for implementation and will provide new forecasts containing more information on river levels and river flow volume. During FY 2000, the national implementation of AHPS will begin in the Upper Midwest (which includes Wisconsin, Minnesota, Michigan, Illinois, and portions of Iowa, Missouri, and North Dakota) and tributaries within the Ohio River basin (which includes Kentucky, West Virginia, Ohio, and western Pennsylvania). The system will significantly improve flood forecasting and water management in the United States by providing forecasts of river levels and river flow volumes for periods of days to several months in advance of the event. AHPS will also provide new river forecast information which can be used by water

## NWS

resource and emergency managers for risk based decision making. This information will greatly improve the Nation's capability to take timely and effective actions to mitigate the economic losses from major floods and droughts. National implementation of AHPS will save lives and at least \$200 million per year in flood losses and an additional \$400 million per year in economic benefits to water resource users.



Aerial view of tornado damage to an RV park in Kissimee, Florida in February, 1998.

Photo taken by the staff of the NWS office in Melbourne, Florida.

<http://sunmlb.nws.fit.edu/radarpage.html>

**WFO Facilities Maintenance** - NOAA requests a total of \$4.0 million for WFO Maintenance in ORF, a \$1.0 million increase over FY 2000 base pursuant to the recommendations in the NOAA Review. The WFOs provide forecasters with modernized

facilities, supporting the new advanced technology systems and the provision of weather services to the public. As WFOs continue to age, the facilities require an investment in recurring and cyclic maintenance activities to support modernized field operations. The increase will provide for basic facility service contracts, as well as the implementation of corrective and preventive maintenance actions at selected sites across the country. This request includes a transfer of \$3.0 million from the NOAA Facilities budget to NWS base operation to more accurately reflect the role of WFO facilities maintenance in NWS base operations.

**Cooperative Observer Network Modernization** - Within the local warnings and forecasts line item, NOAA requests an increase of \$1.5 million to ensure the continuity of observations in support of the Nation's climate record and local forecasting. During FY 2000, the NWS will begin replacing obsolete rain gage recording devices, minimum/maximum temperature sensors. Currently, many critical spare parts for those recording devices are no longer commercially available. Once implemented, this modernization will prevent equipment failures, greatly reduce lost observations, and improve access time to observational data, and protect the Nation's climate record.

**Aircraft Observations** - NOAA requests a total of \$0.6 million to provide commercial aircraft observations (ACARS) for operational use in numerical weather prediction models within the local warnings and forecasts line item. Aircraft temperature and wind profiles already have yielded demonstrated improvements in NWS forecasts. During a recent evaluation, the National Weather Service estimated ACARS data improved certain upper air wind forecasts by over 40 percent. Funds will also go toward maintaining FAA-sponsored water vapor sensing systems to evaluate their potential for improving precipitation forecasts.

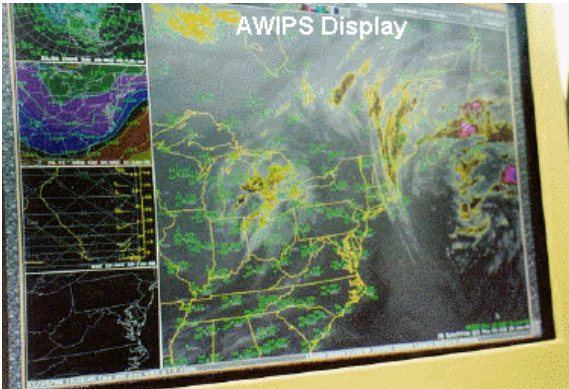
**Systems Acquisition [funded in the ORF Account]** - In FY 2000, this subactivity provides for the continued operation and maintenance of the following systems: Next Generation Weather Radar (NEXRAD), Automated Surface Observing System (ASOS), and Advanced Weather Interactive Processing System (AWIPS). Acquisition costs for these systems are requested in the PAC Account.

**NEXRAD** - NOAA requests a total of \$39.3 million to operate and maintain the NWS network of 123 NEXRAD units. The NEXRAD network provides nationwide Doppler radar coverage, improving detection of severe weather and floods and increasing the warning lead time for tornadoes. The funding will provide for logistics, utilities, and system maintenance to ensure the operational availability of the NEXRAD network.



For more information on ASOS:  
<http://www.nws.noaa.gov/modernize/asotech.htm>

## NWS



<http://www.nws.noaa.gov/msm/awips/awipsm.htm>

**ASOS** - NOAA requests a total of \$7.6 million to operate and maintain the NWS network of 314 ASOS units. This represents a net increase of \$0.2 million over the FY 2000 base for pay-related and inflationary cost increases. Also, the increase will provide additional corrective and preventive equipment maintenance for the ASOS system based on actual maintenance experience, and expand service levels at six (6) NWS sites per an agreement with the Federal Aviation Administration (FAA). ASOS provides weather forecasters with critical surface observations to improve weather warning and forecast services. ASOS also provides critical data to support the aviation community and climate information users.

