Trans-94-2

National Implementation Plan

For Modernization

Of The National Weather Service

For Fiscal Year 1995

Department of Commerce

National Oceanic and Atmospheric Administration

February 1994

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

MAR - 9 1994

In accordance with Section 703(a) of Public Law 102-567, I am transmitting the National Implementation Plan for Modernization of the National Weather Service for fiscal year 1995 for consideration by the Congress. This modernization of our Nation's weather warning and forecast program will provide improved services to the public and save lives and property.

Sincerely,

Ronald H. Brown

Enclosure

National Implementation Plan

For Modernization

Of The National Weather Service

For Fiscal Year 1995

Department of Commerce

National Oceanic and Atmospheric Administration

February 1994

TABLE OF CONTENTS

Appendices

Tables

Figures

Executive Summary

Modernizing and restructuring the weather service will usher in a new era for severe weather, flood warning and forecast services in the United States. Major advances in meteorology and hydrology, coupled with technological breakthroughs for observing and analyzing the atmosphere provide an unprecedented opportunity to improve weather and hydrologic services. The National Weather Service (NWS) of the future will operate one of the most advanced hydrometeorological warning and forecast systems in the world.

In September 1992, the National Institute of Standards and Technology released the results of a cost-benefit study of the National Weather Service Modernization and Associated Restructuring. The study showed the benefits of modernization are about eight times greater than the costs. The study also showed that once the modernization is completed, segments of the U.S. economy will see benefits worth more than $7 billion per year.

In 1993, NWS installed Next Generation Weather Radars (NEXRADs) in 23 locations. The NEXRAD program is now in full-scale production. Information from the new radar is used to predict area weather more quickly and accurately than ever before. Last year, improved forecasts provided by the NEXRAD in Sterling, VA helped policymakers decide not to close Federal Government operations because of a predicted snow storm, saving an estimated $42 million.

Automated Surface and Observing System (ASOS) units were delivered, installed and tested at over 200 NWS, Federal Aviation Administration (FAA) and Department of Defense (DOD) sites in 1993. NWS commissioned 18 ASOS units.

NWS awarded the Lightning Data System contract in late fiscal year 1992. The contractor now supplies real-time lightning data to the National Severe Storms Forecast Center, a MARD central receiving site and a limited number of local offices. These data already are resulting in better aviation forecasts. The Center is developing lightning products for distribution to all NWS offices and other groups.

In keeping with a congressional mandate to ensure NWS staff is trained to use and maintain new technology, NWS offered three Cooperative Program for Operational Meteorology Education and Training (COMET) courses in 1993. These intensive classes cover the latest theories and techniques in meteorology and hydrology.

Due to budget and time constraints, NWS will provide most training on site, by staff trained at intensive off-site courses and by using new interactive computer workstations. NWS installed 165 of these special workstations in fiscal year 1993. NWS staff now have access to four computer-based learning modules. In addition, the NEXRAD Operational Support Facility held 23 classes on NEXRADs in 1993, training 449 students. Thirty-six offices have completed NEXRAD training requirements (6 WSFOs, Guam, 12 WSOs and 17 CWSUs).

Although the technology NWS is installing is state-of-the art, researchers continue to improve equipment and software to further improve operations. In addition, NWS is constantly developing new products such as algorithms for Doppler radar data, atmospheric sounding data from geostationary satellites and vertical wind data from ground-based atmospheric profilers. New computer technology will help meteorologists and hydrologists interpret data more quickly and accurately and convey that information more quickly to the user community.

In 1992, the Environmental Research Laboratory installed the final nine stations of the Wind Profiler Demonstration Network. This 31-station system, in operation since spring 1992, provides information hourly on above ground-level wind profiles and can respond as often as every six minutes. For a complete report on research efforts see Section 4.

Transition staff kept lines of communications open through bi-weekly, semi-annual and periodic meetings with key staff to review progress. Other communications efforts include a quarterly report for all NWS employees on transition progress, slide and videotape programs on NEXRAD and ASOS technology for users and a new public relations guide. Communications staff are maintaining and enlarging a mailing list of Weather Service users. NWS staff continue to brief congressional and state government staff as requested.

Major objectives for fiscal year 1994 are to:

- Commission the first NEXRADs, including MARD sites
- Install and commission more ASOS units across the country
- Complete installation of an advanced supercomputer at the NMC
- Continue systems training and scientific education
- Continue the Office Transition and Evaluation (OT&E) program.

Public Law 102-567, passed in October 1992, made key changes to the NWS certification process for safely closing, consolidating, relocating or automating Weather Service Offices and Weather Service Forecast Offices. Under the law, no field office will close before January 1, 1996. Field offices that are closed will have a liaison officer in the area for at least two years to ensure quality of service.

Before a field office closes, NWS will offer detailed information on area weather conditions and how new equipment and staff will meet or exceed current levels of services. Services at an airport cannot be closed down unless the Commerce and Transportation Departments conduct a joint air safety appraisal to ensure services will not degrade. If a field office is the only one in a state, the Secretary of Commerce must evaluate the proposed closure to ensure state users an equivalent level of service.

The law requires the National Research Council (NRC) to review certification criteria and provide a report to the Secretary of Commerce. In November 1993, NWS distributed the report, *Towards a New National Weather Service—Review of Modernization Criteria*, which was completed in July 1993. The report assesses the NWS criteria for closing, consolidating, automating or relocating offices and for commissioning and decommissioning equipment, and evaluating staffing needs. The report also reviews the statistical and analytical measures used to determine if new services meet or exceed previous service standards.

The law also created a Modernization Transition Committee to advise the Secretary of Commerce on proposed certifications. The committee will report on modernization criteria, the National Implementation Plan and other matters of public safety. Members of the committee include weather service employees, meteorological experts, private sector users, NWS, DOD, FAA, Federal Emergency Management Administration, civil defense and public safety organization, news media and labor groups. The Secretary of Commerce may request the Modernization Transition Committee to review any proposed certification and should do so if there is a significant possibility service will be degraded within the service area. NWS will publish certification proposals in the *Federal Register* and allow 60 days for public comments. After public comments are resolved, and the Secretary of Commerce approves the proposal, the final certification will be published in the *Federal Register*. NWS also will submit certifications to the House and Senate Commerce and Science Committees. For more details on certification, see Section 3.8.

The Modernization Transition Committee has been consulted during preparation of the National Implementation Plan (the Plan) for Modernization of the National Weather Service for fiscal year 1995. The Committee generally endorses the Plan with the following reservations:

1. The Plan anticipates that field offices could be automated beginning in FY 1995. The Committee notes that these actions cannot take place until the criteria for automation have been published and that the Committee will have had the opportunity to consult on these Criteria prior to final publication. The Committee urges the NWS and the FAA to conclude their negotiations on these criteria expeditiously, and in no case, later than September 30, 1994.

2. The Committee recognizes that the plan anticipates the deployment of AWIPS beginning in FY 1996 and recommends that every effort should be made to ensure that this deployment not be delayed. The Committee believes that any delay will seriously compromise the full benefit of Modernization, and could result in the degradation of service.

3. The Committee emphasizes that the appropriate funding must be available to the level projected in the NIP for the successful execution of the Plan. Any delay in providing funds may postpone benefit to the public and may result in a degradation of service.

The Committee's intention in citing these reservations is to ensure the timely completion of the modernization process. Toward this end, the Committee requests that progress reports on the aforementioned issues be made available at all subsequent Committee meetings.

Table 6 sets anticipated dates for proposed actions to change operations at, and certifications of field offices during fiscal years 1995 and 1996. This table notifies the public of these events as required by Sections 703 and 705 of the Public Law. To provide a more complete picture of the transition, the table identifies actions occurring in fiscal year 1994 and actions affecting NWS offices not defined as field offices under the law.

Addendum to Executive Summary

WFO GUAM

Guam will be the 117th WFO. The next National Implementation Plan will fully integrate all of it into the tables, etc.

The Organic Act of 1890 mandates that the NWS is the responsible agent for forecasting weather and for issuing storm warnings for the United States and its territories. For many years, the NWS has had an operating agreement with the Naval Oceanography Command (NOC) for the provision of civilian meteorological services to the people of the Territory of Guam, the Commonwealth of the Northern Mariana Islands, and the Micronesian countries, now under the Compact of Free Association with the United States. This agreement recognized that the DOD requirements for meteorological support in the western Pacific and Indian Ocean required a staff that was capable of meeting the NWS regional requirements. Therefore, Navy and Air Force personnel have historically provided a full spectrum of meteorological services. These services have been provided through the Naval Oceanographic Command Center/Joint Typhoon Warning Center (NOCC/JTWC) and the Naval Oceanographic Command Detachment (NOCD) at the Naval Air Station (NAS), Agana, Guam. It has been the policy of the two cooperating agencies that the Government's best interests would be served by the operating agreement. Beginning in 1976, increased civil aviation activity at Guam led to the addition of NWS meteorologists to the Navy staff to assist with aviation forecasting. There are currently four NWS employees on board.

On April 1, 1995, the NAS, Agana, will be closed as part of the President's base restructuring plan. With the closure of the NAS, Agana, the NOCD will be eliminated and the NWS will assume the services provided by that unit. This service program covers an area equivalent to the size of the continental United States and includes:

- General public forecasts and warnings
- Domestic marine forecasts
- Domestic and international aviation forecasts and warnings and related services.

In addition, NOCD provides staff and resources to conduct preparedness and coordination activities with Government officials on Guam and in Micronesia. The NOCC/JTWC will continue to provide typhoon watches, warnings and related services. A DOD WSR-88D has been installed at Andersen Air Force Base on

Guam with a Principle User Processor (PUP) at the NOCD, and the Navy plans to install an ASOS in fiscal year 1995. The NOC has agreed to transfer the PUP and the ASOS to the NWS.

NWS has made a commitment to the Governor of Guam to maintain a level of public weather service equivalent to the service that Guam now enjoys. To that end, plans have been made to assume full responsibility for civilian weather services in Guam. Because of the domestic and international requirements and the timing of the DOD base closures, a WFO must be established (and fully operational) at the Guam International Airport by April 1, 1995.

1.0 Introduction

As the National Weather Service (NWS) enters its second century as a civilian agency, a new era begins for severe weather and flood warning and forecast services. Advances in meteorology and hydrology as well as in the technology for observing and analyzing the atmosphere already are providing unprecedented improvements in weather services. The NWS of the 21st century will operate one of the most advanced hydrometeorological warning and forecast systems in the world.

Congress has tied this National Implementation Plan (NIP), required by Public Law 102-567, to the fiscal year 1995 Presidential budget. This NIP describes modernization goals for fiscal years 1995 and 1996. To provide a more comprehensive picture of the transition, this NIP includes actions planned for fiscal year 1994. The transition from today's operation to the modernized NWS will require an agency-wide transformation. By the end of the transition, NWS will have retooled all major systems, adjusted staff at all field stations, and provided a new service and product line that focuses on the mesoscale level of meteorology. During the transition, the NWS will maintain its current high level of service.

1.1 NWS Mission Statement

The mission of the National Weather Service is:

To provide weather and flood warnings, public 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 data and products are provided to private meteorologists for the provision of all specialized services.

To achieve this mission, the NWS in the 1990s will continue to:

- Coordinate programs with state, local and federal agencies involved with meteorology and hydrology to attain maximum cost effectiveness. For example, NWS will work with aviation safety and forest fire prevention and management officials
- Provide a spectrum of weather services to the private hydrometeorological community
- Provide data and products to the private sector
- Work closely with the mass media as the chief means of communicating weather and flood warnings and forecasts to the public
- Fulfill international hydrometeorological obligations
- Conduct applied research with other agencies and the scientific community to improve warnings and forecasts based upon scientific and technological advances
- Enhance dissemination and information exchange services
- Facilitate improvements in the emergency management decision process.

1.2 Improved Service Mandate

Thunderstorms, tornadoes, hurricanes, blizzards and floods pose serious hazards to life and property. Hundreds of lives and billions of dollars worth of property are lost every year from these ravages of nature. Weather and flood conditions affect the economy directly and indirectly.

Some of the most destructive weather events are short-lived, local disturbances. Until now the NWS has focused on slowly changing, large-scale features of the atmosphere. This emphasis on the synoptic scale reflects the limits of operational systems still used to observe the atmosphere and the current level of weather-related sciences.

In addition, NWS forecasters have had only rudimentary computer systems to assimilate, analyze and communicate complex weather information in near real-time. Usually, NWS has reacted, providing warnings of severe weather or flash floods after detecting these events or after reports of visual sightings. It has been difficult to predict small-scale violent weather, resulting in short lead times for warnings.

In the 1990s, the impetus for major changes in NWS is twofold. First, the existing technology for weather observations, information processing and communication is obsolete and costly to maintain. Second, new scientific and technological breakthroughs provide, for the first time, an opportunity to analyze and predict the most destructive weather patterns. These factors provide a clear mandate to improve services.

Tests of new observation and information processing systems have shown that NWS can improve its services. The results of these tests have yielded new operational concepts for the NWS of the 1990s. New systems require restructuring NWS field offices. For the first time, meteorologists and hydrologists will prepare warnings and forecasts based on new, sophisticated data analysis and forecasting processes. The new prediction process has these distinct advantages:

- Field office forecasters will be better able to blend knowledge from meteorology and hydrology. Predicting severe storms and floods requires knowledge of both disciplines.
- Forecasters, assisted by technical staff, will focus on meteorological and hydrological events developing within the next 36 hours. NWS meteorologists will prepare warning and forecast products working as an integrated unit. The current approach divides responsibilities among forecasters for programs such as public warnings and aviation weather.
- Every field office and National Center will have rapid access to all sources of and be able to integrate and analyze all meteorological and hydrological data pertinent to that office.

New hydrometeorological observation, information processing and collection systems will provide data and the tools required by forecasters in the future. The following new systems will become interlocking components of the NWS in the 1990s:

- **Next Generation Weather Radar (NEXRAD):** A network of advanced Doppler radars that measures atmospheric motion, responsible for tracking severe weather such as tornadoes, increasing lead times for predicting severe weather events, and detecting heavy rainfall.

- **Automated Surface Observing System (ASOS):** An automated electronic sensor instrument system to replace manual weather observations now taken at 250 NWS sites.

- **Advanced Weather Interactive Processing System (AWIPS)/NOAAPORT:** An advanced computer/telecommunication system that will help forecasters assimilate weather data, analyze fast-breaking storms and quickly prepare and communicate warnings and forecasts. NOAAPORT will provide the broadcast link between the national guidance centers and NWS field offices, and will be the source of NWS data to private sector users.

- **Satellite Upgrades:** A new series of geostationary meteorological satellites that will generate higher spatial- and temporal-resolution imagery and data to improve short-range warnings and forecasts; a new series of polar orbiting meteorological satellites will generate better all-weather atmospheric data, improving long-term forecasting.

- **National Center Computer Upgrades:** New supercomputers producing more accurate numerical modeling of the atmosphere to improve national guidance for short-range warnings and forecasts and offer better guidance for medium- and long-range forecasts.

1.3 General Approach to Transition Planning

Transition planning is flexible because goals are based on the need to extensively test and refine new equipment. Plans focus on fairly certain near-term events, such as installing NEXRAD. Plans are updated frequently as longer-range events become more certain. Transition managers consider long-, medium- and short-range transition views. The long-range outlook, which covers 6 years, provides a broad look at Modernization and Associated Restructuring (MAR) targets and its greatest uncertainties. The medium-range projection, covering 3 years, offers a more detailed look at events that will occur with greater certainty. Medium-range projections form the basis for short-range action plans. The short-range action plan, covering the next year, lists specific activities based on known events. As required by Public Law 102-567, this report includes dates of planned activities and serves to notify the public of proposed actions to change operations or certify field offices (See Table 6). The Master Transition Schedule (MTS) depicts transition planning and implementation; the Deputy Assistant Administrator for Modernization and the Transition Director prepare and maintain the MTS. The MTS is the official document used by the

agency to assess and report transition progress. Section 5.3 describes the MTS in detail; the MTS is reprinted in Appendix A.

1.4 Hierarchy of Transition Planning Documents

NWS has tiered transition plans, with the NIP at the top. The Deputy Assistant Administrator for Modernization and the Transition Director prepare and update this report annually and coordinate it with the rest of the agency. The NIP, a broad guidance document for internal and external use, is based on the *Strategic Plan for the Modernization and Associated Restructuring of the National Weather Service*. The NIP guides the agency in planning for and completing the transition. Key objectives of the NIP include setting basic goals and objectives, providing a framework and general strategies for a smooth transition and setting basic management principles to be used during the transition.

The NIP, intended as an overview of the modernization, is backed by more detailed materials. The first versions gave an overview of the modernization and outlined how NWS would complete the transition. The NIP's audiences are the Executive Branch, Congress, cooperating agencies, users, the public and NWS employees. The NIP now provides these groups with a progress report and outlooks on upcoming activities.

Regional transition documents make up the second tier in the transition planning hierarchy. These plans offer managers flexibility and recognize the decentralized nature of the NWS. The plans explain the Regions' responsibility to maintain operations during the transition. These documents set a course that will achieve the goals set forth in the NIP, while accounting for differences between the Regions and the unique conditions at each site.

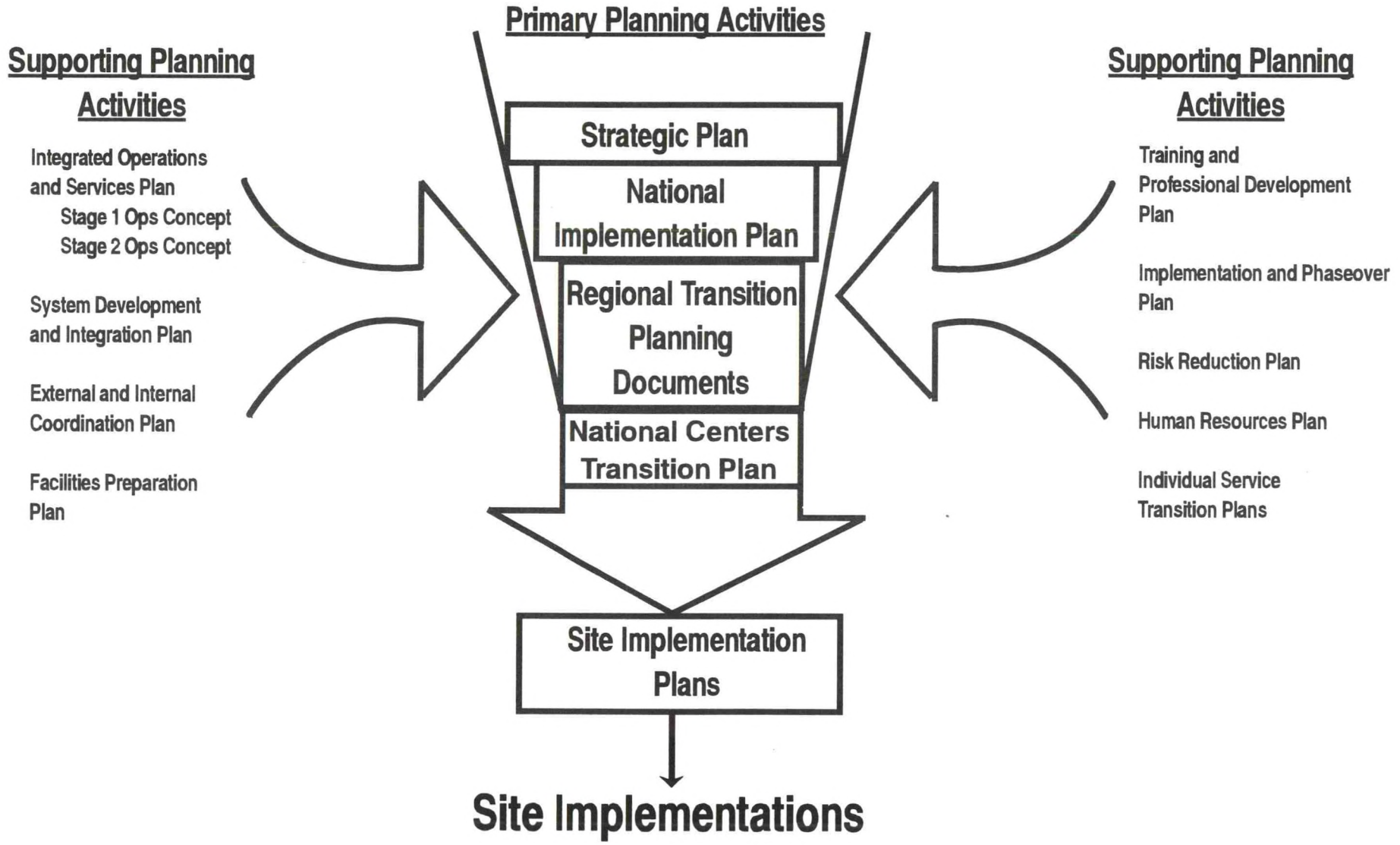
The final tier in the planning hierarchy is the Site Implementation Plan (SIP), which contains specific, detailed actions and schedules. Each Weather Forecast Office (WFO) and WFO/River Forecast Center (RFC) will have a SIP to address site transitions in its area of responsibility. SIPs will be modified to reflect the timing of activities in other SIPs. The Regional Director will approve SIPs. Appendix B provides a SIP outline.

The National Meteorological Center (NMC) has prepared a National Centers Transition Plan as a counterpart to regional planning documents. This plan addresses the transition activities and schedules for each of the National Centers: NMC, National Hurricane Center (NHC), National Severe Storms Forecast Center (NSSFC), etc.

National, Regional/National Center and site level plans form the primary planning path. As depicted in Figure 1 at the end of this section, these plans integrate efforts that focus on areas such as future operations and services, training and professional development, staffing, system development and integration, and implementation and phaseover.

Appendix C provides a more detailed list of transition planning documents. Appendix D provides other specific information pertinent to transition planning, such as WFO, RFC, NEXRAD and ASOS maps and locations.

Figure 1:
HIERARCHY OF TRANSITION PLANS



2.0 Modernization Goals and Objectives

The Department of Commerce (DOC) has set an ambitious goal for the National Oceanic and Atmospheric Administration's (NOAA) agency, the NWS:

> **To modernize the NWS through the deployment of proven observational, information processing and communications technologies and to establish an associated cost-effective operational structure. The modernization and associated restructuring of NWS shall assure that the major advances that have been made in our ability to observe and understand the atmosphere are applied to the practical problems of providing weather and hydrologic services to the Nation.**

Within this context, more specific goals of the NWS MAR, broadly stated, are to:

- Operate a predictive warning program focusing on mesoscale meteorology and hydrology
- Advance the sciences of meteorology and hydrology
- Provide training and professional development for NWS employee skills to achieve maximum benefit from scientific and technological advances
- Earn user acceptance and support for NWS service improvement objectives
- Strengthen relations with the mass media, universities, the research community and the private hydrometeorological industry to jointly fulfill the nation's weather information needs: provide severe weather warnings and general forecasts to the public, a Government responsibility, and provide detailed and customer-specific weather information, a private sector responsibility
- Improve productivity through automation and by the replacement of obsolete systems
- Operate an optimum warning and forecast system, consistent with service needs, user acceptability and cost.

The NWS move into the future will meet its goals in two stages. In Stage 1, NWS will deploy new observing systems, such as ASOS and NEXRAD. In Stage 2, NWS will install a new information processing and communications system, AWIPS. These two stages provide time for field office staff to adjust to and become familiar with the new Doppler radar and high-resolution surface observation data.

The major feature of Stage 1 will be improving severe weather detection capability. NWS will achieve this goal as a result of meteorological interpretation of new and enhanced observational data made available by deploying technology such as NEXRAD and ASOS. NWS will compile and analyze these observational and operational data before commissioning new weather service technology.

The major feature of Stage 2 is operating the predictive warning program. Forecasters will have the tools needed to integrate, analyze and interpret data sets and to rapidly release information. For the first time, the NWS will be able to forecast severe weather events with lead times of tens of minutes and with more geographical specificity.

2.1 Stage 1 Goals and Objectives

During Stage 1, there will be an immense increase in the quantity and quality of data. The primary goal of Stage 1 is to use these enhanced data to improve detection of severe weather. In Stage 1, NWS will continue its two-tier field office structure. Statewide forecast responsibility will be carried out by the 52 Weather Service Forecast Offices (WSFOs), each of which will receive a Next Generation Weather Radar (NEXRAD). NEXRAD Weather Service Forecast Offices (NWSFOs) and NEXRAD Weather Service Offices (NWSOs) will provide severe weather warnings. The 13 RFCs will continue to provide hydrologic forecasts and guidance. National Centers will continue to provide national-level guidance and numerical modeling products. System support for NWS field offices is a critical factor in maintaining reliable warning and forecast operations 24 hours a day. This support involves the full spectrum of hardware and software systems.

Listed below are specific Stage 1 objectives for field offices and centers. This is not an all-inclusive list of office types, but represents most NWS offices. Regional transition documents detail specific Stage 1 objectives for office types not listed below, such as Tsunami Warning Centers.