**AWIPS** - NOAA requests a total of \$38.0 million to continue the operation and maintenance phase of the AWIPS program. This represents an increase of \$25.8 million over the FY 2000 base level. The FY 2000 request will expand operation and maintenance support for the entire NWS AWIPS network and fund systems evolution activities. AWIPS integrates satellite and radar data and provide the local forecaster with a capability that will significantly improve forecasts and warnings. AWIPS will also provide the communications capability needed to allow internal and external users access to much of NOAA real-time environmental data.

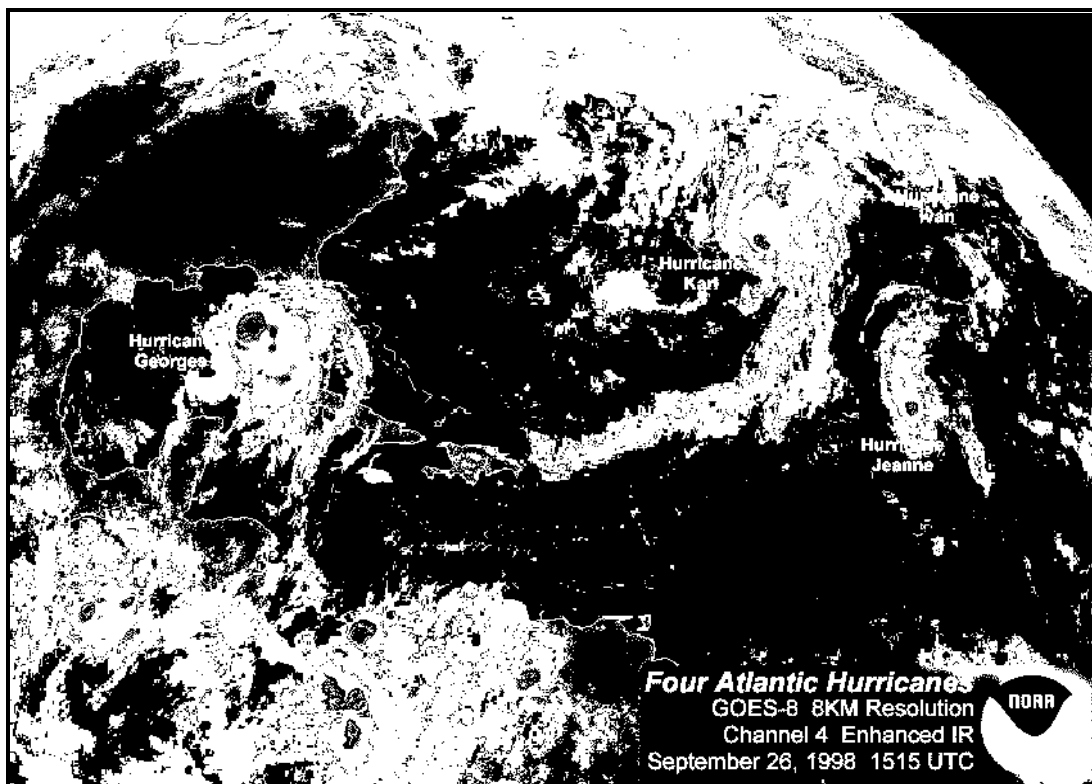
**Systems Acquisition [funded in the PAC Account]** - This account provides funding for the activities associated with multi-year procurement of the major systems supporting the NWS. Currently these systems are NEXRAD, ASOS, the Advanced Weather Interactive Processing System (AWIPS), and the Upgrade of the Central Computer Facility. In addition, for FY 2000 the Radiosonde Replacement Network will be placed in this account since NOAA will begin major procurement activities in conjunction with replacement of the network.

The non-capital assets acquisition costs, maintenance, and operations, for these systems are contained in the ORF account under the NWS Systems Acquisition subactivity.

**NEXRAD** - NOAA requests a total of \$9.6 million for NEXRAD acquisition in the PAC account, an increase of \$2.6 million over the FY 2000 base. The NEXRAD network provides nation-wide Doppler radar coverage, improving detection of severe weather and floods and increasing the warning lead time for tornadoes. The funding request will support the NEXRAD product improvement initiative and continue acquisition closeout activities. The request for product improvement will support the migration to the open systems architecture platform, improving the maintainability and overall cost efficiency of the NEXRAD system.

**ASOS** - NOAA requests a total of \$4.2 million for ASOS acquisition in the PAC account. This represents a \$0.3 million increase from the FY 2000 base. ASOS provides weather forecasters with critical surface observations to improve weather warning and forecast services. ASOS also provides critical data to support the aviation and climate information users. The funding request will continue to support product improvement efforts for developing and testing new sensor capabilities.