NEXRAD Weather Service Forecast Offices (NWSFOs)

- Continue current programs
- Coordinate internal and external programs
- Increase the number of meteorologists and provide training to enable staff to more fully use the new technologies and observational data (See Table 1 at the end of this section. The Human Resources Plan contains more information.)
- Take part in the individual site calibration of the NEXRAD
- Compile and analyze observational and operational data from the new technologies during the commissioning process
- Use the new technologies to improve detection of severe weather. Assume new County Warning Area under NEXRAD umbrella, including consolidation of all warning functions for each office
- At selected locations, accept or transfer responsibility for observational and other programs
- Prepare for Stage 2.

Weather Service Forecast Offices (WSFOs)

- Receive NEXRAD, continue as an NWSFO (see above).

NEXRAD Weather Service Offices (NWSOs)

- Continue current programs
- Coordinate internal and external programs
- Increase the number of meteorologists and train staff to enable them to more fully use new technology and observational data. (See Table 2 at the end of this section. The Human Resources Plan contains more information.)
- Take part in the individual site calibration of the NEXRAD
- Compile and analyze observational and operational data from the new technologies during the commissioning process
- Use the new technologies to improve detection of severe weather. Assume new County Warning Area under NEXRAD umbrella, including consolidation of all warning functions for each office
- At selected locations, accept or transfer responsibility for observational and other programs
- Prepare for Stage 2.

Weather Service Offices (WSOs)

- Coordinate internal and external programs
- Automate the surface observation program using ASOS
- Support the planning and smooth transfer of assigned warning and forecast responsibility, upper air functions, NOAA Weather Radio (NWR), and other programs to designated NWSFOs and NWSOs
- Certify to Congress that automating and/or consolidating will not degrade services
- Adjust staffing, as required, to operate community preparedness, liaison and other local community support programs throughout Stage 1.

River Forecast Centers (RFCs)

- Continue current programs
- Coordinate internal and external programs
- Perform Hydrometeorological Analysis and Support (HAS) functions at collocated WFO/RFC facilities, and integrate meteorological information into hydrologic products and services
- Use NEXRAD and ASOS data to enhance products and services to the extent possible given the limits of staffing resources and existing information processing systems
- Prepare for Stage 2.

Weather Service Meteorological Observatories (WSMOs)

- Automate or transfer observing functions.

Weather Service Contract Meteorological Observatories (WSCMOs)

- Automate or transfer observing functions; continue upper air observations at selected locations.

National Centers

- Continue all current programs
- Assume responsibility for high seas warning and forecast services as follows:
  - NMC will be responsible for an area in the Atlantic Ocean west of 35 degrees west longitude between 30 and 60 degrees north latitude, and in the Pacific Ocean, east of 160 degrees east longitude between 30 and 60 degrees north latitude.
  - NHC will be responsible for an area in the Atlantic Ocean west of 35 degrees west longitude between three and 30 degrees north latitude, and in the Pacific Ocean, east of 140 degrees west longitude between the equator and 30 degrees north latitude.
  - WSFO Honolulu's area of responsibility in the Pacific Ocean will remain unchanged.
- Prepare and disseminate national NEXRAD products
- Prepare for Stage 2.

Center Weather Service Units (CWSUs)

- Continue support to Federal Aviation Administration (FAA) Air Route Traffic Control Centers and prepare for Stage 2
- Install the CWSU PUP.

2.2 Stage 2 Goals and Objectives

The primary goals of Stage 2 are to use new technologies and a trained staff to operate a fully modernized NWS and to deliver improved warning and forecast services nationwide. As described in the *Strategic Plan for the Modernization and Associated Restructuring of the National Weather Service,* the NWS of the 1990s will consist of 116 WFOs, 13 RFCs and the National Centers. WFOs will replace the current structure of WSFOs and WSOs to provide a uniform level of warning and forecast services. WFOs will issue watches, warnings and forecasts. A WFO will concentrate meteorological expertise to provide products and services for its area of responsibility. A WFO will quickly analyze data, provide accurate forecasts of mesoscale weather and flood phenomena and rapidly disseminate warnings and forecasts. The emphasis on short-range and local-area forecasting in the WFOs will require that National Centers provide WFOs with improved guidance on long-range and large-area forecasts.

In areas previously served by a WSO that has been certified and closed, NWS will retain a liaison officer for at least two years after closure. This liaison officer will be an

extension of the WFO, serving as a facilitator between the WFO and weather service users in the area. The liaison officer will provide timely information on NWS activities that may affect service to the community, including modernization. The liaison officer will ensure that weather service users, including general aviation, civil defense and emergency preparedness staff, and members of the news media are prepared to receive weather warnings and forecasts.

In Stage 2, RFC operations will change in several ways. RFCs will use the new NWS River Forecast System on AWIPS to interactively assimilate the huge volumes of high-resolution data from multiple NEXRAD and ASOS systems and to execute advanced hydrologic forecast models. RFC flash-flood guidance procedures will provide WFOs with much higher resolution than those currently produced by the area-average procedures. RFCs will better coordinate and integrate meteorological data and forecasts into hydrologic products and services. RFCs will update hydrologic guidance and information for use in WFO flash flood procedures more frequently than today. Real-time operational coordination with other water resource agencies is another critical dimension of RFC functions that will increase in Stage 2.

During Stage 2, system support will shift toward centralization. Field offices will have more consistent hardware and software once new systems are installed. More consistent systems will help standardize technical support procedures. The two major system support goals are to minimize costs by using integrated maintenance and logistics support concepts more efficiently and to achieve the best mix of Government and private industry system support. Cost comparisons prove that it would be more cost effective for the Government to maintain and logistically support the NEXRAD and ASOS systems. A decision has not been reached concerning AWIPS.

More specific Stage 2 objectives are given below for field offices and centers. This is not a complete list of office types, but it represents most NWS offices. Specific Stage 2 objectives for office types not listed below are detailed in the appropriate regional transition documents.

Weather Forecast Offices (WFOs)

- Coordinate internal and external programs
- Operate a reliable predictive warning program; issue watches, warnings and forecasts
- Deliver improved warning and forecast services
- Operate the WFO with staff trained in mesoscale meteorology and the new technologies (See Table 3 at end of this section. More information is in the Human Resources Plan.)
- Prepare warning and forecast products using the integrated forecast mode of operation
- Send warning alerts to the media more quickly
- Work with emergency agency officials and municipalities to prepare and conduct weather-related disaster response programs for public safety
- Manage observational data networks operated by cooperators and volunteers

- Ensure modernized NWS warning and forecast products meet public and user needs.
- Prepare quantitative precipitation and temperature forecasts as input to RFCs for running hydrologic models.

Weather Service Offices

- Coordinate internal and external programs
- Certify to Congress that closing a non-NEXRAD WSO will not degrade services
- Close the non-NEXRAD WSO
- Designate a liaison officer for at least two years to serve as a link between the WFO and weather service users in the community.

Data Collection Offices (Alaska and Hawaii)

- Convert existing upper air WSOs in Alaska and Hawaii to Data Collection Offices. These offices will continue observation programs and provide local service offices at Annette, Barrow, Bethel, Cold Bay, King Salmon, Kodiak, Kotzebue, McGrath, Nome, St. Paul Island and Yakutat, AK, and Lihue and Hilo, HI.

River Forecast Centers

- Coordinate internal and external communication
- Supplement staff to provide nominal 16-hour-a-day RFC operations (See Table 4 at the end of this section. The Human Resources Plan contains more information.)
- Implement improved hydrologic models made possible by more powerful computers and enhanced data collection and interactive assimilation capabilities
- Provide more frequent hydrologic guidance to WFOs
- Improve analysis and forecasting of hydrometeorological phenomena.

National Centers

- Provide improved guidance products by using the latest numerical weather prediction models run on advanced supercomputers
- Produce digital forecast data bases for WFOs to use in preparing forecasts for 36-hour periods and beyond
- Use data available from advanced geostationary and polar orbiting satellites as direct input for numerical weather prediction models, as guidance for high seas and aviation forecasts, and to interpret and forecast hurricanes
- Provide national severe-weather guidance products and issue advisories to WFOs
- Improve forecasts of hurricanes, thunderstorms and flash floods by using better numerical models of the atmosphere and better atmospheric observations.

Center Weather Service Units

- Provide improved aviation products and services by using an FAA-provided Meteorological Weather Processor (Phase 2).

Table 1:
STAGE 1 NEXRAD WSFO STAFFING TARGETS

CURRENT STAFFING PLUS:	NO.	APPROVED GRADE	REPORT
Science and Operations Officer	1*	13/14	7 Mo. Prior to NEXRAD Delivery
Warning Coordination Meteorologist	1*	13/14	7 Mo. Prior to NEXRAD Delivery
Core Meteorologists (shift)	0**	12	4 Mo. Prior to NEXRAD Delivery
Service Hydrologist	1***	12/13	4 Mo. Prior to NEXRAD Delivery
Data Acquisition Program Manager	1	12	6 Mo. Prior to NEXRAD Delivery
Hydrometeorological Technicians (shift)	5****	9/11	On Station
Electronic Systems Analyst	1*****	12	9 Mo. Prior to NEXRAD Delivery

* Number of meteorologists to be added dependent on whether a WSFO already has a Warning Coordination Meteorologist. At network radar WSFOs, three existing positions will be reprogrammed into three meteorologist positions (including a Science and Operations Officer and a Warning Coordination Meteorologist).

** Exceptions to this policy (i.e., additional meteorologist position(s)) will be considered on a site-by-site basis.

*** As assigned; most WSFOs already have this position.

**** Most NEXRAD WSFO's have these positions on station. If not, these positions will be added at the time of NEXRAD delivery.

***** Most WSFO's will also have one or more Electronics Technicians. Total Electronics Technician staffing will be based on the most cost effective mix of contractor and Government maintenance.

Table 2:
STAGE 1 NEXRAD WSO STAFFING TARGETS

	NO.	APPROVED GRADE	REPORT
Meteorologist-In-Charge (MIC)	1	13/14	12 Mo. Prior to NEXRAD Delivery
Science and Operations Officer	1	13	7 Mo. Prior to NEXRAD Delivery
Warning Coordination Meteorologist	1	13	7 Mo. Prior to NEXRAD Delivery
Core Meteorologists (shift)	5	11/12	4 Mo. Prior to NEXRAD Delivery
Service Hydrologist	1*	12/13	4 Mo. Prior to NEXRAD Delivery
Data Acquisition Program Manager	1	12	6 Mo. Prior to NEXRAD Delivery
Hydrometeorological Technicians (shift)	5**	9/11	On Station
Electronic Systems Analyst	1***	12	9 Mo. Prior to NEXRAD Delivery
TOTAL	16		

* As assigned.

** Most NEXRAD WSOs have these positions on station; if not, these positions will be added by the time of NEXRAD delivery.

*** Most WSOs will have one or more Electronics Technicians. Total Electronics Technician staffing will be based on the most cost effective mix of contractor and Government maintenance.

Table 3:
STAGE 2 WFO STAFFING TARGETS

	NO.	APPROVED GRADE
Meteorologist-In-Charge (MIC)	1	14/15
Science and Operations Officer	1	13/14
Warning Coordination Meteorologist	1	13/14
Core Meteorologist (shift)	8*	12/13
Data Acquisition Program Manager	1	12
Hydrometeorological Technicians (shift)	5	9/11
Electronic Systems Analyst	1**	12/13
TOTAL	18***	

* Actual number of meteorologists may vary depending on WFO responsibilities.

** Most WFOs will also have one or more Electronics Technicians. Total electronic technician staffing will be based on the most cost effective mix of contractor and Government maintenance.

*** Some WFOs will have additional base staff (i.e., Service Hydrologist, Secretary).

Table 4:
*STAGE 2 RFC STAFFING TARGETS**

COMMON BASE STAFF FOR RFCs IN THE CONTERMINOUS 48 STATES

	NO.	APPROVED GRADE
Hydrologist-In-Charge (HIC)	1	15
Development and Operations Hydrologist	1	14
Hydrologists/Hydrometeorologists (Hydrologic Forecasters)	8-13	12/13
Secretary and/or Technician	1-2	5/6, 7/8
Hydrometeorologists (HAS Forecasters)	3	12/13
TOTAL	14-19	

* The positions in this table also exist at RFCs during Stage 1. However, the current complement of hydrologic forecasters will not be augmented until six months prior to AWIPS delivery for extended 16 hr/day operations (nominal) with one to two hydrologic forecasters on shift in accordance with the Strategic Plan. The number of staff performing the non-real-time operations will depend on the number of hydrologic forecasters per shift and total RFC staff at individual sites.

3.0 Transition Strategy

This section defines the general transition strategy NWS will use to modernize and restructure. The terms risk reduction and demonstration are introduced as forms of internal and external validation, respectively. This section emphasizes the importance of programs that reduce risk actions and demonstrate effectiveness. Summarized in this section is the process NWS will use to comply with the certification requirement of Public Law 102-567.

3.1 General Transition Strategy

The fundamental transition strategy is an integrated, office-by-office approach. Changes in operations and services related to modernization and restructuring are the guiding force of the transition. Future services will define system outputs, staffing type and mix of an office, and the field structure needed to efficiently provide these services.

These services, in turn, set requirements for training and education, facility preparation and other aspects of modernizing and restructuring. A realistic view of technology, schedules and the NWS environment will help shape the scope and pace of service changes.

The agency's mission and advances in science and technology bound the breadth of future operations and services. The transition strategy incorporates these factors and retains flexibility to respond to change. The approach acknowledges that plans for future operations and services may require adjustments. The NWS must be able to use the knowledge and experience it gains during the transition.

Restructuring the NWS field organization, offices and staff must be done with internal and external support. The agency will gain this support by keeping individuals and organizations informed about MAR goals. Support from staff and users requires a knowledge of the goals of modernization and proof of NWS's ability to reach these goals. This support will be won only through planning, good management and close coordination between staff and users. A comprehensive internal and external coordination program is in place to:

- Ensure users are made aware of changes promptly
- Provide a constant flow of information about modernization
- Establish and maintain internal and external communications during the transition
- Explain realistic and substantial improvements in weather services
- Exchange attitudes and expectations for carrying out the modernization program.

General Stage 1 and Stage 2 strategies described in this section primarily address WSFOs, WSOs and meteorological observatories. Transition activities also will take place at RFCs, National Centers, Tsunami Warning Centers, CWSUs, future Data Collection Offices in Alaska and Hawaii, and other types of field offices. The National Center Transition Plan, Site Implementation Plans and regional transition documents detail activities for these offices.

3.2 Stage 1 Strategy

Stage 1 targets efficient use of NEXRAD technology at RFCs, NWSFOs and NWSOs. In this stage, NWS will transform these offices to improve services and operations. Equipment delivery schedules largely will pace the transition of offices. NWS also will base staff changes and training on delivery schedules, with the dual goals of providing the necessary people to operate new systems and of maintaining uninterrupted weather services at all offices.

Most NEXRAD offices will require more staff in Stage 1. To the extent possible, NWS will draw these extra people from WSOs not scheduled to receive a NEXRAD. These staff changes will be made without degrading current services at non-NEXRAD WSOs.

WSOs that have surface observation or local warning radar programs will retain enough staff to carry out these programs until ASOS is commissioned at the site and/or NEXRAD coverage has proved satisfactory for the area. When reducing a WSO's responsibilities, regional managers will ensure that community leaders and affected groups are kept informed of significant changes and given evidence that changes will not degrade warning services and required observations.

NWS will transform non-NEXRAD offices in steps. First, NWS will automate surface observations at these WSOs, using freed resources to staff NEXRAD offices. NWS will further reduce WSO resources only when a NEXRAD office(s) assumes responsibility for the area served by the WSO. NWS will not transfer positions at some WSOs to NEXRAD offices because appropriately staffed positions will be needed to ensure that service activities are continued until additional NEXRAD systems are operating.

Headquarters staff will oversee transition to Stage 1, but regional offices will be responsible for extensive planning. NWS is developing national standards to define operational capabilities that it must confirm. A successful transition requires assuring that services will continue during transition to Stage 1 and offices can perform Stage 1 operations. NWS will present this assurance in reports confirming operational capabilities.

The list below gives activities necessary to start Stage 1. A checklist follows noting operational capabilities NWS must confirm. SIPs contain the complete list of preparatory activities, derived from transition plans for future operations and services, systems development and integration, training and professional development, and implementation and phaseover.

Stage 1 Preparation Activities

- Non-NEXRAD WSO activities
  - Coordinate with external users
  - Deploy ASOS systems
  - Transfer responsibilities for:
    - Upper air
    - Radar observations
    - Warnings
    - NWR
    - Local forecasts
    - Other
  - Decommission existing systems
  - Certify to Congress that automating and/or consolidating will not degrade services
  - Reallocate resources while maintaining current service levels and community liaison.

- NEXRAD Site Activities
  - Add Stage 1 staff
  - Train staff
  - Deploy NEXRAD, ASOS and other systems
  - Calibrate NEXRAD specifically for each site
  - Commission new systems
  - Accept responsibility for programs transferred from non-NEXRAD WSOs
  - Confirm that services to users are maintained.

- RFC Activities
  - Phase-in HAS function
  - Provide training (including Hydromet)
  - Implement NEXRAD data procedures
  - Implement Hydromet products and procedures
  - Implement verification procedures
  - Conduct on-site model execution (Prototype RFC Operational Test, Evaluation and User Simulation (PROTEUS) sites only).

- Deploy Automation of Field Operations and Services (AFOS) System Z
- Decommission Network and Local Warning Radars
- Automate and/or transfer observation responsibilities from WSMOs and WSCMOs to NWSOs or NWSFOs. Some WSCMOs will continue upper air observations.

Stage 1 NEXRAD Site Operational Capabilities Checklist

- Complete facilities
- Ensure Stage 1 staff is on site
- Complete system training and hydrometeorological training and education
- Put system support mechanisms in place and complete maintenance training
- Put operations directives and procedures in place
- Prove ability of staff and office to provide Stage 1 operations and services
- Complete coordination with external cooperators and users
- Commission Stage 1 technologies.

Stage 1 RFC Operational Capabilities Checklist

- Complete facilities
- Ensure Stage 1 staff is on-site
- Complete system training and hydrometeorological training and education
- Put system support mechanisms in place and complete maintenance training
- Put operations directives and procedures in place
- Prove ability of staff and office to provide defined Stage 1 operations and services
- Complete coordination with external cooperators and users
- Commission Stage 1 technologies.

3.3 Stage 2 Strategy

Stage 2 is based on attaining the following modernization and associated restructuring goals:

- Establishing WFOs and modernizing RFCs
- Deploying all new technologies
- Integrating systems and operations.

The transition strategy treats these as defined goals, but they may be adjusted to reflect changes in resources, schedules, technology capabilities and the supporting sciences.

Transition to Stage 2 generally will follow the strategy outlined for Stage 1. NWS will synchronize WFO operations and WSO program changes with dates for acquiring, deploying and commissioning new systems. NWS is timing and adjusting staff allocation and training to ensure personnel are in place and prepared to use the new technologies when they are available. Future operations and services will be the impetus for Stage 2 transition planning.

At the outset of Stage 2, WFOs and RFCs will operate with AWIPS computer systems that have been deployed with an Initial Deployment Baseline (IDB). This portion of Stage 2 will be referred to as Initial Stage 2. Introducing system capabilities in phases will

allow staff to assess system maturity and provide time to develop and validate deferred capabilities while the forecaster becomes familiar with operation of the new systems. Technology elements not included in the IDB but required to modernize will be part of an integrated systems upgrade required for full Stage 2 operations.

As with Stage 1, NWS headquarters will maintain national oversight, but Stage 2 will require extensive planning and close regional management. NWS will develop national standards to define all the capabilities it must confirm. A successful transition requires assurance that services will continue during the transition to Stage 2 and that offices will be able to perform all Stage 2 operations. NWS will provide this assurance in reports confirming operational capabilities. Regions will meet these national standards through programs confirming operational capabilities.

Below is a list of activities NWS must complete to move to Stage 2, followed by a checklist of operational capabilities NWS must confirm. These lists are not all inclusive, but provide a sample of major activities and conditions. The complete list will be derived from SIPs, transition plans for areas such as operations and services, systems development and integration, training and professional development, and implementation and phaseover.

Stage 2 Preparation Activities

- Non-NEXRAD WSO Activities
  - Coordinate with external users
  - Certify to Congress that services will not degrade after closing a non-NEXRAD WSO
  - Close the non-NEXRAD WSO
  - Retain a liaison officer for at least two years after closing.

- WFO Activities
  - Adjust staff levels
  - Deploy AWIPS
  - Train staff on AWIPS
  - Commission AWIPS
  - Confirm user services are being maintained
  - Redistribute forecast responsibilities.

- RFC Activities
  - Prepare operational forecast system for transfer to on-site, interactive operations
  - Coordinate upcoming service changes with water resources and cooperators
  - Supplement staff
  - Establish nominal 16-hour-per-day operations
  - Deploy AWIPS
  - Train staff on AWIPS
  - Commission AWIPS
  - Confirm user services are being maintained.

- Decommission AFOS System Z.

Stage 2 WFO Operational Capabilities Checklist

- Complete facility preparation
- Ensure Stage 2 staff is on site
- Complete system training and hydrometeorological training and education
- Establish system support mechanisms and complete maintenance training
- Establish operations directives and procedures
- Prove ability of staff and office to provide defined Stage 2 operations and services
- Complete coordination with external cooperators and users
- Commission Stage 2 technologies.

Stage 2 RFC Operational Capabilities Checklist

- Complete facility preparation
- Ensure Stage 2 staff is on site
- Complete system training and hydrometeorological training and education
- Establish system support mechanisms and complete maintenance training
- Establish operations directives and procedures
- Prove ability of staff and office to provide defined Stage 2 operations and services
- Complete coordination with external cooperators and users
- Commission Stage 2 technologies.

3.4 Site Transition Model

The Site Transition Model, shown in Figure 2, shows the order in which events should occur at non-NEXRAD WSOs and NEXRAD sites for Stage 1 and Stage 2. Not all events must occur in the order given. For example, some sites may receive NEXRAD before ASOS; however, there are specific events that must occur in order. A building must be complete before staff and new technology arrive. ASOS must be at non-NEXRAD WSOs before surface observations are automated, some programs transferred and staff reallocated.

3.5 Training and Professional Development

The NWS established an Integrated Training and Professional Development Program to ensure employees thoroughly understand the new technologies and to keep forecasters current on recent scientific advances in mesoscale forecasting techniques. NWS places the highest priority on concepts that apply to operational forecasting.

As the program title implies, there are two distinct parts of the NWS strategy to prepare staff for the transition: technological systems training and professional development/continuing

education. Systems training tends to be a one-time effort triggered when an office installs new technology; professional development continues throughout an employee's career.

Systems Training

NWS will train staff primarily on site. Centralized training generally will be reserved for the most complex technologies having the greatest impact on the transition, such as NEXRAD. For example, the NEXRAD Operational Support Facility (OSF) in Norman, OK, will provide a four-week Operations course for more than 2,000 meteorologists and hydrologists. NWS is requiring all meteorologists and hydrologists (except interns) at future WFOs and hydrologists/hydrometeorologists at RFCs to pass the four-week NEXRAD Operations Training Course before a NEXRAD is commissioned.

For other highly complex technologies such as AWIPS, NWS plans centralized courses for office experts who will then lead structured, on site training. For simpler technologies such as ASOS, training will be primarily on site with a few centralized classes. The NWS Training Center will continue to offer centralized maintenance courses for electronics technicians as well as basic training courses for new hires.

Professional Development

Ideally, NWS would provide professional development by sending employees to centralized courses; however, logistical and budgetary constraints rule this option out. Except for some centralized courses for specialized personnel, most professional development will be on site. The NWS is trying to maximize opportunities for distance learning, which provides needed training while reducing costs. NWS believes the two key elements for successful on-site professional development are an effective expert in the office to coordinate the program and interesting, informative and relevant learning materials.

The Science and Operations Officers (SOO) and Development and Operations Hydrologists (DOH) will function as resident experts for professional development in each WFO and RFC, respectively. They will transfer technology on-station, determine hydrometeorologic topics worthy of local research, initiate and serve as liaisons for research projects with universities, and incorporate research results into NWS offices.

Centralized courses will be conducted by the Cooperative Program for Operational Meteorology, Education and Training (COMET) of the University Corporation for Atmospheric Research in Boulder, CO. For example, COMET will conduct an eight-week Operational Mesoscale Analysis and Prediction course, primarily for SOOs. Other specialized courses will be offered for DOHs. The NWS Training Center will offer courses in hydrometeorological forecast techniques.

The goal of the COMET distance learning program is to prepare a comprehensive curriculum through highly interactive Computer-Based Learning (CBL) materials played on specially developed Professional Development Workstations. Experts at NOAA, the Department of Defense (DOD), universities, FAA and other agencies will develop

materials. CBLs should provide the most cost-effective and efficient method for professional development for NWS meteorologists and hydrologists.

NWS provides opportunities for all employees to upgrade skills. For example, meteorological technicians may enroll in a 12-week course held at San Jose State University at which they can earn 6 hours of synoptic and 6 hours of dynamic meteorology credit. These credits help technicians qualify for the meteorologist series. The San Jose course may help reduce employee displacement. The University Assignment Program is available to NWS staff members who wish to upgrade their scientific or computer skills. The program enables employees to study full- or part-time at a university, while receiving salary and benefits.

3.6 Risk Reduction

To modernize, NWS must complete all objectives while ensuring that services are not degraded. To a great extent, future programs rely on new systems developed with highly advanced science and technology. NWS will refine and update these systems throughout the transition. NWS has conducted only limited tests of some new operational technologies. This lack of testing is recognized in the system acquisition plan for AWIPS, which allows for staged development. At each stage, AWIPS can incorporate new scientific knowledge and the latest requirements. Systems based on known and existing technology, such as NEXRAD, have undergone extensive field testing.

To reduce the risks of bringing new technologies on line, NWS is conducting extensive tests. For example, some risk areas are currently being targeted by:

- Conducting a joint NWS and Environmental Research Laboratory's (ERL) Denver AWIPS Risk Reduction and Requirements Evaluation (DARE) project in Colorado
- Developing a prototype WFO at Norman, OK
- Initiating the PROTEUS project at selected RFCs.

NWS expects to conduct more risk-reduction projects in the transition period and possibly beyond. To date, risk-reduction efforts target technology issues. Other critical questions that remain unanswered range from staffing levels for Stage 1 and Stage 2 offices, to the feasibility of integrating all warning and forecast functions in future WFOs.

The early stage of modernized operations and the transition process itself will reveal other areas where NWS can reduce risk. Well-defined risk-reduction projects are critical to a successful transition. This transition strategy calls for agency support and response to significant risk-reduction activities and their associated results.

3.7 Demonstration

The NWS will provide improved services through new technologies operated by trained staff. NWS and external users must take active roles to ensure success. Users are more likely to support changes if they understand why they are needed. Demonstrating improved services is a critical element in obtaining support.

For example, at each site, NWS will demonstrate and test the operational capabilities of the new technologies as part of the system commissioning process. These tests will form a significant part of certifications to Congress that services will not degrade. Before Initial Stage 2, NWS will conduct the Modernization and Associated Restructuring Demonstration (MARD) of the modernized weather service.

Modernization and Associated Restructuring Demonstration

NWS will demonstrate service delivery from offices with new technology as a model for nationwide operations in Stage 2. The MARD process will apply new technologies and techniques and convert existing offices into WFOs. NWS will collocate some WFOs with an RFC. HAS functions will be added in each RFC to help assimilate large volumes of data from NEXRAD, ASOS and other sensors; encourage hydrometeorological support and interactions with WFOs; and ensure continuity in hydrologic forecasts across WFO boundaries. The RFCs will reap the benefits of the new technologies to improve mainstream river flooding forecasts and flash flood guidance. The new technologies will help RFCs increase support to WFOs.

The proposed demonstration area and the overall design of MARD respond to Section 703(a)(4) of Public Law 102-567. The MARD is a cost-effective way to verify the quality of service improvements without restructuring the entire country. Figure 3, at the end of this section, shows participating field offices. This area of the Midwest was chosen for its diversity and for its frequent severe weather patterns. Other key factors in selecting this region were valuable experience demonstrating new ASOS technology in Kansas and the availability of data from the Profiler Demonstration Project.

Several criteria must be met to test the new operating configuration. These criteria include:

- Involving sufficient WFOs and RFCs to test new hydrometeorological support and forecasting operations, and coordination and support functions in realistic situations
- Involving enough offices to test a true communications network
- Providing warning and forecast services over a major area encompassing important geographical entities, i.e., at least two complete states.

To ensure a successful demonstration, NWS must first staff MARD offices with meteorologists and hydrologists who can interpret new data sources, such as Doppler radar, and utilize mesoscale forecasting techniques. In addition, NWS will deploy and integrate the new technology systems with each other and with existing technology at the MARD

offices. Before commissioning a system, NWS will ensure it performs its unique, but complementary role. After a stabilization period, including initial testing and evaluation of new operations, NWS will adjust systems to begin the MARD. Based on the current scheduled deliveries of NEXRAD and the availability of AWIPS, selected offices will be configured for the operational demonstration. MARD will begin during the latter part of 1996. Figure 4 at the end of this section shows the schedule for MARD. In preparing for and conducting the operational demonstration, the NWS will:

- Deploy and commission new technologies and integrate them into operations
- Staff restructured offices with the proper number and mix of personnel
- Develop and apply procedures related to warnings and forecasts
- Train staff to fully use the new technologies and scientific advances
- Restructure selected NWS field offices into WFOs to realign areas of service responsibilities in close coordination with emergency management groups and others
- Evaluate service performance and responses of users.

3.8 Certification Process

Public Law 102-567, the NOAA Authorization Act of 1992, took effect October 29, 1992. Title VII of this law, the Weather Service Modernization Act, modifies certification provisions of Public Law 100-685 and sets new certification procedures and other provisions relating to the NWS modernization. This section of the report summarizes these certification requirements. NWS published regulations describing the certification process in detail.

Certification Requirement—The Secretary of Commerce must certify to Congress that closing, consolidating, automating or relocating a field office (WSO or WSFO) to implement the Strategic Plan will not degrade service to the affected area. No field office will be closed before January 1, 1996. Each certification will:

- Describe local weather characteristics and weather-related concerns that affect the weather services provided within the service area
- Offer a detailed comparison of the services provided within the service area and the services to be provided after such action
- Describe recent or expected modernization of NWS operations that will enhance services in the service area
- Identify areas within a State that would not receive coverage (at an elevation of 10,000 feet) by the NEXRAD network
- Provide evidence, based upon a demonstration of modernized NWS operations, that was considered in concluding that service would not be degraded from such action
- Provide any report of the Modernization Transition Committee (MTC) that evaluates the proposed certification.

Special Circumstances—No office may be closed or relocated at any airport unless the Secretary of Commerce, in consultation with the Secretary of Transportation and the MTC, conducts an air safety appraisal, determines that such action will not degrade service affecting aircraft safety, and includes such determination in the certification.

The sole office in a State will not be closed until the Secretary of Commerce evaluates the effect on weather services provided to in-State users such as State agencies, civil defense officials and public safety offices, and determines in the certification the in-State users will retain a comparable level of weather services.

Liaison Officer—Public Law 102-567 requires that when closing, consolidating, automating or relocating a field office, the Secretary of Commerce maintain a liaison officer in the service area for at least two years. Section 2.2 of this report describes this liaison officer.

Review of Modernization Criteria—The National Research Council (NRC) reviewed the scientific and technical criteria by which the Secretary of Commerce proposes to certify action to close, consolidate, automate or relocate a field office and issued a report in July 1993. This review:

- Assessed requirements and procedures for commissioning new weather observation systems, decommissioning outdated NWS radars and evaluating staff needs for field offices in an affected service area
- Assessed the statistical and analytical measures that should be taken to determine if service will degrade in an area
- Included other recommendations the NRC deemed appropriate to ensure public safety.

The Secretary of Commerce, in consultation with the NRC and the MTC, and after notice and opportunity for public comment, will publish final modernization criteria in the *Federal Register.*

Modernization Transition Committee (MTC)—Public Law 102-567 establishes the MTC with representatives from NWS, DOD, the FAA, the Federal Emergency Management Agency, civil defense and public safety organizations, news media, labor organizations (certified by the Federal Labor Relations Authority as an exclusive representative of weather service employees), meteorological experts and private sector users of weather information.

The Secretary of Commerce may request the MTC to review any proposed certification and should do so if there is a significant possibility service will degrade within the service area. The committee may submit to the Secretary of Commerce, before publishing the proposed certification, a report evaluating the certification with respect to modernization criteria and the requirement that services not degrade.

Publication and Submission of a Certification—Before closing, consolidating, automating or relocating a field office, a certification will be:

- Published in the *Federal Register* for a 60-day comment period as a proposed certification
- Published in the *Federal Register* as a final certification after considering public comments and any report of the MTC
- Submitted to the Senate Committee on Commerce, Science and Transportation and the House Committee on Science, Space and Technology.

Certification Process—Based on the requirements of Public Law 102-567, NWS has developed a process for certifying that services will not degrade during the modernization. During Stage 1, key events will be commissioning a NEXRAD and/or ASOS. Introducing these technologies will enhance weather services and allow NWS to consolidate operations at NEXRAD offices and/or automate surface observations at existing field offices. With one exception discussed below, certifications will be based on the documents supporting commissioning and on additional documents that support decommissioning of a radar and/or automating surface observations.

After installing a NEXRAD or ASOS unit, NWS will confirm the capabilities of each new unit in a field setting. Before commissioning a unit, the meteorologist-in-charge will prepare a Commissioning Report reviewing engineering and performance tests for the system, documenting field results for this unit, documenting that the new technology has been integrated into office operations and assuring maintenance support is in place.

After commissioning, the meteorologist-in-charge will prepare the Confirmation of Services Report. This report's intent is to ensure that NWS has communicated with users and that services remain intact and accessible. Depending on the technology involved, the meteorologist-in-charge also will prepare a Radar Decommissioning Report and/or a Surface Observation Modernization Report. The first report will show that the area served by the old radar is covered by one or more commissioned NEXRADs and the old radar can be turned off; the second will document completion of the actions necessary to automate the surface observation.

Based on these reports, which will incorporate criteria reviewed by the NRC and MTC, other information required by Section 706 of Public Law 102-567, the meteorologist-in-charge will prepare a certification recommendation to be reviewed, published for comment and submitted to Congress. NWS also will certify the need for a relocation. Relocation does not involve introducing new technology and will be certified according to the process set forth in the regulations. NWS will not close any WSO or WSFO during Stage 1.

The required sequence of events certifying that services will not degrade for a typical WSO consolidating or automating during Stage 1 will be:

- Install and conduct an acceptance test of the NEXRAD and/or ASOS unit
- Demonstrate the unit and coordinate with users
- Prepare the Commissioning Report
- Commission the unit for full operational use

- Transfer service responsibility to the NEXRAD field office while continuing to operate an existing radar at the old office (if it currently operates a radar)
- Confirm that services are maintained and prepare the Confirmation of Services Report
- Prepare Radar Decommissioning Report and/or Surface Observation Modernization Report
- Decommission existing NWS radar
- Certify "No Degradation" of services
- Consolidate and/or automate.

For WSFOs becoming WFOs, the sequence is more complex because these offices have forecast responsibilities. Initially, these WSFOs will separate their service responsibilities from their observation responsibilities, transferring the former to the new WFO site while continuing to handle observations. During this first step of the transition, the sequence of events will include coordinating technical issues with affected users, transferring service responsibilities (warnings and forecasts) to the future WFO and changing staff levels as personnel responsible for issuing warnings and forecasts (but not observations) are transferred to the future WFO.

These actions during this first step of a WSFO transition are "changes in field office operations" subject to the provisions of Section 705 of the Act, but not Section 706. After the WSFO completes this step, the office will operate exactly as the WSO described in the first type of certification and will be known as a "residual WSO." The sequence of events will be the same as that described previously except that the service transfer already will have occurred.

During Stage 2, the pivotal events will be commissioning an AWIPS unit and decommissioning AFOS. Introducing AWIPS will enhance weather services and ensure fully functioning WFOs, allowing NWS to close some field offices. Before closing an office, NWS will have to certify no degradation of services based on operational demonstrations, the commissioning and decommissioning process and confirmation of services with users.

Change in Operations—Many of the actions that lead to a certification are defined by Public Law 102-567 as a change in operations. These actions include:

- Transferring service responsibility
- Commissioning weather observation systems
- Decommissioning an NWS radar
- Changing staff levels significantly
- Moving a field office to a new location inside the local commuting and service area.

Specific operations changes required to phase out a WSO include commissioning a NEXRAD/ASOS, transferring warning responsibility from the old office to the office with the NEXRAD and decommissioning the old radar. In the sequence for WSFOs, additional specific changes in operations are the initial transfer of forecasting and warning

responsibility to the future WFO, and the significant change in staffing levels as NWS transfers forecasters and other service personnel to the new office.

Notifications for Changes in Operations Occurring After September 30, 1993—Public Law 102-567 requires advanced notification in this report. The NIP must also identify any field office that the Secretary intends to certify for major change and the intended date of such certification. This report notifies Congress and users of agency services. Table 6 provides site-by-site notifications of when NWS has scheduled changes in operations and certification.

Notifications of planned changes of operations and intent to certify field offices are provided in this table on a fiscal year basis. The establishment of a specific date for an action, such as a system commissioning or a transfer of service responsibility, is dependent upon many factors, e.g., completion of technical coordination with external users, system and office readiness and severe weather season considerations. The Meteorologist-In-Charge (MIC) of the cognizant future Weather Forecast Office (WFO) is in the best position to judge these factors and schedule the specific date for the action. The specific date for an action will be provided by the MIC to external users and affected NWS employees at least 60 days in advance of the action.

Figure 2:
SITE TRANSITION MODEL

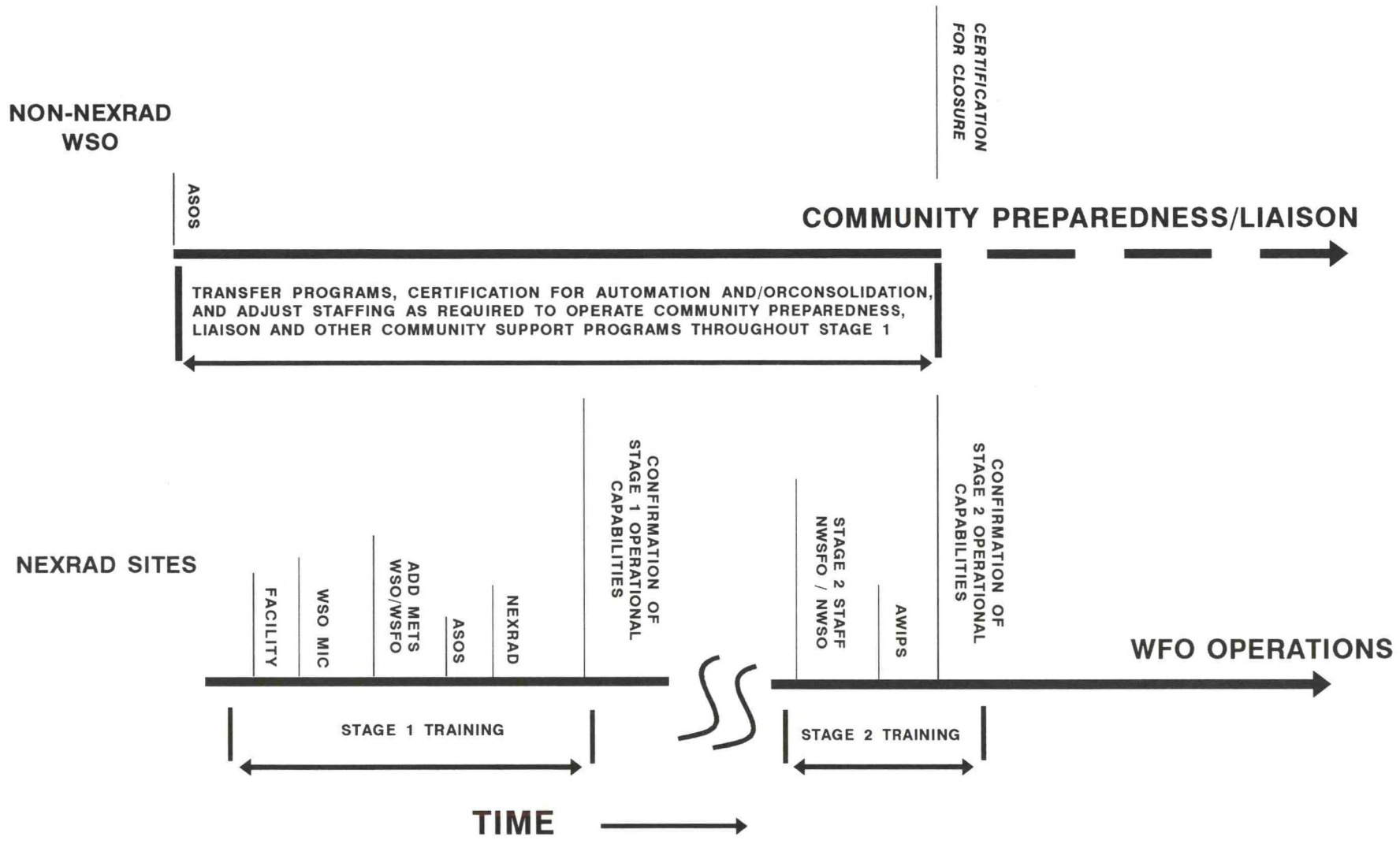
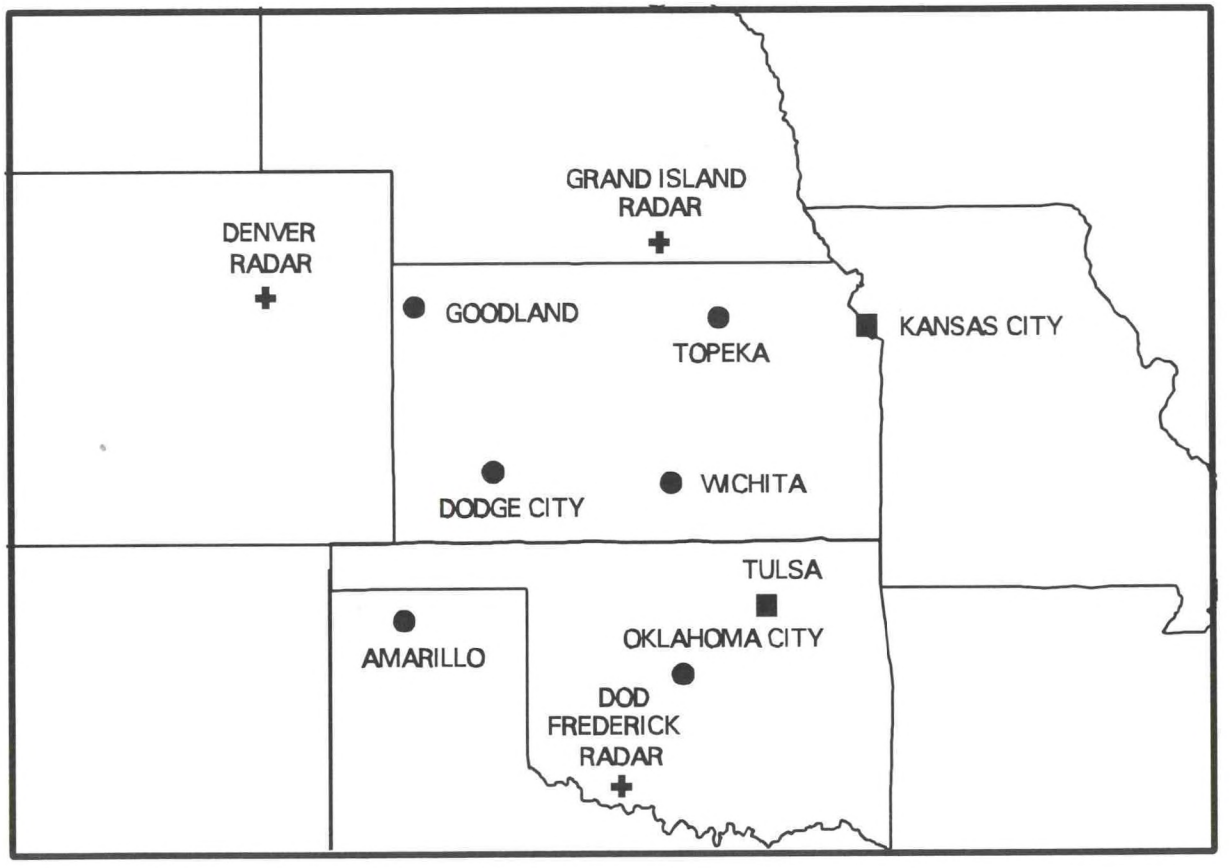


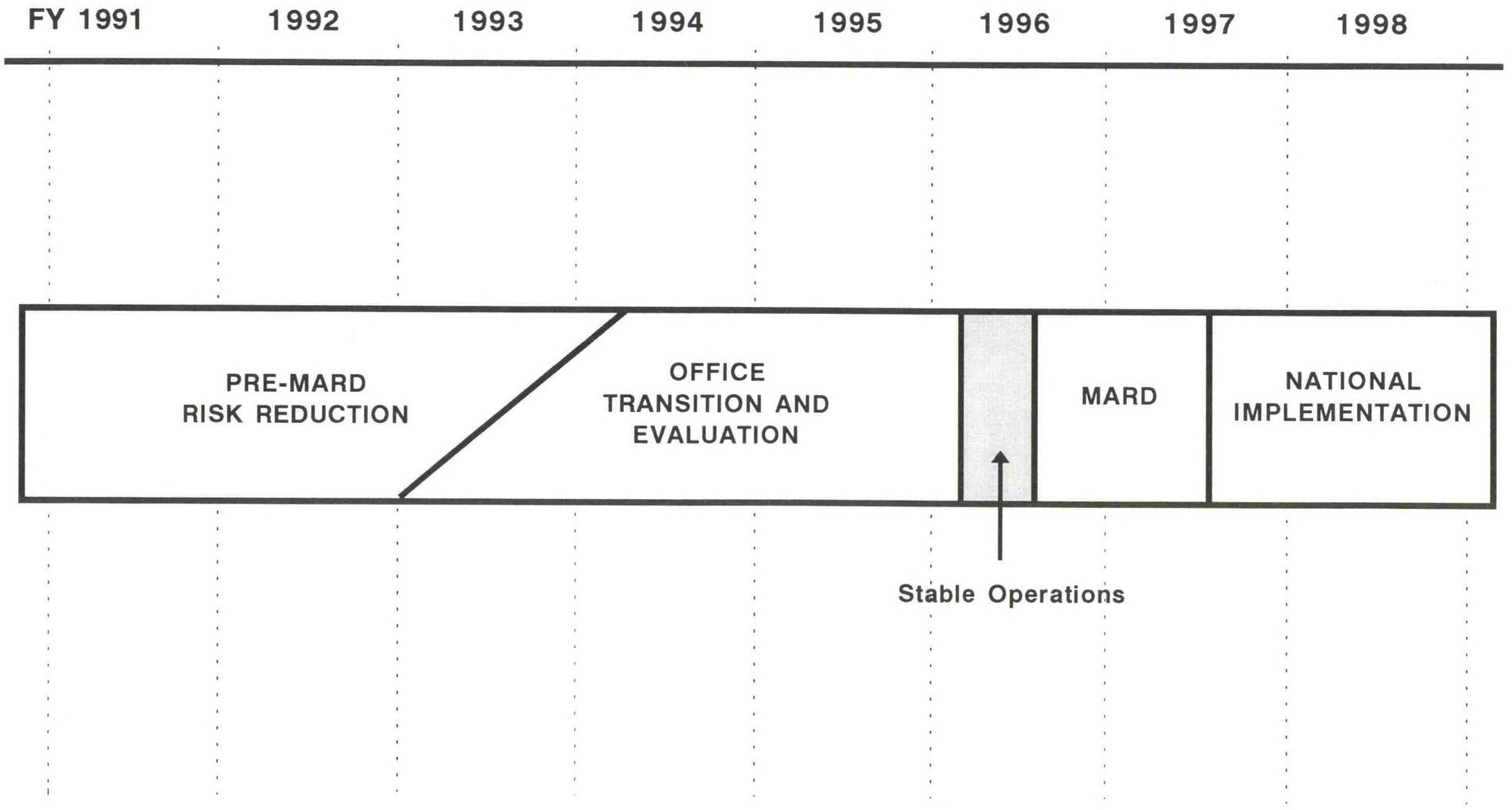
Figure 3:
MODERNIZATION AND ASSOCIATED RESTRUCTURING DEMONSTRATION AREA



● WFO with NEXRAD
■ WFO/RFC with NEXRAD
✚ NEXRAD

CENTRALLY PREPARED GUIDANCE
WILL BE PROVIDED BY
THE NATIONAL CENTERS

Figure 4:
PRINCIPAL PATH FOR MODERNIZATION



4.0 Research Programs

NOAA, the academic community and other federal agencies are conducting research projects that will transfer scientific and technical knowledge to the NWS modernization program. These projects range from research in the atmospheric and hydrologic sciences to developing products and techniques to improve warnings and forecasts. Research also is underway in computer systems to assimilate data from the diverse observational systems coming into use—nationally as input to numerical prediction scales and locally for short-term/mesoscale forecasting.