**AWIPS** - NOAA requests a total of \$22.6 million in FY 2000 for AWIPS acquisition in the PAC account. For the first time, AWIPS will integrate satellite and radar data and provide the local forecaster a capability that will significantly improve forecasts and warnings. AWIPS will also provide the communications capability needed to allow internal and external users access to much of NOAA real-time environmental data. These funds will allow for continued program management software development, and deployment activities for nationwide implementation of the AWIPS system.



GOES-8 satellite image showing 4 active hurricanes, Sept. 26, 1998.

**Central Computer Facility Upgrade** - NOAA requests a total of \$11.1 million for the Central Computer Facility Upgrade, a decrease from the FY 2000 base of \$3.4 million

## NWS

including a transfer, for accounting purposes, of \$4.6 million from the ORF account to the PAC account. The funds will provide for the second of four lease payments on the Class VIII supercomputer, scheduled for delivery during FY 1999 and allow for the planned procurement of interactive computer workstations necessary for NCEP model developers and forecasters to effectively utilize and implement Class VIII system capabilities in operational forecasting and will provide for necessary operations and maintenance associated with the supercomputer. Phased upgrades of the NWS Central Computer Facility will continue to apply the latest in supercomputing technology to improve weather prediction modeling, and increase the accuracy of centralized forecast and guidance products, especially for severe storms.

**Radiosonde Replacement Network** - NOAA requests an increase of \$6.4 million over the FY 2000 base to continue the replacement and modernization of the upper air radiosonde network. The total FY 2000 planned investment of \$8.4 million includes the transfer of \$2.0 million from ORF to PAC to reflect the capital nature of the project. The radiosonde network provides critical upper air observations which are the principal data source for all weather forecasts. Presently, the radiosonde network is technologically obsolete and increasingly difficult to operate and maintain. Over the past five years, repair actions for certain radiosonde network components have increased by over 90%. In addition, the Federal Communication Commission (FCC) plans to reallocate a portion of the radiosonde network's operation frequency in early 1999, increasing the possibility for lost upper air observations and interference with private sector operating frequencies. Modern radiosondes and ground receiving equipment will permit more efficient use of radio frequency spectrum and ensure reliable and consistent upper air data acquisition. In FY 2000, NOAA will exercise the 1st option year of the replacement system contract to begin full deployment of the ground receiving stations, replace the remaining IBM XT microcomputers with modern PCs, continue software development, and begin procurement of the surface instruments that will provide ground based measurements at the point of balloon release.

**PAC [Funded in the Construction Account]** - A total of \$3.5 million is requested for the NOAA Operations Center Rehabilitation (NORC) at Federal Building #4, Suitland Federal Center, Maryland. Of this total, \$0.5 million is requested for backup power generators for the Class VIII supercomputer in Federal Building # 4, Suitland Federal Center, Maryland. This is a NWS/NCEP requirement to prevent disruption of service to the Class VIII.

**Weather Forecast Office (WFO) Construction** - NOAA requests a total of \$13.3 million for WFO Construction in the PAC Construction Account. This represents an increase of \$3.8 million from the FY 2000 base. The WFOs provide forecasters with modernized facilities supporting the new advanced technology systems and the provision of weather services to the public. The request will provide funding for existing WFO leases and continue facility retrofit projects. The retrofits are necessary to meet current



usage requirements as well as safety and fire code regulations. The request will also provide funding for the NWS/FAA Alaska Employee Housing Project at remote sites in Alaska.

Adjustments-to-base, program reductions and terminations are shown in Section 4: Supplementary Information.

**DOC: The Digital Department**  
<http://www.nws.noaa.gov/>

**NATIONAL WEATHER SERVICE**  
(\$ IN THOUSANDS)

<b>GOAL BASED - All Accounts</b>	<b>FY 1999 ENACTED</b>		<b>FY 2000 BASE</b>		<b>FY 2000 PRES. REQUEST</b>		<b>INC./DEC. (REQUEST - BASE)</b>	
	<b>FTE</b>	<b>AMT.</b>	<b>FTE</b>	<b>AMT.</b>	<b>FTE</b>	<b>AMT.</b>	<b>FTE</b>	<b>AMT.</b>
Advance Short-Term Warning and Forecast Services	4,774	649,626	4,774	671,616	4,572	673,152	(202)	1,536
Implement Seasonal to Interannual Climate Forecast	54	4,688	54	4,688	54	4,688		
Predict and Assess Decadal-to-Centennial Change	55	8,189	55	8,189	55	9,689		1,500
<b>TOTAL NWS</b>	<b>4,883</b>	<b>662,503</b>	<b>4,883</b>	<b>684,493</b>	<b>4,681</b>	<b>687,529</b>	<b>(202)</b>	<b>3,036</b>