NOAA has concentrated the bulk of its research program in the Environmental Research Laboratories (ERL), the NWS and the National Environmental Satellite, Data and Information Service (NESDIS). Section 6 addresses budgets for research programs associated with NWS modernization and restructuring. The end of Section 6 includes figures showing research and modernization schedules.

4.1 Environmental Research Laboratories Research Programs

ERL provides fundamental research to develop technology and improve NOAA services to the public. ERL provides this support through dedicated laboratory facilities across the nation. Programs include research on observational systems, modeling and prediction, severe storms, hurricanes, clouds and precipitation processes, and synoptic and mesoscale meteorology.

Forecast Systems Laboratory

The ERL Forecast Systems Laboratory (FSL) in Boulder, CO, is a major contributor to the NWS modernization. The FSL mission is to improve weather services by testing and transferring advances in science and technology to the NWS. One principal FSL activity has been supporting the DARE risk-reduction programs.

FSL staff helps design, implement and support the advanced interactive forecaster workstation. This workstation will provide a systems requirements test-bed for many AWIPS capabilities. FSL completed the first phase of the program, DARE-I, in fiscal year 1989. DARE-II, begun in fiscal 1990, covers all phases of the Denver forecast and warning operations. Currently, the FSL-built DARE systems are operating at WSFOs Norman, OK, and Denver, CO.

The FSL programs also evaluate new observational technology and develop new and improved forecast products, such as algorithms for Doppler radar data, atmospheric sounding data from geostationary satellites and vertical wind data from ground-based atmospheric profilers to improve NWS operational forecasting. FSL is developing two data assimilation and prediction programs to improve NWS operational forecasting. These programs will incorporate diverse observational data sets—radar, satellite, and profiler data—on the regional and local scale.

Every three hours the Mesoscale Analysis and Prediction System (MAPS) provides highly detailed analyses of meteorological parameters and short-term numerical forecasts to support aviation and local forecast and warning services. MAPS is designed to run on medium-sized computers in national center environments.

FSL ported the initial version of the MAPS system to NMC. The system, known at NMC as the Rapid Update Cycle, uses data sources such as wind profilers and the Arinc Communications Addressing and Reporting System (ACARS) to analyze the upper air every three hours. MAPS uses Surface Aviation Observations to analyze surface conditions every hour.

In addition, FSL is developing the Local Analysis and Prediction System (LAPS), designed primarily for local NWS offices to use on AWIPS workstations. LAPS will use local data networks, NEXRAD wind data, and profiler output to provide high-resolution three-dimensional hourly analyses of wind, temperature and moisture. These hourly fields would then feed diagnostic and predictive models to enhance short-range forecasting. The target time frame for developing the LAPS system is the mid-1990s.

Since 1978, ERL has been developing ground-based sensors to observe the atmosphere using vertical profiling methods. As a result of this research, FSL has successfully deployed a demonstration network of 31 wind profiling Doppler radars, primarily in the Midwest. In spring 1992, the last profiler in the Wind Profiler Demonstration Network (WPDN) was installed at Blue River, WI. Since then WPDN profilers have been providing reliable vertical profiles of horizontal wind speed to NWS forecast offices, the research community, private industry, universities and the National Climatic Data Center.

ERL continues its research on thermodynamic profiling using the Radio Acoustic Sounding System (RASS); four systems have been installed at WPDN sites. In 1994, ERL plans to install five more RASS units. ERL is also researching other profiler-complementary technologies, such as measuring integrated water vapor using the Navstar Global Positioning System.

National Severe Storms Laboratory

The National Severe Storms Laboratory (NSSL) in Norman, OK, conducts a broad program of research to improve understanding, detection and forecasting of severe weather phenomena.

The laboratory has three principal divisions, each of which conducts research, considers potential applications and interacts directly with NWS components to support the modernization. Research is focused on observational studies of mesoscale convective systems and associated precipitation, severe thunderstorms and hazardous winter storms as well as model-based studies of these weather systems. The NSSL occasionally participates in multiagency field programs, typically in mid-latitudes. The laboratory's research provides a sound scientific foundation on which NOAA weather services can build. Responsibilities for NSSL's three divisions break down as follows:

- Processing radar signals and advanced hardware/analysis techniques, including polarization diversity
- Developing operational radar applications, assessing and improving algorithms used with the NWS WSR-88D Doppler radars
- Predicting severe weather systems through numerical forecast models.

The NSSL works directly with NWS field offices, the four continental Regional Headquarters and the NMC to improve weather services and contribute to training programs. Much of this joint work is done within the framework of an Experimental Forecast Facility and with the NMC Storm Prediction Center in Norman. Some NSSL staff work within the operational NWS environment (e.g., Phoenix, AZ, and Norman, OK).

Atlantic Oceanographic and Meteorological Laboratory

ERL's Atlantic Oceanographic and Meteorological Laboratory (AOML) conducts basic and applied research in oceanography and tropical meteorology. Research conducted at AOML supports the NHC hurricane forecasting program. To improve existing hurricane prediction models, the AOML Hurricane Research Division is developing complex models using high-resolution movable grids. These models will have resolution down to 10 kilometers.

AOML also supports NHC by improving the performance of hurricane tracking models. AOML continues to support hurricane forecasting services through studies examining precipitation features in mature hurricanes, hurricane air-sea interaction and mesoscale structure of land-fall hurricanes.

Environmental Technology Laboratory

The mission of the Environmental Technology Laboratory (ETL), formerly the Wave Propagation Laboratory, is to develop remote sensors measuring atmospheric parameters needed to understand and predict severe weather. The ETL helped develop and/or improve radar techniques for:

- The NEXRAD program
- Dual polarization radar technology used to observe cloud parameters important in forecasting icing and hail versus rain conditions in clouds
- Wind profiling and thermodynamic technology that will lead to remote, automated profiling of the atmosphere.

The ETL also researches over-the-horizon radar to map ocean surface conditions, surface winds and light detection, and ranging applications to observe small-scale turbulence, such as microbursts and severe wind gusts.

Geophysical Fluid Dynamics Laboratory

The mission of the Geophysical Fluid Dynamics Laboratory (GFDL) is to develop, test and evaluate mesoscale and synoptic scale atmospheric models. The GFDL is working with the NMC to upgrade analysis and prediction models. Recent projects include developing the improved physics and hurricane algorithms in forecast models and a state-of-the-ocean forecast model.

4.2 NWS Research Programs

Research supporting the modernization program within the NWS is diverse and in several areas.

Office of Hydrology

HRL is the nucleus for applied hydrologic research and development for the NWS operational hydrologic forecast mission. HRL works with OH's Hydrologic Operations Division, the RFCs and FSL's Weather Research Program for Mesoscale Studies.

HRL has done most of this research and development to capitalize on new data collection and analysis technologies. HRL is placing significantly more emphasis on hydrometeorology, a hybrid science dealing with interrelationships between hydrology and meteorology.

NEXRAD, ASOS and the automated sensors from other programs will greatly increase the volume of hydrometeorological data. AWIPS will enhance computational power for hydrologic modeling and data management. PROTEUS, a project managed by HRL, reduces risk associated with implementing new technologies. The critical components of PROTEUS include:

- Data handling and quality control procedures
- NEXRAD precipitation processing algorithms
- An on-site interactive version of the NWS River Forecast System (NWSRFS)
- High-resolution flash flood guidance based on geographical information systems.

Other NWSRFS enhancements include improved snow melt and rainfall-runoff models, and river mechanics procedures.

OH will continue to capitalize on new technologies in its efforts to develop initial capabilities for hydrometeorological operations. In parallel with this work, NWS is emphasizing comprehensive modeling of the hydrologic cycle. Research will range from

efforts to model the transfer of soil moisture to the atmosphere (for use in both short-range numerical weather prediction models, long-range global climate models and for predicting the impact of global climate change on water resources), to improved forecasts and warnings for short-fused mesoscale events.

NWS will use advances in computer technology, graphical user interfaces and geographical information systems to complement the new data technologies. These new technologies, coupled with improved understanding of mesoscale weather processes, will allow forecasters to use improved hydrologic forecasting systems and distributed forecast models to forecast smaller areas such as flash-flood prone watersheds and urban areas.

National Meteorological Center

The Development Division of NMC researches and develops data assimilation and numerical modeling of the atmosphere and interactions between the atmosphere, ocean and land surfaces. The goal of this research is to improve the skill and extend the range of NMC forecasting. The Development Division supports and refines the models in use by NMC, develops and implements new and better models and objective analysis methods, and provides the research community with the infrastructure to test new techniques.

The Division concentrates its research in three major areas: Regional and mesoscale modeling, global weather modeling, climate modeling, and ocean modeling. Regional and mesoscale global modeling research includes topics such as:

- Mesoscale four-dimensional data assimilation of satellite, conventional, and direct and indirect ground-based observations, in support of the NWS modernization
- Advanced numerical techniques applied to mesoscale modeling problems
- Parameterization of mesoscale processes in the atmosphere
- Diagnostic studies of mesoscale weather phenomena and model performance
- Mesoscale data quality control.

The research in the area of global weather and climate modeling includes:

- Four-dimensional data assimilation of satellite and conventional observations
- Advanced numerical techniques for modeling the atmosphere and interactions between the atmosphere, ocean and land surfaces
- Climate data assimilation systems and reanalysis studies for archives and for use by the scientific community
- Parameterization of sub-grid scale processes in the atmosphere and interactions between the atmosphere and ocean or land surface
- Data quality control
- Development of an ocean model and data assimilation system for the coupled ocean-atmosphere forecast system
- Development of climate prediction methodologies
- Development of global ocean observing and analysis systems
- Data quality control for coupled ocean atmosphere models.

The ocean modeling research includes:

- Modeling surface wind over the global oceans, coastal seas and the Great Lakes area
- Developing deep and shallow water wave forecasts
- Modeling sea ice
- Quality control of marine observations.

In researching the above areas, the NMC Development Division focuses on short-range forecasting (12 to 72 hours) over limited domains, such as regional and hurricane prediction models, and over global domains. The medium range (3 to 10 days) covers the entire globe; the extended range (10 to 30 days) deals with regional, hemispheric and global domains.

To improve forecast skill, the research programs to support these activities focus on using diverse data sources from new observing systems in more complex and sophisticated atmospheric models. These observing systems include or will include systems such as NEXRAD, ASOS, ACARS and the Geostationary Operational Environmental Satellite (GOES). The systems also will integrate data from experimental satellite cloud and oceanographic remote sensing programs. The target computer for the operational use of these prediction model enhancements is the advanced super- computer system.

Office of Systems Development

TDL researches and develops promising techniques in weather forecasting and analysis to provide more objective forecasting of basic weather elements used in public and aviation forecasts, such as clouds, temperature and visibility. Emphasis is placed on marine-related forecasts, forecasts associated with mesoscale processes and techniques to be implemented at AWIPS-equipped NWS field offices.

The supporting research at TDL covers forecast applications for synoptic scale, mesoscale, marine environmental and field offices. The synoptic activities focus on procedures to be run on centralized computer systems in contrast to mesoscale weather techniques and local applications designed for use at modernized NWS field offices.

Local applications include interactive techniques supporting a digital data base, product formatters preparing specific products from the digital database, data decoders and verification techniques. Mesoscale weather prediction includes techniques to predict short-lived thunderstorms, severe local storms and heavy precipitation. Short-term forecasting techniques apply sensor-produced information, such as data from NEXRAD, lightning detection systems and the experimental profiler system, to develop thunderstorm forecasting procedures and specialized radar algorithms.

The TDL developed and continues to improve a numerical model forecasting oceanic flooding over coastal areas when hurricanes hit land. NHC uses this storm surge model

to provide critical guidance on flooding to watch and warning areas of a hurricane prior to landfall. NWS also uses the program extensively as a tool for hurricane evacuation planning; a series of computer simulations of hypothetical hurricanes shows areas of potential flooding. NWS is developing a similar model to predict flooding along coastal areas caused by intense extra-tropical cyclones.

Eastern Region

One of the important goals of the new modernized weather service is to develop the means to research, test, and validate new meteorological concepts and applications. Collaborative research efforts that include forecasters as partners provide a means to import scientific findings directly into the operational environment.

In the Eastern Region, the COMET Outreach program will fund one Partners and two Cooperative program proposals. The COMET Partner's grant will provide the needed resources for WSFO Columbia, the University of South Carolina, and the South Carolina Water Resources Commission to develop a prototype GIS (Geographic Information System) database that will integrate topographic, hydrologic, and climatic data with WSR-88D precipitation data in the Edisto River Basin.

In conjunction with the University of Virginia and WSFO Pittsburgh, the Ohio River Forecast Center (OHRFC) is involved in an ambitious COMET Cooperative project that will move the production of QPF into a whole new realm that emphasizes the role of the user--the RFC and river operators--through the use of enhanced QPF in river stage forecasts.

A second COMET Cooperative proposal that was approved takes advantage of the soon-to-be collocation of WSFO Raleigh and North Carolina State University. WSR-88D radar, ASOS, GOES-Next satellite, and a statewide surface meso-network data will be integrated into a regional mesoscale database. An expansive computer processing and visualization center at NCSU will be used to examine the database to better understand and be able to predict the relationship of convergence boundaries to convective initiation in the Southeast. Additional research and development is planned for a prototype regional mesoscale modeling capability.

4.3 NESDIS Research Programs

NESDIS research programs are conducted by its Office of Research and Application. Its goal is to provide data derived from satellite sensors to improve meteorological analysis and prediction. These satellite applications range from the lower levels of the atmospheric boundary layer to tracking and monitoring synoptic and mesoscale systems and monitoring stratospheric ozone.

Numerical weather prediction efforts at NESDIS have focused on developing enhanced moisture and stability products, wind fields and three-dimensional vertical soundings of temperature and moisture. The service currently is testing a forecast program for tropical

cyclogenesis. NESDIS also is developing surface vegetation, temperature and snow-cover products from satellite sensors to be used in initializing boundary conditions for the models.

Research to improve Sea Surface Temperature products has resulted in a new atmospheric aerosol product. NESDIS can track warming and cooling effects from volcanic eruptions and airborne sand and adjust/correct the Sea Surface Temperature products essential to initialize numerical models. The service has developed a satellite cloud observation algorithm to supplement ASOS.

NESDIS supports the NWS warning and forecast program with research on tropical storms, clear air turbulence and wind stability products; improved detection of nighttime fog over oceanic and land areas; severe weather signatures and quantitative precipitation estimates for flash flood warnings. Scientists continue to document the use of polar satellite and geostationary data. These publications are part of an intensive training program ranging from visits to NWS forecast office, to workshops, to developing training modules in COMET.

NESDIS is developing multichannel products to prepare for the data stream from the GOES I-M satellites. Applications Development is emphasizing quantitative products that can assist forecast operations at National Centers and the local forecast office.

NESDIS scientists also are involved in data assimilation projects that merge the new technologies, e.g., profilers and Doppler radar, and satellite data. These mergers result in enhanced products with high information content. In addition, several "expert system" projects are underway for high plains convection, heavy precipitation and winter storm forecasting. Cooperative development and field testing with NWS staff are key elements of these projects.

5.0 Transition Program Management

The NWS has never undertaken a systematic modernization and restructuring effort of the magnitude described in this report. Virtually every NWS activity will change in some way during the transition. Management will be complex, involving all levels of the NWS. This section presents the NWS transition philosophy.

To coordinate these changes, NWS has established the Office of the Deputy Assistant Administrator for Modernization. Reporting to the Assistant Administrator for Weather Services, the Deputy Assistant Administrator for Modernization provides a sustained organizational focus on the MAR Program. The Transition Director and program staff support the Deputy Assistant Administrator for Modernization. In each Headquarters Office and Region, NWS has designated Transition Representatives, who focus transition activities within their unit.

NOAA has established a Systems Program Office (SPO) reporting to the Deputy Under Secretary for Oceans and Atmosphere. The SPO acquires the major new systems: NEXRAD, ASOS, AWIPS and GOES.

5.1 Introduction

Two key principles define NWS transition management philosophy. The first is to use the existing structure to implement the transition whenever possible. The second is to ensure transition planning and implementation do not disrupt current operations and service.

The Assistant Administrator for Weather Services and Deputy Assistant Administrator for Modernization have statutory and procedural authority for budgeting, staffing and modifying field offices. Every action required to modernize the NWS can be done, in theory, through mandated procedures. In practice, acquiring approvals for action such as changing field office status may be difficult because of cost factors; however, the NWS has substantial leverage to make changes, on a case-by-case basis, that improve services.

5.2 Transition Work Breakdown Structure

The management approach to the transition is to plan, execute, monitor and report on activities necessary to modernize and restructure. This approach involves all NWS organizational units. NWS uses a formal Work Breakdown Structure (WBS) to track these activities. Figure 5 at the end of this section shows the major elements of the Transition WBS.

The WBS explains planning, implementation, project management, and control and reporting. Not all elements are presented for the same purpose, nor is the assignment of lead office responsibilities necessarily consistent with normal job responsibilities. The Transition WBS document and dictionary are available for reference.

5.3 Master Transition Schedule

The MTS is the official schedule used by NWS to assess and report transition progress. The Transition Director maintains the MTS and uses the Transition WBS as the reporting framework. The MTS is formatted as a Program Evaluation and Review Technique (PERT) chart. The PERT chart or network shows the major transition activities and their dependencies to each other plotted against time. The critical path on the MTS determines the duration of the transition.

The MTS is also the means by which NWS evaluates proposed schedule changes. The evaluation determines how the proposed change affects the critical path. Approval of any change is dependent on its impact on the critical path. Appendix A provides the current MTS.

5.4 Transition Program Monitoring and Control System

NWS has set up a transition monitoring and control system to provide concise, accurate and prompt transition status information. NWS will keep its audiences informed through the following methods:

- Regular Transition Program Reviews conducted by the Transition Director with the Assistant Administrator, Deputy Assistant Administrators for Modernization and Operations, Office Directors and Transition Representatives
- Periodic Progress and Technical Reports published and distributed throughout the agency to provide all NWS employees with transition information
- Semiannual Transition Management Meetings conducted by the Transition Director for the Assistant Administrator, Deputy Assistant Administrators for Modernization and Operations, and the Office/Regional Directors
- Transition Progress Reports published as a standard agenda item for the spring and fall Directors' Conferences.

The heart of the program monitoring and control system is a computer-based project management system. The information contained in this system is accessible to all parts of the agency. NWS has installed security measures to restrict access to sensitive data. The Transition Program Monitoring and Control System description and procedures document is available for reference.

5.5 Transition Change Management

The transition consists of a complex series of separable but tightly interrelated activities. Once plans are approved and set in motion, requests to adjust actions will be the rule. NWS has structured transition management to handle these requests in a disciplined and coordinated manner.

The Transition Change Management (TCM) process deals with proposed changes. The Transition Director oversees the process. The director is supported by the Transition Change Manager and Transition Representatives in each Headquarters Office and Region. TCM managers:

- Evaluate the impact on areas potentially affected by proposed transition changes
- Consider implementation, schedule and cost in evaluating proposed transition changes
- Ensure maximum use of existing agency change/configuration management systems for screening and evaluating proposed transition changes
- Provide levels of approval: The Deputy Assistant Administrator for Modernization, acting for the Assistant Administrator for Weather Services, normally is the final authority in the TCM process. The Transition Director has decision authority for TCM documents and their updates as delegated by the Deputy Assistant Administrator
- Document and communicate the results of all change requests, and report status of change requests while they are being evaluated or implemented.

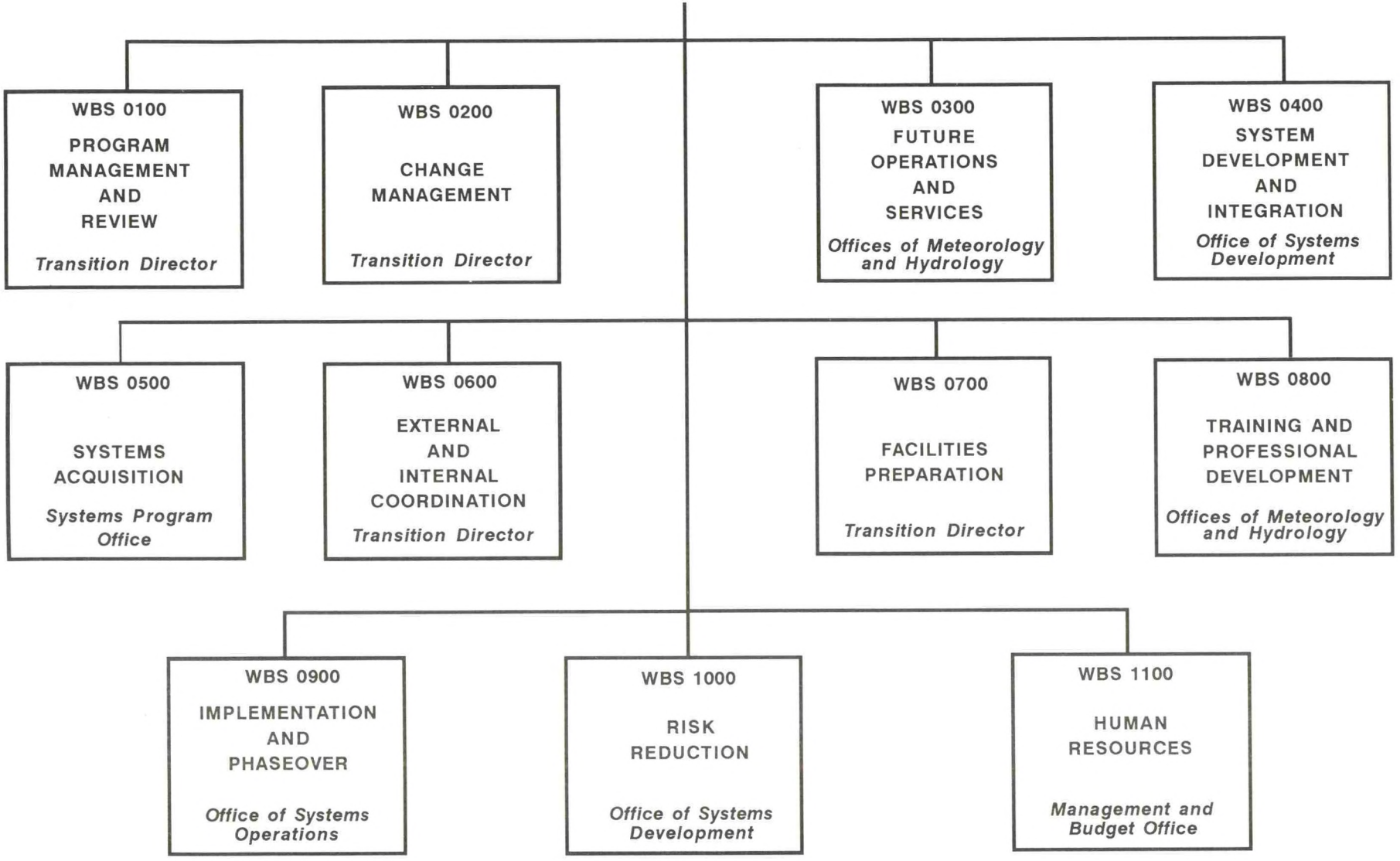
The NWS is updating the TCM policy document, available for reference, to reflect procedures that have evolved over the past several years.

5.6 Transition Management Meetings

Transition Management Meetings are organized and conducted by the Transition Director and attended by the Assistant Administrator, Deputy Assistant Administrators for Modernization and Operations and Office and Regional Directors. NWS holds the meetings semiannually in addition to the spring and fall Directors' Conferences. Standard agenda items for the transition management meetings are the following:

- Review transition progress
- Focus on specific transition problems/issues
- Review/approve transition change proposals
- Define/adjust 3-year outlooks and 1-year action plans, setting the agency's course for the coming year.

Figure 5:
TRANSITION WORK BREAKDOWN SCHEDULE



6.0 Transition Program Status and Outlook

The section reviews fiscal year 1993 progress and plans for fiscal years 1994-1996. Table 5 at the end of this section provides detailed budgets for fiscal years 1994 and 1995. It also shows budgetary planning ceilings for fiscal year 1996 for each of the major program components. Table 5 is not intended to portray the total cost of the transition program. Figures 6-15 present program schedules for each major transition component. Table 6 notifies the public of proposed actions to change operations and of intent to certify, as required by Public Law 102-567.

6.1 Status of the Transition Program

During the past year, NWS has developed and integrated programs to ensure the transition is well coordinated internally and externally. In addition in the last fiscal year, NWS continued to deploy ASOS and NEXRAD systems; the first installed systems are now in use. NWS commissioned 18 ASOS systems.

Funding

Congress has funded the modernization primarily through cumulative appropriations for technology. Through fiscal year 1993, Congress has appropriated $518.6 million for NEXRAD, $88.5 million for ASOS, and $119.1 million for AWIPS/NOAAPORT. The NWS transition program budget funds all other elements of modernization and associated restructuring; to date Congress has appropriated $45.7 million.

Transition Program Management

The Transition Program Office (TPO), established within the NWS in 1986, manages program efforts. TPO has identified and developed tools, described earlier in this report, including the hierarchy of plans, the Transition WBS, the MTS and a program monitoring and control system.

To assure compliance with the provisions of Public Law 102-567, TPO staff briefed Regional Directors and transition planners on the impacts of the law on office transition planning. The briefing also established a program for TPO and Regional Managers to jointly develop individual office transition "scenarios" to assure legal requirements applicable to a given office are included in that office's transition plan.

NWS also upgraded the National Transition Data Base (NTD) in this fiscal year to support the NWS MAR Commissioning, Decommissioning and Certification Managers and to improve communications between these managers and their regional counterparts.

In July 1993, the NRC released *Toward a New National Weather Service—Review of Modernization Criteria*. The report found criteria described in the NIP generally adequate to support field office actions. The NRC report was sent to members of Congress; Governors; NWS National, Regional and field managers; NWS field offices; selected offices in NOAA and DOC; other Federal Agencies and external audiences. In response to this report, NWS published proposed final regulations in the *Federal Register* on December 3, 1993. NWS also published proposed modernization criteria in the *Federal Register* on December 6, 1993 for public comment.

Modernization Transition Committee

The Weather Service Modernization Act of 1992 requires the MTC to consult with the Secretary of Commerce on modernization criteria the agency will use for certification. The MTC consults with the Secretary of Commerce, as appropriate, on the NIP, and may review any proposed certification to close, consolidate, automate or relocate a field office. The MTC was established in July 1993, when the Committee charter was filed with the Senate Committee on Commerce, Science, and Transportation and the House Committee on Science, Space and Technology. Committee members were selected in October 1993; the first meeting was held December 8-9, 1993.

Transition Change Management

The TCM process supports planning and implementation using approved procedures for evaluating policies, plans and schedules and proposed changes to procedures by NWS managers. During fiscal year 1993, NWS approved the following plans/packages:

- NEXRAD Commissioning Plan
- Radar Site Component Decommissioning Plan
- NWS-Sponsored Network and Local Warning Radars (Including Adjunct Equipment) Evaluation Package
- Updated ASOS Site Component Commissioning Evaluation Package
- Fire Weather, Marine Services and Aviation Plans.

NWS submitted the MARD Plan to the TCM process for review; the plan must be revised based on Public Law 102-567.

Future Operations and Services

The Public Warning and Forecast, Aviation, Marine and Fire Weather Programs have completed and approved Future Operations and Services Plans. NWS is updating the Hydrometeorological Service Operations for the 1990s Plan and developing the Agricultural Services Plan.

System Development and Integration

In the fiscal year 1993, the NEXRAD Program delivered 34 WSR-88D units. Sites receiving NEXRADS were Amarillo, Little Rock, Phoenix, Jackson, Miami, Tulsa, Denver, Topeka, Detroit, Chicago, Grand Island, Pittsburgh, Cleveland, Indianapolis, Binghamton, Milwaukee, Memphis, Philadelphia, Central Pennsylvania, Louisville, New York, Albany, Boston, Fairbanks, Anchorage, Griffis AFB, Andersen AFB, Dover AFB, East Alabama (USAF), Vandenberg AFB, Keesler AFB, Fort Hood, Fort Rucker, and Dyess AFB. NWS offices have used the information from these radars to improve forecasts and to increase the lead time on watches and warnings for severe weather. In Pittsburgh, NWS introduced the VME/MicroFive equipment to the WSR-88D configuration.

ASOS units were delivered, installed and contractually accepted at 218 NWS, FAA and DOD sites in fiscal year 1993. ASOS units were commissioned at the following 18 NWS locations: Waco, Amarillo, Astoria, Blue Canyon, Baton Rouge, Colorado Springs, Wichita, Jackson, Lincoln, West Palm Beach, Wichita Falls, Sexton Summit, Topeka, Tupelo, Grand Island, Oklahoma City, Pueblo and Tulsa. These offices have quality control and maintenance support mechanisms in place.

AWIPS Definition Phase activities culminated in the award of the Development Phase contract. Government Development Platforms (GDPs), consisting of AWIPS off-the-shelf hardware and software, were delivered to the NWS Headquarters, NMC, FSL, Tulsa RFC, and Kansas City RFC. These GDPs will serve as hosts for Government software development efforts required by the AWIPS contract. The AWIPS contractor conducted a Preliminary Design and Plans Review and initiated a series of Functional Requirements Reviews.

In the second quarter of fiscal year 1993, NWS validated the operational lightning data acquired under the contract with Atmospheric Research Systems, Inc. Shortly following the validation, NSSFC implemented a national high-resolution five-minute lightning graphic for operational use and OSD transferred contract responsibilities to OSO. In the last quarter, several government agencies submitted requests to receive lighting data for their operations under the NWS contract.

Support for wind profiler data, technology, and a national profiler network (NPN) grew rapidly in fiscal year 1993. Early results from the meteorological and engineering assessment show significant use of this technology for severe weather, winter storm and aviation forecasting. The engineering assessment indicates that fully operational profilers can be designed and built for a NPN.

Internal and External Coordination

NWS continued its rigorous internal and external communication activities during fiscal year 1993 as it deployed NEXRAD radars and ASOS systems. The accelerated pace of deployment required intensive awareness and technical coordination efforts. The agency:

- Added specificity to requirements for ASOS and NEXRAD technical coordination and service confirmation in the *Internal and External Communication and Coordination Plan for the Modernization and Associated Restructuring of the NWS.* This plan also specifies how NWS employees communicate the design, execution, monitoring and evaluation of MAR activities to external groups

- Updated the *NWS Modernization Public Relations Resource Guide* by adding program-specific 35mm slide series presentations and narrative scripts. The slide shows depict modernized warning and forecast, aviation, marine, fire weather, and satellite programs. These slide series serve as briefing materials for field managers who explain the NWS transition activities to users. NWS will continue to update the guide as new material becomes available

- Published and distributed four editions of the *Critical Path*, an NWS employees' technical report on the progress of the MAR

- Planned and supported a NWS Field Managers Meeting. The meeting—attended by over 300 NWS field managers—focused on the dynamic environment of the MAR through a mix of working groups, plenary sessions and demonstrations

- Developed and distributed NEXRAD and ASOS brochures, fact sheets, and graphics on the NWS modernization and associated restructuring for use in awareness and technical coordination activities

- Coordinated and conducted MAR briefings for Members of Congress, Congressional committees, State delegations and Governors' staffs

- Conducted briefings and presentations to emergency managers and local and state government groups on MAR and the transition process

- Conducted a National Marine Users Forum to report on the progress of the NWS modernization to the marine community

- Conducted MAR briefings to the major aviation industry groups and associations

- Supported MAR awareness at professional meetings and trade shows

- Produced three MAR exhibits for field offices to use at public events

- Developed a strategy to conduct nationwide NEXRAD workshops for the media, emergency managers and other users of radar data

- Developed a nationwide educational outreach program for schools, highlighting the NWS modernization to support the Secretary of Commerce's educational initiatives

- Conducted on-site briefings and demonstrations of NEXRAD, ASOS, and pre-AWIPS systems and WFO operations for several NWSEO union officers

- Prepared and issued joint NWS-NWSEO memoranda to all NWS employees on modernization topics, and established a mechanism by which NWS employees may ask questions of either the NWS or NWSEO concerning the MAR.

Facilities Preparation

The NWS has implemented an aggressive WFO facility design and construction schedule to prepare for delivery and installation of NEXRAD systems. During fiscal year 1993, NWS finalized 112 of 116 sites decisions, designed 34 facilities, had 53 facilities under design and was constructing 52; 17 facilities were completed.

Training and Professional Development

COMET: COMET held the second Mesoscale Analysis and Prediction Course (COMAP) from March 9 through May 5, 1993, at its facility in Boulder, CO. Ten NWS SOOs and eight other NWS employees attended this highly intensive course, which covers the latest theories and techniques in meteorology.

COMET also held the first two hydrometeorology courses in Boulder, CO. This course, designed for service hydrologists, HAS forecasters and hydrologic forecasters, has educated 36 hydrologists on new forecasting techniques and tools to be available at modernized RFCs.

During fiscal year 1993, COMET produced and distributed the third and fourth in a series of Computer-Based Learning modules (CBLs), *Heavy Precipitation and Flash Flooding*, and *Forecast Process*. Students execute these highly interactive, multimedia modules on specially developed computers called professional development workstations (PDWs). The NWS deployed 165 of these PDWs in fiscal year 1993. PDWs are now installed at NWS field sites, Regional Offices and National Centers. These offices have access to the first four CBLs. Finally, COMET funded 11 Cooperative and 22 Partners projects between universities and NWS offices in fiscal year 1993.

WSR-88D Training: The WSR-88D Operational Support Facility in Norman trains NWS meteorologists and hydrologists to use and interpret this new radar and its products. The facility taught 23 WSR-88D classes in fiscal year 1993, training 449 NWS students. In addition, 36 offices have already fulfilled WSR-88D Operations Training requirements (Six WSFOs, Guam, 12 WSOs and 17 CWSUs).

NWSTC: The NWS Training Center in Kansas City added several new courses for the modernization into its curriculum in fiscal year 1993. Courses and their objectives are summarized below:

- **Hydrometeorological Technician:** Provides students with the ability to prepare hydrometeorological products and to handle quality control of data from existing and new technologies.

- **WSR-88D Maintenance:** Teaches NWS technicians how to perform all aspects of preventative and corrective maintenance on the WSR-88D system.

- **Basic Operational Hydrology:** Teaches students how to apply basic hydrologic principles in an operational environment using a variety of data, and to use these data to prepare and issue NWS hydrologic products.

- **MAR Management:** Provides NWS managers with management models and training on how to use these theories on the job, thus increasing effectiveness in the modernized environment.

- **SOO and DOH Instructional Techniques:** Enables NWS SOOs and DOHs to analyze the student learning process, to prepare materials that best promote student learning and to effectively teach, one-on-one, forecasters on their station.

Implementation and Phaseover

NWS commissioned 18 ASOS sites in fiscal year 1993. An additional 333 systems (89 NWS, 235 FAA, 9 DOD) have been accepted and/or installed. The ASOS Operations and Monitoring Center is monitoring 49 ASOS locations. The union has cleared all documents required for ASOS commissioning. The NEXRAD Commissioning Plan was approved in August 1993. The Physical Configuration Audit of the first MicroFive/VME configured WSR-88D was conducted at WSFO Pittsburgh in August; the NEXRAD Program Management Committee (PMC) approved a MicroFive/VME retrofit schedule for the first 32 systems.

The Government accepted 34 WSR-88D systems (23 NWS, 2 FAA, 9 DOD) in fiscal year 1993. The criteria to begin WSR-88D commissioning is being reviewed and work is underway to test and deploy the software version necessary for commissioning. The NWS Handbook #9, *WSR-88D Operations*, contains two chapters critical to WSR-88D commissioning: backup and archiving procedures. These two chapters are awaiting final signature. NWS has approved all other documents critical for commissioning.

The AWIPS contract was awarded to the Planning Research Corporation in December 1992. The baseline schedule calls for a 39-month Development Phase followed by a 2-year Implementation phase. In June 1993, NOAA issued the Request for Proposal for the NOAA Weather Radio Console Replacement System (CRS).

NWS Risk Reduction Activities

NWS is conducting the following major transition risk reduction projects:

Norman: The primary objectives of the Norman, OK, Risk Reduction Project are to test WFO-type services, develop interfaces between interactive computers and new observing systems (particularly NEXRAD), and to validate the ability of the advanced pre-AWIPS workstation at Norman to ingest centralized data streams. In fiscal year 1993, the Norman

office progressed to WFO-type operations and services. NEXRAD data were integrated into the pre-AWIPS workstation, and meteorologists began issuing all forecasts and severe weather warnings from the workstation.

During the spring of 1993, Norman assumed warning and forecast responsibility for its entire WFO area: eight northern Texas counties and Wichita Falls, TX. Perception of the change in these areas has been positive.

Within the past year, the central data feed and pre-AWIPS workstation have stabilized and generally support operations at Norman. The office is using new software that helps the forecaster to prepare routine forecasts. This software is the elementary precursor of a more complex advanced forecast preparation system that will be administered on AWIPS.

The Norman Risk Reduction Project entered a new phase in which most technological implementation is complete and most evaluation efforts ongoing. This Evaluation Phase of the Norman Project ties together previous activities of the Implementation Phase and highlights those issues of substantial risk to the MAR.

OH is developing hydrology/hydrometeorology components of a pre-AWIPS software system that would enhance WFO forecast and warnings. This component will support the WFO modernized hydrometeorological operations.

PROTEUS: The PROTEUS project demonstrates the enhanced computer hardware and software applications RFCs need to work with AWIPS. OH is demonstrating and refining IDB RFC software based on feedback from RFCs taking part in the project. The project staff has implemented systems at RFCs in State College, Salt Lake City, Kansas City, Anchorage and Tulsa. PROTEUS operations began at the Tulsa RFC in 1990, augmenting activities at other RFCs. The Tulsa RFC continues to receive the project's primary emphasis because of the unique role the NWS Southern Region is playing in pre-MARD risk reduction activities. NWS also plans to expand the operational demonstrations at the Kansas City, State College, and Fort Worth RFCs.

Tulsa RFC: The primary objective of this project, which parallels the Norman Risk Reduction Project, is to investigate and demonstrate future RFC hydrometeorological service operations (including RFC-WFO interactions) before they are implemented nationwide. In fiscal year 1993, the Arkansas Red Basin RFC (ABRFC) received AWIPS GDP equipment and began to port assigned applications that were previously developed on earlier risk reduction platforms. They also continued experimental operations and services, and began limited formal HAS functions. ABRFC developed the proposed platform for the Southern Region Operational QPF efforts.

Ohio RFC: The Eastern Region is conducting a risk-reduction exercise to demonstrate the HAS function at the Ohio River Forecast Center (OHRFC). Currently, the Senior HAS forecaster or a meteorology-qualified hydrologist performs the HAS function. One of the primary functions of the HAS forecaster is to prepare a daily mosaic of the Quantitative Precipitation Forecasts (QPF). The QPF mosaic is derived using AWIPS prototype software developed by the OHRFC. All WSFOs in the Ohio River Basin provide the office

with QPFs for their forecast areas. The HAS assimilated QPF is then used as input for river forecast models. Besides assimilating the RFC-wide QPF, HAS forecasters conduct daily hydrometeorological situation briefings for OHRFC hydrologists and other forecast offices by sending a daily hydromet discussion statement over AFOS. Over the last year there has been a major drive to incorporate QPF support for RFCs into WSFO operations through training and coordination.

Sterling: The Eastern Region's second national risk-reduction exercise runs from the Baltimore, MD/Washington, DC WSFO in Sterling, VA. The focus of this work is to devise ways to integrate information from remote sensor technologies to produce comprehensive, state-of-the-atmosphere reports that promote aviation safety. NWS has developed and tested techniques to identify aviation-oriented hazardous weather based on data from conventional radar reports, a national lightning detection network and collateral observations from ASOS. From July through September 1993, NWS transmitted, three times each hour, an experimental observational product to identify convective activity within 30 nautical miles of six airports— from Virginia to Delaware, to personnel at WSOs and CWSUs, and to the meteorologists and flight dispatchers of five major U.S. air carriers. The user-oriented evaluation has provided the NWS with feedback to assess the product as an ASOS supplement.

FSL Modernization Division NWS Support Activities

Risk Reduction Branch

A new era began this year as the DARE II system at the Denver, CO forecast office was connected to the WSR-88D. For more than 10 years, data from research radars have been a vital support to NWS operations, particularly severe weather warnings. The new Doppler radar will now fill this need. The interface between DARE II and the WSR-88D acquires products from the Radar Product Generator (RPG) and integrates them into the DARE II system. It also provides all of the control functions needed to interact with the WSR-88D RPG. During this past year, refinements were made to applications that deal with radar data. A four panel display with true zoom capabilities and a variety of cursor functions were integrated into a single application. This was prompted by feedback from the forecasters at Norman, OK in preparation for the transition of warning operations to the DARE workstations.

Support was provided for several Interactive Computer Worded Forecast (ICWF) upgrades at the Norman WSFO. The ICWF is being evaluated as the primary forecast preparation tool at Norman. The hydrologic applications were also upgraded to address some concerns reported by Norman. A variety of other minor changes in the ISPAN data feeds were also accommodated. The two limited function (no animation) workstations were upgraded into one full function workstation at Norman. Even without the image disk, the Norman staff believes that one workstation with animation is much more useful that two without animation.

An interface to ASOS was developed and tested. The flash flood potential algorithm was ported to run on DARE; it is part of the area-wide hydrologic prediction system. However, a number of problems with data that are inputs to this algorithm were uncovered and are being addressed by other agencies. In May 1993, the NWS re-directed

support work from the DARE II to a new development, FSL X-window AWIPS-LIKE Prototype of Hydrometeorological Applications (FX-ALPHA). Only essential upgrades will be made to the existing DARE II systems during the next year. All new development, including those items developed but not yet installed in DARE, will be incorporated into FX-ALPHA.

Evaluation support was provided to the Norman Evaluation Committees which collected and analyzed data and were preparing reports on workstation training in Norman and hydrologic training at Denver.

Enhanced Forecaster Tools Branch

The focus of the Enhanced Forecaster Tools (EFT) Branch is work on the AWIPS Forecast Preparation (AFPS). Working with the NWS TDL, and in consultation with a working group of NWS weather forecasters, the EFT staff is designing and building a graphical forecast support system for AWIPS. Beginning in the late 1990's, forecasters will use AFPS to visualize and edit the forecast weather elements, and to generate text and graphics for dissemination to users.

Early in the fiscal year, EFT defined a development architecture, including Object-Oriented (OO) design and coding with C++. Using this framework, the branch designed and built a "Level 0" prototype which was primarily intended to evaluate the architecture and learn how a staff of six programmers could work together on a shared development. A preliminary version of this prototype was demonstrated at the AMS annual conference in January, and at the first meeting AFPS Forecasters Working Group (AFWG). A nearly-complete version was demonstrated the NWS Field Managers' Meeting in March.

Following the successful completion of the Level 0 prototype, work was begun on the Level 1 prototype. With the second meeting of the of the AFWG scheduled for October, they have completed "Level 1a", including contour depiction of continuous fields, and a full suite of editors for such fields. The editors include modifying or deleting contours, changing areas, copying areas, and a gross-feature "tilt" tool that applies changes to the whole field. A shared database was developed which allows multiple users to view data, but one user to lock a particular field for editing. Changes made by that user propagate to other displays upon check-in of the revised fields.

EFT staff has worked with the NWS and APO to help define aspects of the AWIPS software development and user environment. Our success with C++ has contributed to AWIPS plans, and members of our staff have participated in AWIPS User Interface and programming environment planning. A major accomplishment was the publishing of our AFPS concept document, the culmination of over two years of writing, reviewing, and revising. The "Yellow Book", as it is known, has been distributed to all NWS headquarters and line offices, as a means of apprising the field staff of these planned changes in forecast operations.

Advance Development Facility Branch

The focus of the Advanced Development Facility (ADF) Branch is to provide technical guidance to parties involved in the design and implementation of AWIPS, particularly with regard to WFO operations. The intent is to ensure that the design and implementation of AWIPS proceeds smoothly, starting with a correct understanding of system requirements and continuing to make effective use of technology. This work involves working with the NWS and APO and includes guidance to groups using AWIPS GDPs to generate government-developed software into AWIPS.

In order to support these activities, the ADF branch supports a GDP development facility and associated software development environment at FSL. This facility provides a means for becoming intimately familiar with AWIPS as it is designed and implemented, and enables quantifying the impact and effectiveness of new technologies and enhancements in AWIPS hardware and software. The GDP is also used by other groups as a test bed for integration of government-developed software into AWIPS.

The award of the AWIPS contract early in fiscal year 1993 to the Planning Research Corporation (PRC) changed the focus of activities with in the ADF branch. Throughout the year minimal effort has been required to support the existing developmental facility due largely to careful planning and configuration work the year before. This has enabled us to devote resources to new activities without impacting availability of the facility and while continuing to provide responsive service to developers who make use of it.

Early in the year a set of utilities was released enabling the software developers to make more effective use of the distributed computing environment. These utilities manage revision control of software source files. They support an environment where developers create and control source trees on their local machines, and integrate modifications into a central source tree maintained on a remote server machine. The utilities were very useful to the EFT branch.

The success of these utilities has led to implementing a more complete and robust command set, now named Revision Control Unifying Related Source Environments (RECOURSE) commands. Worked on as a background task throughout most of the year, these commands are just now being released. They will initially be used by two projects within FSL.

In February, members of the ADF branch attended Preliminary Design and Plans Review meetings conducted by PRC. Input to the program office following these meetings identified several areas that needed corrective action. The ADF has acted to clarify and document the technical issues behind these areas, helping the NWS and the APO to resolve them.

The ADF supported the NWS in better defining requirements for system administration positions at modernized weather offices. Requirements did not previously consider the many areas of expertise required to administer a distributed UNIX computer system. A GDP was incorporated into the facility. Consisting of six Hewlett-Packard (HP) workstations and a network hub, this system assists in converting the facility into full compatibility with AWIPS. The GDP does not yet include AWIPS software, but does provide an AWIPS-compatible

software development environment. Transition of major software development projects into an HP environment is underway.

Human Resources

The NWS published and distributed the Human Resources and Position Management Plan to NWS managers and supervisors in February 1993. After the Boulder, CO Managers' Meeting in March 1993, NWS revised and finalized the plan. The NWS also conducted the review and negotiations process with its Employees Organization. Based on the outcome of those bargaining sessions, the plan is being further adjusted.

6.2 Outlook for Fiscal Year 1994

Major objectives for fiscal year 1994 are to:

- Commission the first NEXRADs, including MARD sites
- Install and commission more ASOS units across the country
- Complete installation of an advanced supercomputer at the NMC
- Continue systems training and scientific education
- Continue the Office Transition and Evaluation (OT&E) program.

The MTC has been consulted during preparation of the National Implementation Plan (the Plan) for Modernization of the National Weather Service for fiscal year 1995. The Committee generally endorses the Plan with the following reservations:

1. The Plan anticipates that field offices could be automated beginning in FY 1995. The Committee notes that these actions cannot take place until the criteria for automation have been published and that the Committee will have had the opportunity to consult on these Criteria prior to final publication. The Committee urges the NWS and the FAA to conclude their negotiations on these criteria expeditiously, and in no case, later than September 30, 1994.

2. The Committee recognizes that the plan anticipates the deployment of AWIPS beginning in FY 1996 and recommends that every effort should be made to ensure that this deployment not be delayed. The Committee believes that any delay will seriously compromise the full benefit of Modernization, and could result in the degradation of service.

3. The Committee emphasizes that the appropriate funding must be available to the level projected in the NIP for the successful execution of the Plan. Any delay in providing funds may postpone benefit to the public and may result in a degradation of service.

The Committee's intention in citing these reservations is to ensure the timely completion of the modernization process. Toward this end, the Committee requests that progress

reports on the aforementioned issues be made available at all subsequent Committee meetings.

Funding Requirements for Fiscal Year 1994

NWS and/or SPO need sufficient fiscal year 1994 funding to:

- Participate in the tri-agency production contract for NEXRADs. NWS will continue to modify and construct NEXRAD user sites to ensure sites are ready on the dates contracted. NWS will continue to establish the repair capabilities of initial central-depots

- Fund the full-scale production contract for ASOS and cover the NWS share of the central depot maintenance-support operations and logistics

- Substantially upgrade the electrical power systems supporting the advanced supercomputer, including the cost of acquiring and installing an uninterruptible power system to prevent power anomalies

- Purchase a new supporting computing system, scientific workstations and a terabyte mass storage system

- Continue the AWIPS development phase contract. This phase includes the contractor establishing a central network control and communications capabilities, and developing a pre-production AWIPS system at the contractor's facility.

The NWS Transition program will need funds in fiscal year 1994 to:

- Hire personnel to supplement staffs at MARD offices and offices receiving NEXRAD

- Move more offices and personnel than normally budgeted for by the NWS. These increased costs are directly related to the magnitude of the modernization program

- Continue risk-reduction efforts to derive critical information needed to define, analyze and assess technical trade-offs and impacts on operations and services, and continue risk-reduction activities related to RFC prototyping

- Develop and offer NWS meteorologists and hydrologists courses on interpreting new data sources, such as Doppler radar and mesoscale forecasting techniques

- Develop the NWR Radio Console Replacement System (CRS)

- Support MARD preparation activities, develop operational procedures and evaluation guidelines, and develop materials to support technical coordination with users.

Transition Program Management

NWS will complete the remaining SIPS in the Central, Pacific and Alaska Regions. As they are done, SIP updates will be reformatted using the new outline in Appendix B. NWS will revise and resubmit the MARD Plan to the TCM. Plans expected to be given TCM approval during fiscal year 1994 include the Certification Plan for Modernization and Associated Restructuring of the NWS and the Surface Observation Modernization Plan. NWS will publish final modernization criteria in the *Federal Register.*

Transition Change Management

The Transition Change Management will continue to support the planning and implementation of the modernization.

Future Operations and Services

NWS will review and update completed and approved plans to ensure they remain consistent with MAR goals. NWS will complete and approve the updated Hydrometeorological Service Operations for the 1990s Plan and the Agricultural Services Plan. As it commissions NEXRAD radars, NWS will realign County Warning Areas. In some instances, County Warning Areas will be transferred prior to the commissioning of NEXRAD systems. This could occur at sites which are fully staffed and whose trained personnel have been using the NEXRAD for a lengthy period. Field offices will be encouraged to participate in the Short Term Forecast concept. If evaluations of this idea prove successful, NWS expects the Short Term Forecast to be replaced by the Area Weather Update nationwide at all NEXRAD locations.

System Development and Integration

The NEXRAD Program's Full Scale Production Phase will continue to deliver four units per month in fiscal year 1994 with WSR-88D unit deliveries to the following locations: Des Moines, Sioux Falls, Vance AFB, Morehead City, Portland (ME), Robins AFB, Molokai, Dallas/Ft. Worth, Columbia (SC), Los Angeles, Sacramento Valley, Ft. Campbell, Lubbock, Seattle, Tampa Bay Area, Laughlin AFB, Raleigh/Durham, San Francisco Bay Area, Columbus AFB, Lake Charles, New Orleans/Baton Rouge, Cannon AFB, Ft. Polk, Birmingham, Austin/San Antonio, Keesler AFB, Cheyenne, Omaha, Atlanta, Albuquerque, Holloman AFB, Cincinnati, Norfolk/Richmond, Minot AFB, Mobile, South Kauai, Charleston (WV), Knoxville/Tri-Cities, Minneapolis/St. Paul, Great Falls, Reno, Missoula, Salt Lake City, Green Bay, Wilmington, Nashville, Bismarck, Charleston (SC), Roanoke, and Aberdeen. Retrofit of VME/MicroFive equipment to approximately 30 units delivered prior to Pittsburgh will continue through fiscal year 1994.

ASOS installations are scheduled at 220 locations during fiscal year 1994. Approximately 70 NWS-sponsored ASOS units are planned for commissioning. FAA-sponsored ASOS commissionings, which are paced by FAA long line communications enhancements, could number about 160 locations.

The AWIPS Program Development Phase contract will continue in fiscal year 1994 with the culmination of the Functional Requirements Reviews, delivery of the AWIPS Detailed Design Document, and the contractor hosting the Preliminary Design and Critical Design Reviews. Additionally, the System Functionality Verification Test is scheduled for fiscal year 1994, as well as the delivery of three more GDPs.

The wind profiler assessment final report will be completed during the second quarter.

Internal and External Coordination

To promote communication NWS will:

- Develop a system to track specific technical coordination and confirmation of services activities
- Publish brochures and fact sheets to increase external awareness and technical coordination activities
- Publish *Critical Path* and other employee reports to enhance internal communication
- Update the *NWS Modernization Public Relations Resource Guide* by adding program-specific 35mm slide series presentations and narrative scripts depicting the agriculture and hydrology programs in the modernized NWS
- Conduct 50 state delegation briefings on the status of the modernization
- Conduct a National Emergency Managers Forum to report on modernization progress
- Conduct a National Fire Weather Forum to report on modernization progress
- Continue to support MAR awareness at professional meetings and trade shows
- Conduct nationwide NEXRAD workshops for the media, emergency managers and other users of radar data
- Conduct an educational outreach program for schools
- Prepare and issue a joint NWS-NWSEO memorandum to all NWS Meteorological Technicians describing NWS employee placement efforts.

Facilities Preparation

NWS will continue to select sites, acquire land and construct facilities during fiscal year 1994. NWS is scheduled to complete 28 facility designs, have 9 facilities under design, have 73 facilities under construction and complete 37 more facilities in fiscal year 1994.

Training and Professional Development

A COMAP II course is scheduled for this fiscal year. NWS expects to train 18 SOOs. The NEXRAD training program will run triple classes throughout the year, training 72 students during each 5 week class.

Implementation and Phaseover

NWS expects to complete the following actions in fiscal year 1994:

- Gain approval for its revised ASOS Commissioning Plan
- Commission 40-50 NWS ASOS systems (FAA plans to commission approximately the same number of systems)
- Commission up to 32 WSR-88D systems
- Complete and approve the Support Function Demonstration (SFD) plan for ASOS
- Begin the SFD planning process for NEXRAD
- Complete and approve the radar and surface decommissioning and disposal plans
- Decommission and dispose the first radars and surface equipment
- Complete and approve the NIDS Implementation Plan
- Complete and approve the policy for aligning MAR station and communication identifiers in AFOS and AWIPS
- Complete and forward to the AWIPS Acquisition Office the proposal for providing a second backup AWIPS Network Control Facility in Silver Spring
- Complete and present the management study of the Government Maintenance Option for AWIPS to the NWS and NOAA/DOC for approval
- Award the Phase I Development contract for the CRS in July 1994
- Accept five Experimental Upper Air Replacement Systems from the National Center for Atmospheric Research for evaluation at 16-18 geographic locations.

NWS Risk Reduction Activities

Norman: Main activities during fiscal year 1994 will be evaluating 13 risk-reduction evaluation and documentation projects. By the end of fiscal year 1994, the project will have completed 62 percent (eight evaluation activities) of these programs. Risk-reduction efforts scheduled to be completed in the next year include:

- Interface between the NEXRAD and an interactive computer system (pre-AWIPS)
- Central data feed, interactive computer-worded forecasts
- Pre-AWIPS training and workstation use
- New short-term forecast product
- Hydrometeorological Technicians managing the Cooperative Observer Program
- Use of a DOD NEXRAD by an NWS office.

PROTEUS—NWS will continue to expand the operational demonstrations at the Kansas City and State College RFCs.

Tulsa RFC: In fiscal year 1994, the ABRFC will start using its GDP and begin the official demonstration of extended operations and services. ABRFC will also help develop and test

the Norman WFO "Wet" Hydrometeorological subset (being developed by OH) of FX-ALPHA. In addition, ABRFC will take part in the Southern Region Operational QPF work.

Ohio RFC: During fiscal year 1994, the HAS forecast function will be fully staffed, after adding two journeymen HAS forecasters. This staffing will permit the OHRFC to apply and evaluate the HAS concept operationally. The full complement of HAS forecasters will also work with other forecast offices to develop QPF verification statistics. QPF verification will be extremely valuable to the QPF effort, and will provide a vehicle to further assimilate QPF into daily hydromet operations in the Eastern Region.

Sterling: During fiscal year 1994, the risk reduction project staff at Baltimore, MD/Washington, DC WSFO will integrate several base products generated by the WSR-88D radar at Sterling with lightning network data to develop and test a Doppler radar/lightning product to identify convective activity in the vicinity of airports. Another user-oriented evaluation is likely to be conducted during the summer of 1994. In addition, the NWS will determine the viability of this approach to produce products to routinely supplement the information provided by ASOS on either a national or local basis.

FSL Modernization Division NWS Support Activities

Risk Reduction Branch

Most of the risk reduction branch is heavily involved in the development of FX-ALPHA. An initial version of this system is scheduled to be installed at two sites in April 1994 to support a demonstration project for aviation forecasting.

At the same time, NWS will develop a second version of FX-ALPHA (called WFO ALPHA) that will replace the existing DARE II systems in Denver and Norman in 1995.

Evaluation work will focus on a warm season comparison of workstation products and on further training assessments. An evaluation of the adequacy of workstations in Norman will be completed.

Enhanced Forecaster Tools Branch

In fiscal year 1994, work on AFPS prototypes will continue. Level 1 should be completed in the spring, with the addition of bounded area ("weather bubble") depiction and editing, wind editing and time-line editing. A user control mechanism, the "worksheet" will be developed. Through graphical inventory and monitoring mechanism, forecasters will select data sets with which to work, monitor the progress of editing and check modified data back into the database. The prototype, including the worksheet, will be demonstrated at a conference in January.

Plans are to complete Level 2 about the end of FY 1994. It will include control mechanisms for initializing NWS weather elements from various sources (numerical models, statistical guidance, NMC manual guidance) and time interpolation fields.

There are a number of other tasks under way. Most significant is a planned transition from the Sun development environment to an HP environment. This will allow development of software that will be compatible with AWIPS by late 1995. Also, we are experimenting with different ways of viewing data, including three-dimensional concepts.

Advance Development Facility Branch

Transition of AWIPS-related software development to an HP development environment is expected to be completed in December. This transition should be smooth and painless, given the similarity of our existing system to AWIPS, the flexibility and simplicity of our existing system configuration, and the level of planning devoted to this process throughout the year.

It is expected that NWS and APO will continue to interact throughout the year with emphasis shifting toward defining a standard AWIPS application environment and set of implementation conventions for GDP sites. The current GUI discussions will evolve from the current conceptual level into detailed design. Support of the GDP development facility will continue.

Human Resources

The NWS will print and distribute its Human Resources and Position Management Plan no later than the second quarter of fiscal year 1994. All NWS employees will have a chance to review the plan. Many of the position actions and employee selection and placement actions outlined in the plan take place in fiscal year 1994.

6.3 Outlook for Fiscal Year 1995

The transition program's major objectives are to:

- Commission additional NEXRADs
- Begin installing AWIPS MARD systems
- Continue ASOS deliveries
- Continue systems training and scientific education
- Continue the OT&E.

Funding Requirements for Fiscal Year 1995

NWS and/or SPO need fiscal year 1995 funding to pay for:

- Continued deliveries of NEXRADs under a tri-agency contract. NWS will continue to modify and construct NEXRAD user sites to ensure sites are ready on time

- Operations and maintenance support of NEXRAD installations

- Full-scale production contract for ASOS and for the NWS share of the central depot maintenance support operations and logistics

- Development phase of the AWIPS contract

- Contracting for meteorological/computer experts to ensure efficient and effective use of the advanced supercomputer and supporting systems.

The NWS Transition program will require funds in fiscal year 1995 to continue to:

- Supplement staffs at offices receiving NEXRADs with additional personnel to ensure no delays in NEXRAD commissioning

- Move more offices and personnel than normally budgeted for by the NWS. These increased costs are directly related to the magnitude of the modernization program

- Reduce risks by deriving critical information needed to define, analyze and assess technical trade-offs and impacts on operations and services, and continue RFC prototyping and precipitation processing risk-reduction activities

- Develop and offer scientific education on interpreting new data sources, such as Doppler radar and mesoscale forecasting techniques required for meteorologists and hydrologists at NWS field offices

- Develop the NWR CRS

- Prepare for MARD; develop operational procedures, evaluation guidelines and materials to help field staff explain program to external users of weather data.

6.4 Outlook for Fiscal Year 1996

In fiscal year 1996, the transition programs' major objectives are to:

- Commission remaining ASOS systems
- Continue NEXRAD deliveries
- Continue OT&E activities at MARD area offices and begin the stable operations period in preparation for the MARD
- Continue systems training and scientific education.

Funding Requirements for Fiscal Year 1996

NWS and/or SPO need fiscal year 1996 funding to pay for:

- Scheduled deliveries of NEXRADs under a tri-agency contract. NWS will continue to modify and construct NEXRAD sites to ensure they are ready on the dates scheduled

- Operations and maintenance support of NEXRAD installations

- Full-scale production contract for ASOS to cover the NWS share of the central depot maintenance support operations and logistics

- Install, check and commission AWIPS at MARD sites. NWS expects a decision on full production of AWIPS.

The NWS Transition program will require funds in fiscal year 1996 to continue to:

- Add staff at offices receiving NEXRADs to keep commissionings on schedule

- Support an increase in the number of office and personnel moves over that which NWS normally experiences. These increased costs are directly related to the magnitude of the modernization and associated restructuring program

- Reduce risks by deriving critical information needed to define, analyze and assess technical trade-offs and impacts on operations and services, and continue RFC prototyping and precipitation processing risk-reduction activities

- Develop and offer scientific education on interpreting new data sources, such as Doppler radar and mesoscale forecasting techniques, that must be provided for meteorologists and hydrologists at NWS field offices

- Continue developing the NWR CRS.

6.5 Notification of Actions to Change Operations at and to Certify Field Offices

In accordance with Sections 703 and 705 of Public Law 102-567, Table 6, Page 71, provides notification of actions, proposed to occur during fiscal years 1994 through 1996, that are to change operations at or are to certify field offices. To provide a more complete picture of the transition, the table:

- Identifies actions completed prior to the publication of this fiscal year's plan
- Identifies actions to change operations affecting NWS offices not included under the law's definition of field offices and therefore not subject to notification requirements
- Provides clarifying information through footnotes.

Modernization of the Nation's weather services includes using data from FAA-sponsored ASOSs and DOD- and FAA-owned NEXRADs. See Appendix D for a listing of these installations.

Table 5:
MODERNIZATION BUDGETS (Fiscal Year 1994-1996)

	FY94	FY95	Planning Level FY96
MODERNIZATION INITIATIVES ($M)			
NEXRAD	120.0	79.6	53.9
ASOS	18.1	17.5	5.5
AWIPS/NOAAPORT	43.6	49.6	96.0
SATELLITE UPGRADE (GOES)	123.7	138.0	215.1
CENTRAL COMPUTER FACILITY UPGRADE	8.0	14.5	16.8
NWS TRANSITION (MARDI)	75.0	120.5	84.8
WFO FACILITIES	62.8	18.3	3.4
HUMAN RESOURCES (FTE)			
NWS BASE	4,284	4,284	4,284
STAFFING AUGMENTATION	497	1,028	870
	4,781	5,312	5,154
RESEARCH ($M)			
ERL	12.1	12.1	12.1
NWS	9.0	9.0	9.0
NESDIS	8.5	8.5	8.5

Figure 6:
FACILITIES PREPARATION SCHEDULE

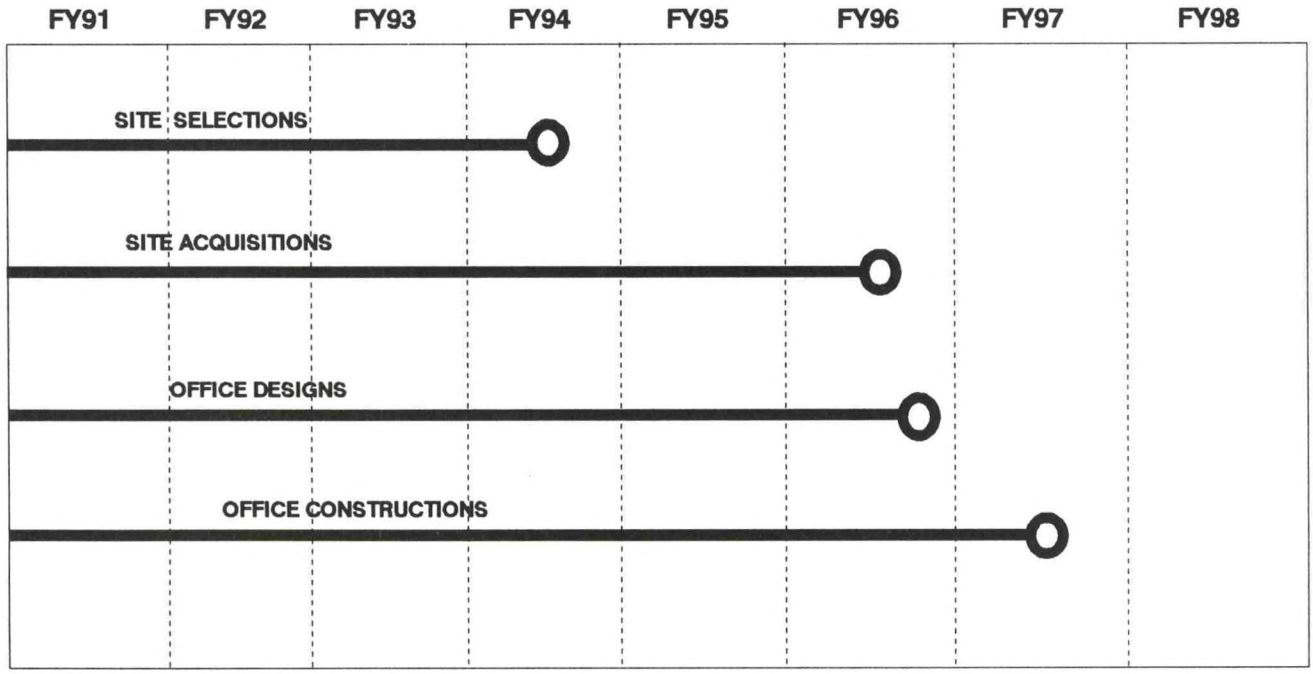


Figure 7:
NEXRAD SCHEDULE

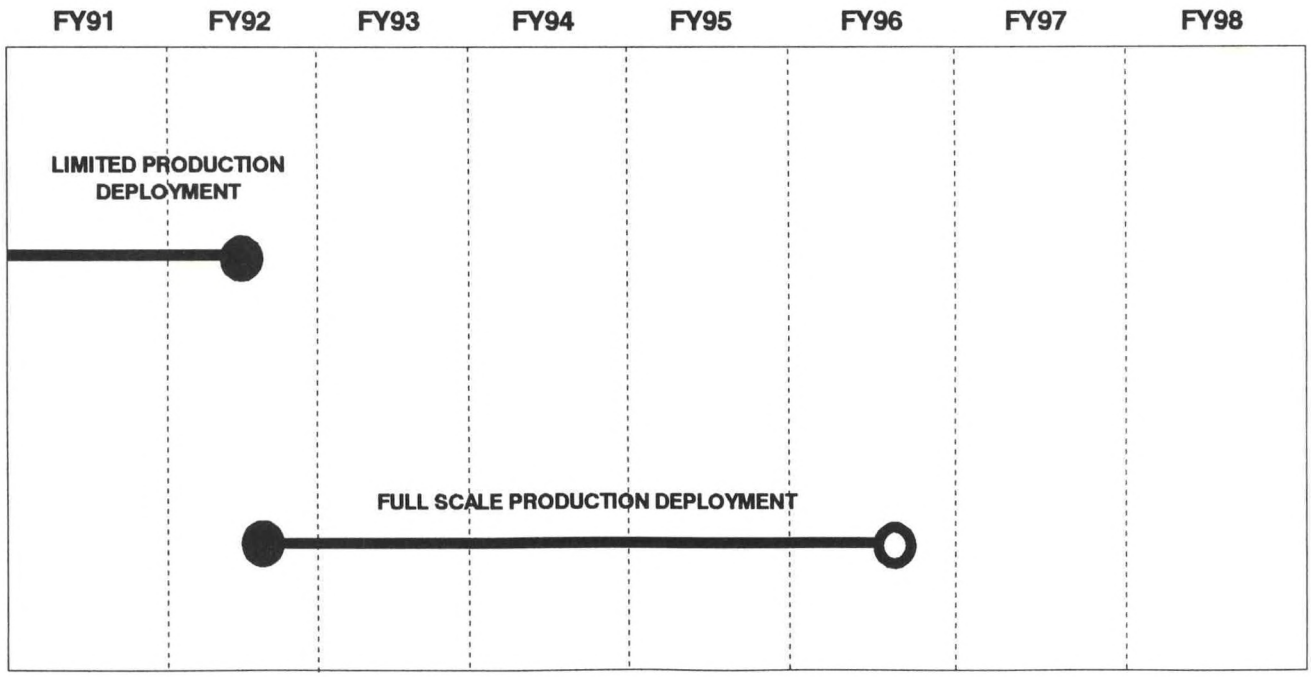


Figure 8:
ASOS SCHEDULE

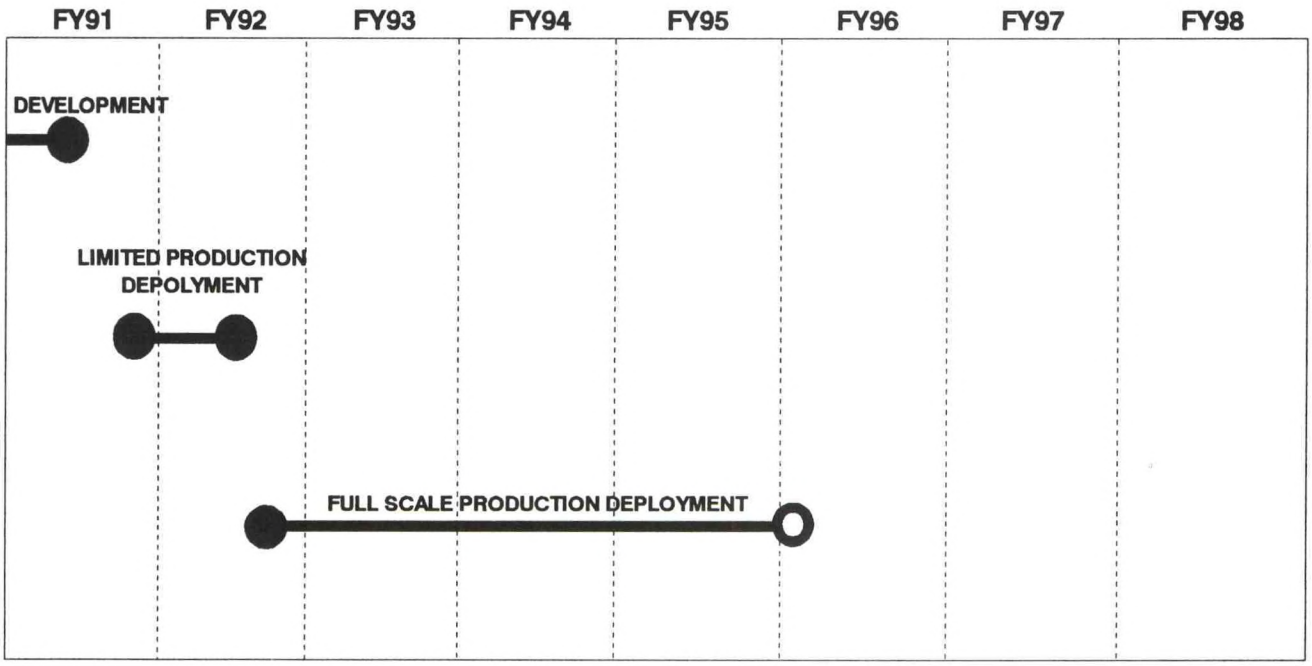


Figure 9:
AWIPS/NOAAPORT SCHEDULE

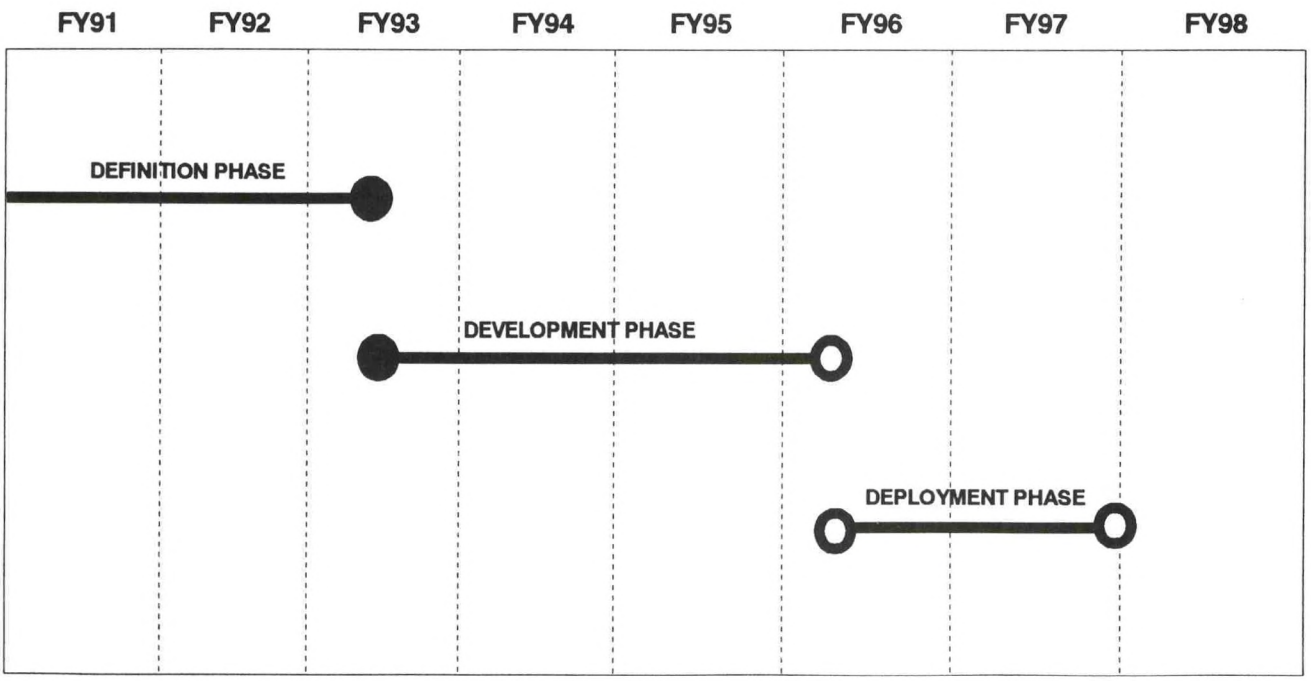


Figure 10:
SATELLITE UPGRADE SCHEDULE

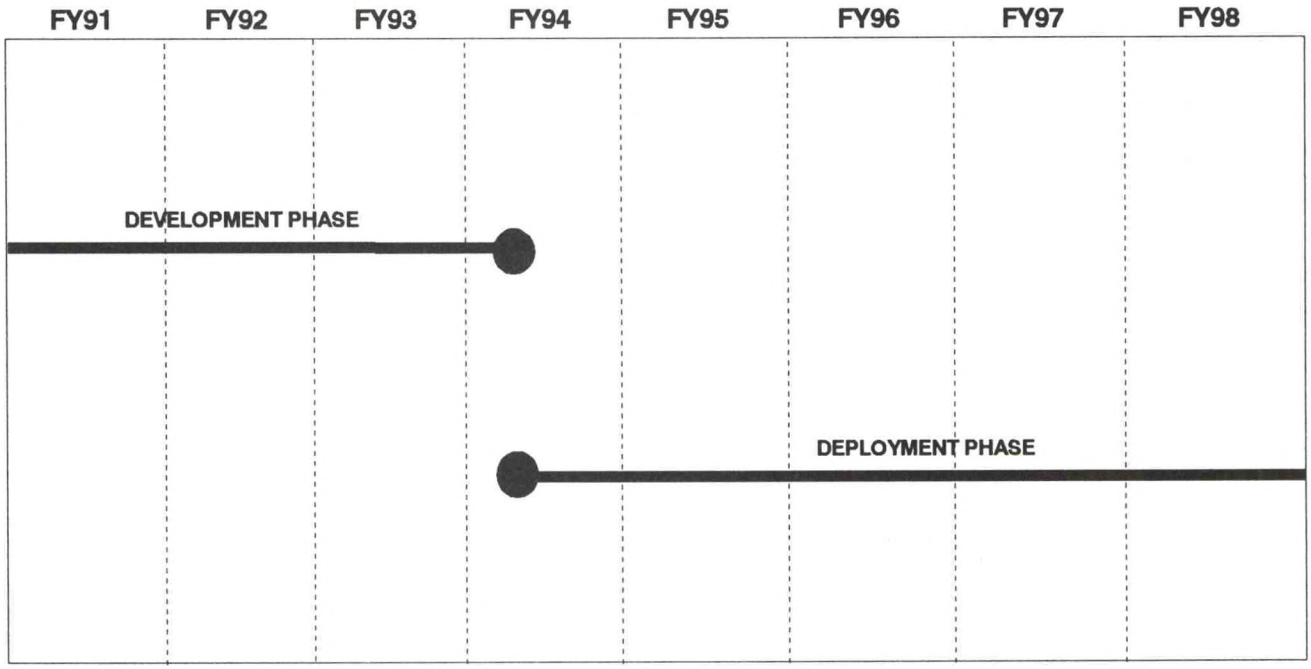


Figure 11:
NATIONAL CENTER COMPUTER UPGRADE SCHEDULE

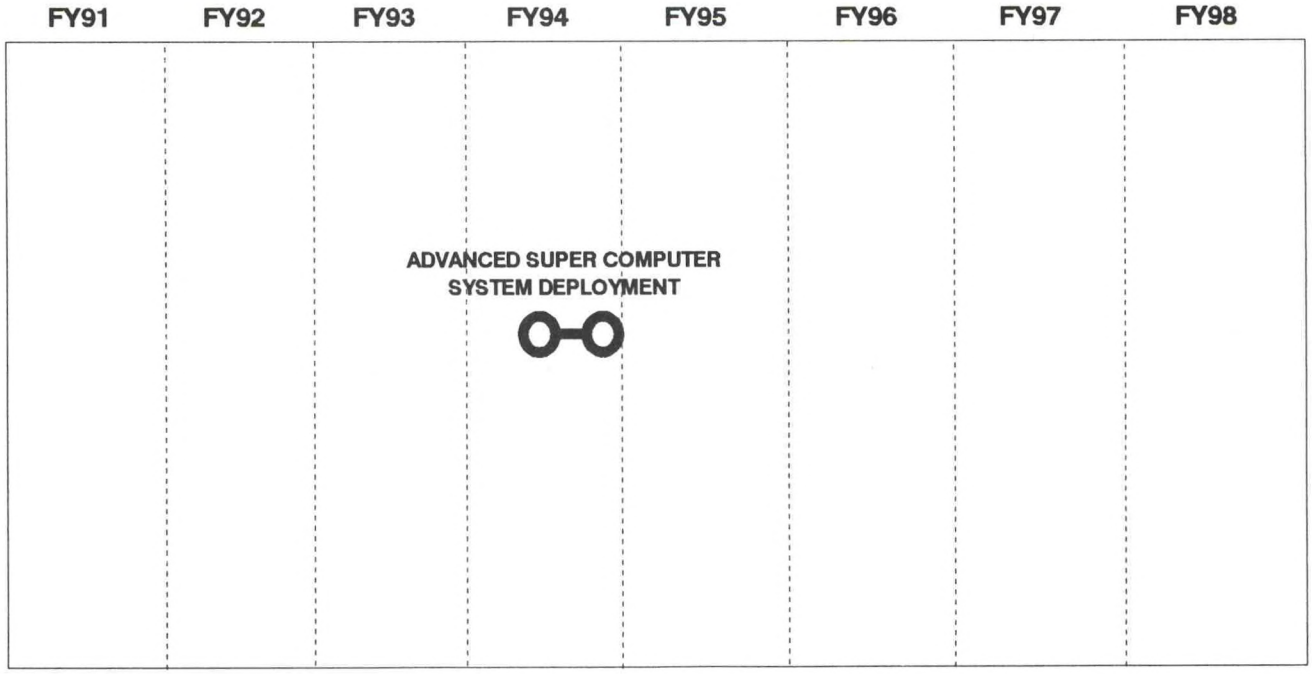


Figure 12:
SCIENTIFIC EDUCATION AND PROFESSIONAL DEVELOPMENT SCHEDULE

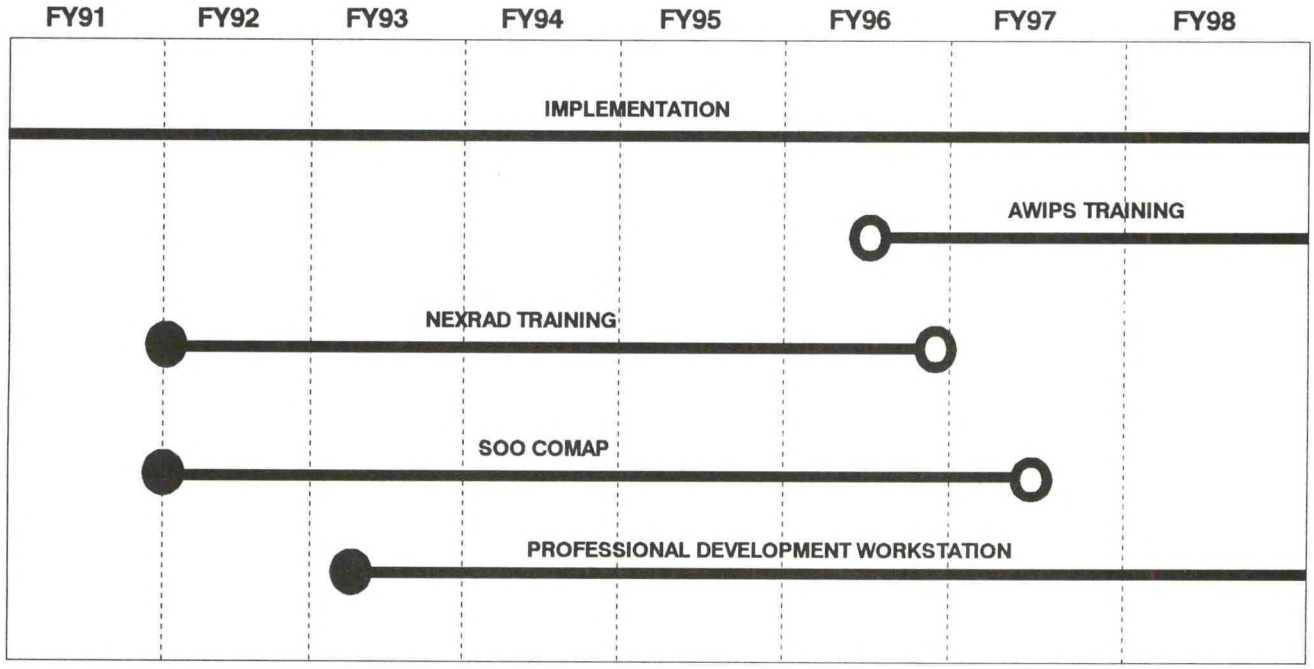


Figure 13:
MARD SCHEDULE

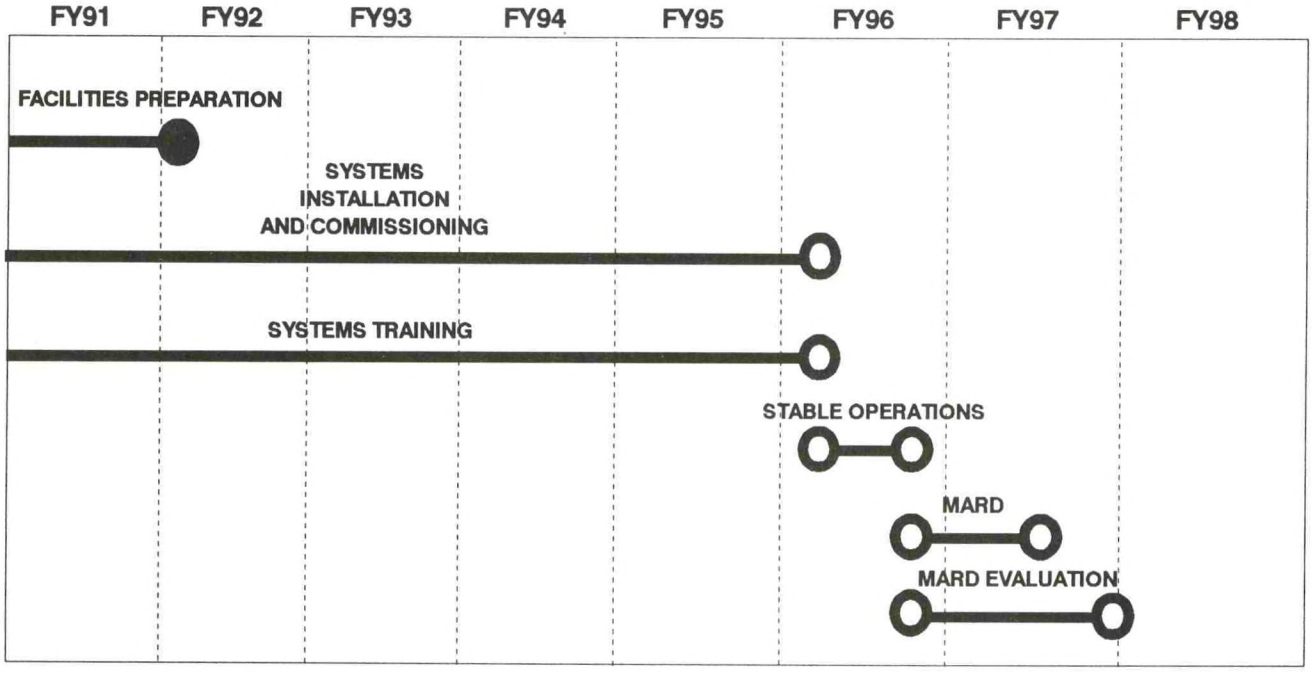


Figure 14:
ERL RESEARCH PROGRAM SCHEDULE

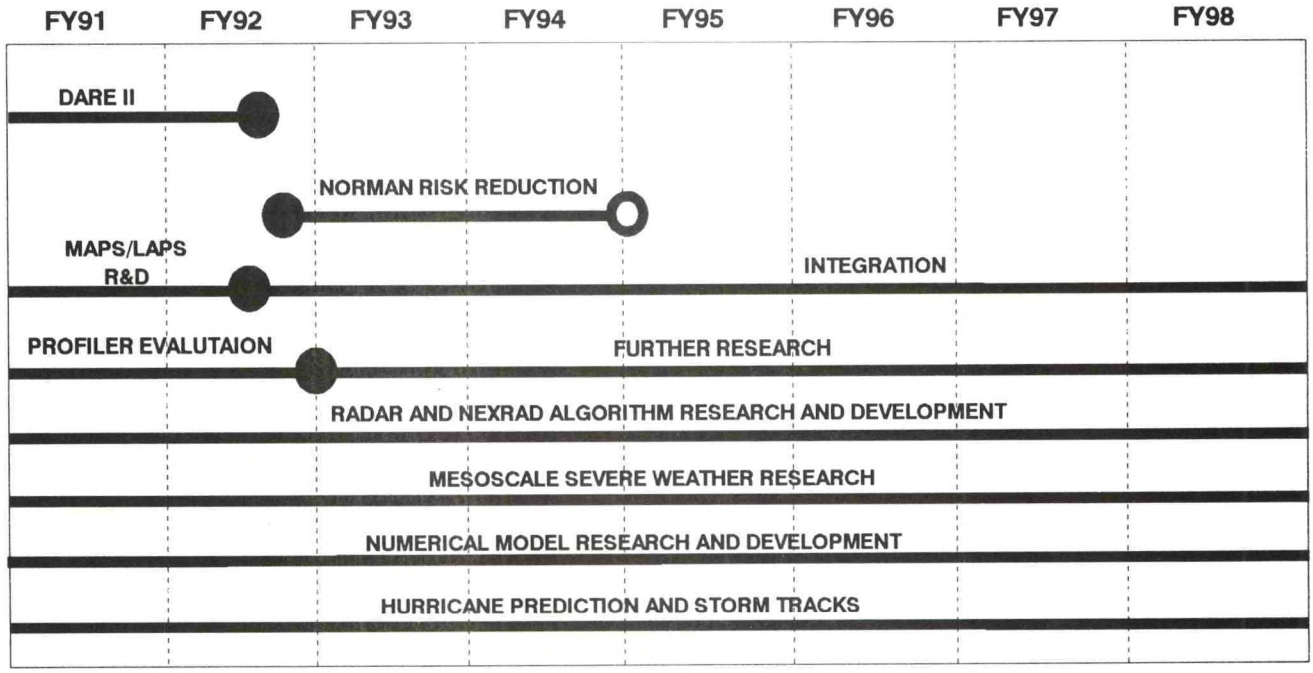


Figure 15:
NWS RESEARCH PROGRAM SCHEDULE

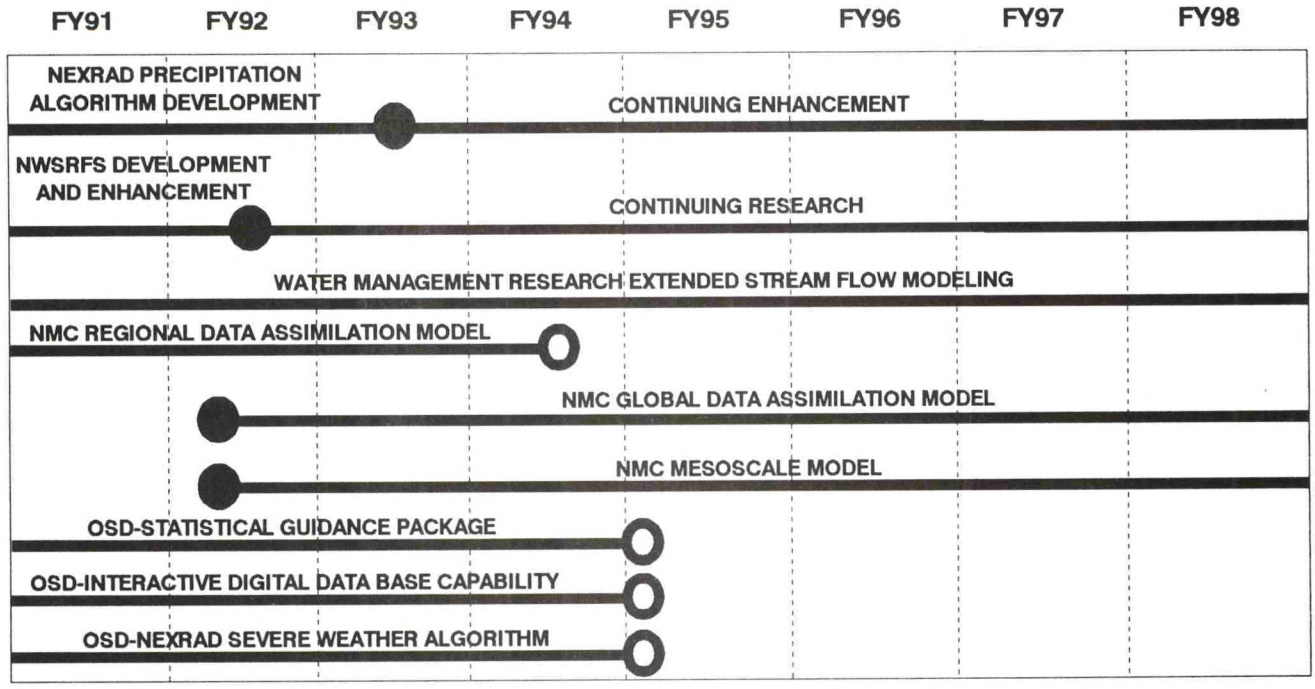


Figure 16:
NESDIS RESEARCH PROGRAM SCHEDULE

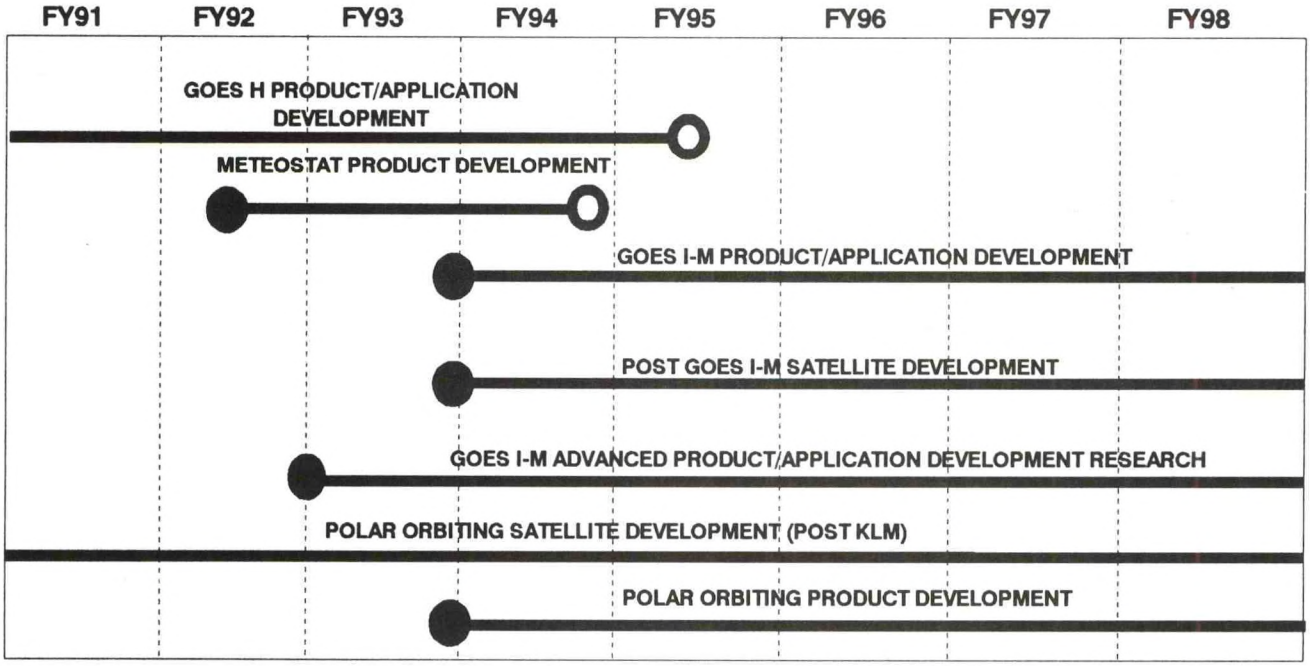


Table 6:

Notifications of Actions to Change Operations at Field Offices and to Certify Field Offices

In accordance with Sections 703 and 705 of Public Law 102-567, this table provides notification of actions, proposed to occur during fiscal years 1994 through 1996, that are to change operations at or are to certify NWS field offices, i.e., Weather Service Forecast Offices (WSFO) and Weather Service Offices (WSO). To provide a more complete picture of the transition, the table also (a) identifies actions completed prior to the publication of this fiscal year's plan, (b) identifies actions to change operations affecting NWS offices not included under the law's definition of field offices, and therefore notsubject to notification requirements, and (c) provides clarifying information through the use of footnotes.

Notifications of planned changes of operations and intent to certify field offices are provided in this table on a fiscal year basis. The establishment of a specific date for an action, such as a system commissioning or a transfer of service responsibility, is dependent upon many factors, e.g., completion of technical coordination with external users, system and office readiness and severe weather season considerations. The Meteorologist-In-Charge (MIC) of the cognizant future Weather Forecast Office (WFO) is in the best position to judge these factors and schedule the specific date for the action. The specific date for an action will be provided by the MIC to external users and affected NWS employees at least 60 days in advance of the action.

Notifications are organized by state and within each state by the WFO that are to provide service to the state. WFOs are identified by name in bold letters followed by (a) the type of field office transitioning to that WFO, e.g., **GRAND RAPIDS, MI** (WSO to WFO); **BIRMINGHAM, AL** (WSFO to WFO); or (b) "New" to indicate that the WFO is a newly established office, e.g., **MELBOURNE, FL** (New WFO).

NWS Offices. All NWS offices associated with a given WFO are identified whether or not they are defined as field offices under the law:

A. NWS Field Offices, as defined by the law, are:

- **WSFOs** and **WSOs** that transition to WFOs.

- **WSOs** that phase down and/or eventually close.

- **"Residual" WSOs** that are brought into being, i.e., designated as WSOs, to maintain radar and/or surface observation functions at the present locations of a subset of transitioning WSFOs and WSOs when the other service operations of the transitioning office are transferred to the facility of the future WFO.

B. NWS Offices included for completeness, though not addressed by the law, are:

- **Weather Service Meteorological Observatories (WSMO).** Activities identified for these offices include, as applicable, the commissioning of an ASOS, the decommissioning of a current radar, a decrease in staff and transfers of upper air functions to WFOs or WSCMOs. Certifications do not apply to these offices.

- **Weather Service Contract Meteorological Observatories (WSCMO).** ASOS commissionings will occur at subset of these offices. In addition, upper air functions will transfer from a number of these offices to locations at WFOs, while a number will be retained for the purpose of maintaining upper air functions at the current location. A limited number of new WSCMOs will be established to maintain the integrity of the upper air network. Decreases in staffing are not reported as no NWS staff is involved. Certifications are not applicable to these offices.

- **River Forecast Centers (RFC).** There are 13 such offices, each to be collocated with a WFO. These offices are listed in the table immediately following their associated WFO using the format of the WFO name followed by the name of the RFC, e.g., **SACRAMENTO, CA** California-Nevada RFC. Activities associated with these offices are the move to (occupancy of) the RFC facility (such moves may be independent of the occupancy of the WFO portion of the facility), the commissioning of non-associated NEXRAD Principal User Processors (PUP), the commissioning of AWIPS, and significant staffing increases. Certifications are not applicable to these offices.

Conventions Used In Presentation of Notifications. Conventions used in the presentation of notifications and clarifying information are as follow:

- **Notifications Within Current Reporting Period.** Notifications of actions anticipated to occur during the current reporting period are indicated by the fiscal year in which they are to occur (e.g., FY94) in the appropriate change of operations and/or certification column(s) for the office. In the case of actions to change operations by the commissioning of a system, the type of system being commissioned is included (e.g., ASOS FY94).

- **Notifications Beyond Current Reporting Period.** Notifications of actions anticipated to occur after fiscal year 1996 are indicated by asterisks.

- **Shading of Non-Applicable Actions.** Shading indicates that a particular change of operations or certification is not applicable to the office.

- **Completed Actions.** Actions completed as of publication of the current National Implementation Plan are indicated in bold italic, i.e., ***FY93***.

- **Additional/Clarifying Information.** Footnotes are used to provide notifications of relocation certifications, clarify actions, and provide other relevant information on transition activities.

Descriptions of Notifications. As indicated above, notifications are of actions to change operations at field offices and of the intent to certify field offices. These changes/certifications are as follow:

A. **Actions Requiring Notifications to Change Operations**. Notifications of changes to operations are presented under the following headings:

- **Occupy (Move to) Facility.** Notifications are of the fiscal year in which the occupancy of a future WFO or of a new RFC is anticipated to take place.

  - For a WFO, occupancy will result in a change in operations at a field office due to:

    - Moving an entire field office, including personnel and equipment, from its current facility to the facility of the future WFO located within the field office's commuting and service area.
    - Transferring a portion of a WSFO or a WSO, i.e., personnel and equipment associated with the delivery of forecast and warning services and its administrative functions as a WSFO or WSO, from the office's current location to the facility of the future WFO.
    - Staffing of newly created positions at a "new" WFO.

  - For an RFC, occupancy is the result of the entire current RFC, i.e., personnel and equipment, moving to its new facility.

- **Systems Commissioned.** Notifications are of the fiscal year in which:

  - The commissioning of an ASOS, NEXRAD or AWIPS at a given office is to take place. (Note that "88D" is used to indicate a NEXRAD commissioning).
  - The commissioning of (a) NWS-owned associated PUPs (APUP) delivered to a WFO at the time of the delivery of the DOD- or FAA-owned radar from that it will receive data, and (b) NWS-owned non-associated PUPs (NPUP) at RFCs are to take place. (APUPs are those which provide, by means of a direct communications link, dedicated access to a specific DoD or FAA NEXRAD. NPUPs are those which allow access to any NEXRAD in the network by means of a dial-up communications link).

- **Replaced NWS Radar Decommissionings.** Notifications are of the fiscal years in which the decommissioning of existing radars will occur as a result of the commissioning of one or more NEXRADs.

- **Service Transfers.** Notifications are of the fiscal years in which the transfer of the following services are to occur:

- All or a portion of the warning or warning and forecast responsibilities of a non-WFO WSO to the future WFO whose NEXRAD commissioning allows such transfer. A partial transfer occurs when the CWA of the non-WFO WSO is to be distributed among two or more future WFOs.
- Forecast and warning responsibilities from WSFOs and NEXRAD WSOs (NWSOs) to the facilities of their future WFOs.
- Forecast and warning responsibilities from a NEXRAD WSFO (NWSFO) to a NWSO.
- Remaining service responsibilities from non-NEXRAD WSOs to appropriate WFOs at the time of the commissioning of AWIPS at the WFO(s).

■ **Significant Staff Change.** Notifications are of the fiscal year in which the following significant staff changes are to occur.

- An increase in staff associated with the delivery of NEXRADs and AWIPS at WFOs and the delivery of NPUPs at RFCs.
- A decrease in staff at WSFOs, at which residual WSOs are left behind, corresponding to the transfer of forecast, warning and administrative responsibilities from the current location of the WSFO to its new location at the facility of the future WFO.
- A decrease in staff associated with the replacement, by commissioned ASOSs and non-NWS personnel, of manual surface observations. Such decreases are noted, by law, for non-NEXRAD WSOs and at WSMOs for completeness in describing NWS staff changes. Decreases at non-NEXRAD WSOs require prior certifications for automation.
- A decrease in staff associated with the transfer of warning responsibilities as the result of the commissioning of a NEXRAD and the subsequent decommissioning of the replaced NWS radar. Such decreases are noted, by law, for non-NEXRAD WSOs and at WSMOs for completeness in describing NWS staff changes. Such decreases at non-NEXRAD WSOs require prior certification for consolidation.
- A decrease in staff associated with the transfer of remaining services at non-NEXRAD WSOs as the result of the commissioning of AWIPS at the relevant WFO. Such decreases require prior certification for closure.

B. **Actions Requiring Certification.** Notifications of the intent to certify are presented under the column headings of automation, consolidation, and closure. The notification of the relocation certification for WSFO San Francisco is referenced by a footnote.

- **Automation Certification.** Notifications are of the fiscal years in which the publication, in the *Federal Register*, of the final certification to replace weather service personnel with automated weather service equipment are to take place.

- **Consolidation Certification.** Notifications are of the fiscal years in which the publication, in the *Federal Register*, of the final certification to transfer or reassign weather service personnel from one field office to another field office as the result of the decommissioning of a current NWS radar and/or the transfer of a service responsibility are to take place.

- **Closure Certification.** Notifications are of the fiscal years in which the publication, in the *Federal Register*, of the final certification to close a field office by transferring or reassigning all of its weather services are to take place. Such a certification will be preceded by the commissioning of AWIPS at the WFO(s) associated with the field office. By law, no closures can occur prior to January 1, 1996.

- **Relocation Certification.** The notification is of the fiscal year in which the publication, in the *Federal Register*, of the final certification to move a field office, i.e., WSFO San Francisco, outside of its current commuting area for the purpose of locating in the facility of the future WFO. As indicated above, this notification is footnoted in the table.

Changes to Notification Fiscal Years. Actions to change operations or to certify, anticipated to occur within the period during which the approved NIP is authoritative (i.e., until the following updated NIP is submitted to Congress), will not occur earlier than the fiscal year provided. For actions that require the advancement to an earlier fiscal year prior to the approval of the next NIP, the Secretary of Commerce will provide special notifications to Congress through an amendment to the schedule.

STATE OF ALABAMA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Alabama will be provided by two in-state WFOs—Birmingham and Mobile. WFO Tallahassee, Florida, will serve five counties in southeastern Alabama. WFO Birmingham also will serve four counties in Georgia; and WFO Mobile, three counties in western Florida and five counties in southeastern Mississippi.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BIRMINGHAM, AL (WSFO to WFO)	***FY94***[1]	88D FY95 APUP FY95[2] AWIPS*		FY95	***FY94***				
•WSO Columbus, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Huntsville, AL		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Meridian, MS		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
•WSO Montgomery, AL		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSMO Centreville, AL[1]			FY95			FY95			

1. Upper air function will be transferred from WSMO Centreville to the site of WFO Birmingham in FY 1994.
2. WFO Birmingham also will use, by means of an associated PUP (APUP), data from the DOD East Alabama WSR-88D.

STATE OF ALABAMA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MOBILE, AL (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS*	FY95[1]	FY95	FY94				
•WSO Meridian, MS		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
•WSO Montgomery, AL		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Pensacola, FL			FY95	FY95		FY96		FY96	*
WFOs Out of State:									
TALLAHASSEE, FL (WSO to WFO)	FY95	88D FY95 APUP FY95 AWIPS*		FY95	FY94				
•WSO Montgomery, AL		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*

1. Current radar will be placed in standby upon operational testing of the WSR-88D in order to avoid interference with the 88D. At that time, radar observation responsibility will be transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF ALASKA (Page 1 of 4)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Alaska will be provided by three in-state WFOs—Anchorage, Fairbanks and Juneau.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ANCHORAGE, AK (WSFO to WFO)	FY95[1]	APUP FY96[2] AWIPS*		FY96	FY94				
•WSO Bethel, AK (WSO to DCO)[3,4]		ASOS FY95		FY96					
•WSO Cold Bay, AK (WSO to DCO)[4]		ASOS FY94		*		*[5]		*[5]	
•WSO Homer, AK		ASOS FY94		FY96		*[5]	FY95	*[5]	*

1. The entire WSFO will move to the facility of the future WFO located in the WSFO's current commuting and service areas. The upper air function at WSCMO Anchorage will move to the site of WFO Anchorage in FY 1995.
2. There will be one associated PUP (APUP) at Anchorage connected to the FAA WSR-88D at Anchorage. This PUP also will provide WFO Anchorage's access to FAA WSR-88Ds at Bethel, King Salmon and Middleton.
3. No change in staffing will occur at this office.
4. Upper air function will remain with this office.
5. No change in staffing will occur at these offices until the commissioning of an AWIPS at the Anchorage WFO.

STATE OF ALASKA (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ANCHORAGE, AK (cont.)									
•WSO King Salmon, AK[1,2] (WSO to DCO)		ASOS FY94		FY96					
•WSO Kodiak, AK (WSO to DCO)[2]		ASOS FY94		*		*[3]		*[3]	
•WSO McGrath, AK[2] (WSO to DCO)		ASOS FY94		*		*[3]		*[3]	
•WSO St. Paul Island, AK[2] (WSO to DCO)		ASOS FY95		*		*[3]		*[3]	
•WSO Valdez, AK				*		*[3]		*[3]	*
•WSCMO Anchorage, AK[4]		ASOS FY94							
•WSCMO Talkeetna, AK		ASOS FY95							

1. No change in staffing will occur at this office.
2. Upper air function will remain with this office.
3. No change in staffing will occur until the commissioning of an AWIPS at WFO Anchorage.
4. Upper air function will move to site of WFO Anchorage in FY 1995.

STATE OF ALASKA (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ANCHORAGE, AK Alaska RFC	FY95	NPUP FY96 AWIPS*			FY94				
FAIRBANKS, AK [1] (WSFO to WFO)	*[2]	APUP FY96[3] AWIPS*		FY96	FY94				
•WSO Barrow, AK (WSO to DCO)[4]		ASOS FY94		*		*[6]		*[6]	
•WSO Fairbanks, AK[4]		ASOS FY94		*		*[6]	FY95	*[6]	*
•WSO Kotzebue, AK (WSO to DCO)[4,5]		ASOS FY95		*					
•WSO Nome, AK (WSO to DCO)[4]		ASOS FY95		FY96		*[6]		*[6]	
•WSO Unalakleet, AK				*		*[6]		*[6]	*

1. An ASOS also will be commissioned at an unstaffed site at Nenana Municipal Airport, Nenana, Alaska, in the administrative area of WFO Fairbanks. This commissioning is scheduled in FY 1995.
2. The entire WSFO, including upper air, will move to the facility of the future WFO located in the WSFO's current commuting and service areas.
3. There will be one associated PUP (APUP) at Fairbanks connected to the FAA WSR-88D at Fairbanks. This APUP also will provide WFO Fairbanks access to the FAA WSR-88D at Nome.
4. Upper air function will remain with this office.
5. No change in staffing will occur at this office.
6. There will be no change in staffing until the commissioning of an AWIPS at the Fairbanks WFO.

STATE OF ALASKA (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
JUNEAU, AK (WSFO to WFO)	FY96[2]	FY95*[3] AWIPS*			FY95				
•WSO Annette, AK (WSO to DCO)[1]		ASOS FY95		*					
•WSO Yakutat, AK (WSO to DCO)[1]		ASOS FY95		*		*[4]		*[4]	

1. Upper air function will remain with this office.
2. The entire WSFO will move to the facility of the future WFO in the WSFO's current commuting and service areas.
3. There will be one associated PUP (APUP) at Juneau connected to the FAA WSR-88D in Sitka.
4. There will be no change in staffing until the commissioning of an AWIPS at the Juneau WFO.

STATE OF ARIZONA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Arizona will be provided by three in-state WFOs—Flagstaff, Phoenix and Tuscon. WFO Las Vegas, Nevada, will serve one county in northwestern Arizona. WFO Phoenix also will serve two counties in California.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
FLAGSTAFF, AZ (New WFO)[1]	FY95[2]	88D FY96 AWIPS*		FY96	FY95				
•WSO Flagstaff, AZ		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Winslow, AZ[2,3]		ASOS FY95		FY96		*		*	*

1. An ASOS also will be commissioned at an unstaffed site at Page Municipal airport, Page, Arizona, in the administrative area of WFO Flagstaff. This commissioning is scheduled to occur in FY 1995
2. Upper air function will transfer from WSO Winslow to the site of WFO Flagstaff in FY 1995.
3. This ASOS will replace a currently automated system, AUTOB, at this site.

STATE OF ARIZONA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PHOENIX, AZ (WSFO to WFO)	***FY91***[2]	88D FY94 88D FY96[3] AWIPS*		***FY91***[2] FY94 FY96	***FY92***[1]	***FY91***[2]			
•Residual WSO Phoenix, AZ[2]		ASOS FY94	FY94			FY95	FY95	FY95	*
•WSO Palmdale, CA				FY96[4]		*		*	*
•WSO Riverside (AG & FW), CA				*[5]		*		*	*
•WSO Yuma, AZ				FY96[4]		FY96		FY96	*
TUCSON, AZ (New WFO)	FY96[6]	88D FY95 AWIPS*		FY95	FY95				
•WSO Tucson, AZ[6]		ASOS FY94	FY96	FY95		FY96	FY95	FY96	*

1. Meteorologist positions for operation of the WSR-88D filled; training begun.

2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation functions retained at original WSFO location and office redesignated a residual WSO.

3. A second WSR-88D, located in the vicinity of Yuma, AZ, will be operated out of the Phoenix WFO.
4. Service transfer dependent on commissioning of Yuma WSR-88D.
5. Service transfer will take place upon the commissioning of an AWIPS at WFO Phoenix.
6. Upper air function will remain at WSO Tucson until rooftop launch capability is available at site of WFO Tucson.

STATE OF ARIZONA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
LAS VEGAS, NV (New WFO)	FY95	88D FY95 AWIPS*		FY95	FY95				

STATE OF ARKANSAS (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Arkansas will be provided by one in-state WFO—Little Rock—and by WFOs in Jackson, Mississippi; Memphis, Tennessee; Shreveport, Louisiana; and Tulsa, Oklahoma. Jackson will serve two counties in Arkansas; Memphis, 12 counties in northeastern Arkansas; Shreveport, nine counties in southwestern Arkansas; and Tulsa, six counties in northwestern Arkansas.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

	CHANGE OF OPERATIONS						CERTIFICATIONS		
OFFICES	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
LITTLE ROCK, AR (WSFO to WFO)	***FY93***[1]	88D FY94 AWIPS*	FY95	FY94	***FY92***				
•WSO Fort Smith, AR		ASOS FY94	FY95	FY94		FY95	FY95	FY96	*
WFOs Out of State:									
JACKSON, MS (WSFO to WFO)	***FY93***	88D FY94 ***ASOS FY93*** AWIPS*	FY95[2]	FY94	***FY93***				

1. WSFO Little Rock transitioned to WFO Little Rock at its current site. Upper air function remains in place.

2. Current radar was dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF ARKANSAS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MEMPHIS, TN (WSFO to WFO)	***FY93***	88D FY94 AWIPS*	FY95	FY94	***FY93***				
SHREVEPORT, LA (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*	FY96	FY96	FY95				
TULSA, OK (WSO to WFO)	***FY92***	88D FY94 AWIPS FY96		FY94	***FY93***				
•WSO Fort Smith, AR		ASOS FY94	FY95	FY94		FY95	FY95	FY96	*

STATE OF CALIFORNIA (Page 1 of 6)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in California will be provided by six in-state WFOs—Eureka, Los Angeles, Sacramento, San Diego, San Francisco Bay Area and San Joaquin Valley—and by WFOs in Las Vegas, Nevada; Medford, Oregon; Phoenix, Arizona; and Reno, Nevada. WFO Las Vegas will serve two counties in southeastern California; WFO Medford, two counties in northern California; WFO Phoenix, two counties in southern California; and WFO Reno, eight counties in northeastern California.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
EUREKA, CA (WSO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Redding (FW), CA		ASOS FY95		FY95		FY96	FY96	*	*

STATE OF CALIFORNIA (Page 2 of 6)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
LOS ANGELES, CA[1] (WSFO to WFO)	***FY94***[3]	88D FY95 APUP FY95[4] AWIPS*		***FY94***[3] FY95	FY94[2]	***FY94***[3]			
•Residual WSO Los Angeles, CA[3]			FY95			FY96		FY96	*
•WSO Los Angeles (AV), CA		ASOS FY95				FY96	FY96		*
•WSO Palmdale, CA				FY95		*		*	*
•WSO Riverside (AG & FW), CA				*[5]		*		*	*
•WSO Santa Maria, CA		ASOS FY94		*[6]		FY95	FY95	*	*
•WSCMO Long Beach, CA		ASOS FY94							

1. An ASOS also will be commissioned at an unstaffed, non-airport, site at Sandberg, California, in the administrative area of WFO Los Angeles. This commissioning is anticipated to occur in FY 1995.
2. Meteorologist positions for operation of the WSR-88D filled; training begun.
3. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Radar observation function retained at original WSFO location and office redesignated a residual WSO.
4. WFO Los Angeles also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Vandenberg AFB.
5. Service transfer will take place upon commissioning of an AWIPS at WFO Los Angeles.
6. Agricultural forecast service will transition upon the commissioning of an AWIPS at WFO Los Angeles.

STATE OF CALIFORNIA (Page 3 of 6)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SACRAMENTO, CA (WSO to WFO)[1]	FY95	88D FY95 APUP FY95[2] AWIPS*	FY95	FY95	***FY93***				
•WSO Redding (FW), CA		ASOS FY95		FY95		FY96	FY96	*	*
•WSO Stockton, CA		ASOS FY94							*
•WSCMO Blue Canyon, CA		***ASOS FY93***							
SACRAMENTO, CA California-Nevada RFC	FY95	NPUP FY95 AWIPS*			FY94				
SAN DIEGO, CA (New WFO)[3]	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSO Palmdale, CA				FY96		*		*	*
•WSO Riverside (AG & FW) , CA				*[4]		*		*	*

1. An ASOS also will be commissioned at an unstaffed site at Red Bluff Municipal Airport, Red Bluff, California, in the administrative area of WFO Sacramento. This commissioning is anticipated to occur in FY 1995.
2. WFO Sacramento also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Beale AFB.
3. An ASOS also will be commissioned at an unstaffed site at Brown Field Municipal Airport, San Diego, California, in the administrative area of WFO San Diego. This commissioning is anticipated to occur in FY 1995.
4. Service will be transferred upon the commissioning of an AWIPS at WFO San Diego.

STATE OF CALIFORNIA (Page 4 of 6)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS[2]		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SAN DIEGO, CA (continued)									
•WSO San Diego, CA		ASOS FY95		FY96		FY96	FY96	*	*
•WSCMO San Diego, CA[1]									
SAN FRANCISCO BAY AREA, CA (WSFO to WFO)	FY94[2]	88D FY95 AWIPS*		FY95	FY94				
•WSO Riverside (AG & FW), CA				*[3]		*		*	*
•WSO San Francisco (AV), CA		ASOS FY95				FY96	FY96		*
•WSO Palmdale, CA				FY95		*		*	*
•WSO Santa Maria, CA		ASOS FY94		*[4]		FY95	FY95	*	*
•WSCMO Oakland, CA[5]									

1. Upper air function will remain at WSCMO San Diego.
2. Occupancy of the facility of the future WFO San Francisco Bay Area will take place after certification for relocation, targeted for FY 1994.
3. Service will be transferred upon commissioning of an AWIPS at WFO San Francisco.
4. Agricultural forecast service will be transferred upon the commissioning of an AWIPS at WFO San Francisco.
5. Upper air function will remain at WSCMO Oakland.

STATE OF CALIFORNIA (Page 5 of 6)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SAN JOAQUIN VALLEY, CA (New WFO)	FY95	88D FY95 AWIPS*		FY95	FY94				
•WSO Bakersfield, CA		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Fresno, CA		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Palmdale, CA				FY95		*		*	*
•WSO Riverside (AG & FW), CA				*[1]		*		*	*
WFOs Out of State:									
LAS VEGAS, NV (New WFO)	FY95	88D FY95 AWIPS*		FY95	FY95				
•WSO Palmdale, CA				FY95		*		*	*
•WSO Riverside (AG & FW), CA				*[2]		*		*	*

1. Agricultural forecast service will be transferred upon the commissioning of an AWIPS at WFO San Joaquin Valley.
2. Service transfer will take place upon the commissioning of an AWIPS at WFO Las Vegas.

STATE OF CALIFORNIA (Page 6 of 6)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MEDFORD, OR (WSO to WFO)	FY95	88D FY96 ASOS FY95 AWIPS*	FY96[1]	FY96	FY95				
•WSO Redding (FW), CA		ASOS FY95		FY96		FY96	FY96	*	*
PHOENIX, AZ (WSFO to WFO)	***FY91***	88D FY94 88D FY96[2] AWIPS*		FY94	***FY92***				
•WSO Palmdale, CA				FY96[2]		*		*	*
•WSO Riverside (AG & FW), CA				*[3]		*		*[2]	*
RENO, NV (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Redding (FW), CA		ASOS FY95		FY95		FY96	FY96	*	*

1. The current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.
2. Service transfer dependent upon commissioning of Yuma WSR-88D.
3. Service will be transferred upon the commissioning of an AWIPS at WFO Phoenix.

STATE OF COLORADO (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Colorado will be provided by three in-state WFOs—Denver/Boulder, Grand Junction and Pueblo. WFO Goodland, Kansas, will serve three counties in eastern Colorado. WFO Grand Junction also will serve three counties in eastern Utah.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DENVER/BOULDER, CO (WSFO to WFO)	FY95[1,2]	88D FY94 AWIPS FY96		FY94	***FY91***				
•WSO Colorado Springs, CO		***ASOS FY93***		FY94		FY95	FY95	FY95	*
•WSMO Limon, CO		ASOS FY95	FY96			FY96			
•WSCMO Denver International, CO[3]		ASOS FY94							

1. The entire WSFO will move to the facility of the future WFO in the WSFO's current commuting and service areas.
2. The upper air function at WSFO Denver will transfer with the WSFO to the site of WFO Denver/Boulder if a roof luanch capability is available at that time.
3. ***This WSCMO was established in October 1993 at the new Denver International (Front Range) Airport.***

STATE OF COLORADO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GRAND JUNCTION, CO (WSO to WFO)	FY95[1]	88D FY96 ASOS FY95 AWIPS*		FY95	FY95				
•WSO Alamosa, CO		***ASOS FY92***		FY95		FY95	FY95	FY96	*
PUEBLO, CO (WSO to WFO)	FY94	88D FY95 ***ASOS FY93*** AWIPS*		FY95	FY94				
•WSO Alamosa, CO		***ASOS FY92***		FY95		FY95	FY95	FY96	*
•WSO Colorado Springs, CO		***ASOS FY93***		FY95		FY95	FY95	FY95	*
•WSMO Limon, CO		ASOS FY95	FY96			FY96			
WFOs Out of State:									
GOODLAND, KS (WSO to WFO)	***FY90***	88D FY94 ***ASOS FY92*** AWIPS FY96	FY95	FY94	***FY93***				
•WSO Colorado Springs, CO		***ASOS FY93***		FY94		FY95	FY95	FY95	*

1. Upper air function will transfer with WSO Grand Junction to the site of WFO Grand Junction in FY 1995.

STATE OF CONNECTICUT (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Connecticut will be provided by WFOs in Albany, New York; Boston, Massachussetts; and New York City, New York. WFO Albany will serve one county in northeastern Connecticut; WFO Boston, three counties in northern Connecticut; and WFO New York City, four counties in southern Connecticut.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
ALBANY, NY (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Hartford, CT		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
BOSTON, MA (WSFO to WFO)	***FY94***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Hartford, CT		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*

STATE OF CONNECTICUT (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NEW YORK CITY, NY (WSFO to WFO)	***FY94***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Bridgeport, CT		ASOS FY95		FY94		FY95	FY96	FY95	*
•WSO Hartford, CT		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*

STATE OF DELAWARE (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services to all three counties in Delaware will be provided by WFO Philadelphia, Pennsylvania.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996.

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
PHILADELPHIA, PA (WSFO to WFO)	***FY93***	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Wilmington, DE		ASOS FY94		FY95		FY95	FY95	FY96	*

DISTRICT OF COLUMBIA (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services will be provided for the District of Columbia by WFO Baltimore, MD/Washington, DC.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996.

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs outside of the District of Columbia:									
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	***FY90***	88D FY94 AWIPS*		FY94	***FY91***				

STATE OF FLORIDA (Page 1 of 5)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Florida will be provided by five in-state WFOs—Jacksonville, Melbourne, Miami, Tallahassee and Tampa Bay Area. WFO Mobile, Alabama, will serve three counties in the Florida panhandle. WFO Jacksonville also will serve 14 counties in southeastern Georgia; and WFO Tallahassee, 25 counties in southwestern Georgia and five counties in southeastern Alabama.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs in State:									
JACKSONVILLE, FL (WSO to WFO)	FY95[1]	88D FY95 ASOS FY94 AWIPS*		FY95	FY94				
•WSO Daytona Beach, FL		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Waycross, GA[1]			FY96			FY96			

1. Upper air function will transfer from WSMO Waycross to the site of WFO Jacksonville in FY 1995.

STATE OF FLORIDA (Page 2 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MELBOURNE, FL (New WFO)	***FY89***	88D FY94 AWIPS*		FY94	***FY91***				
•WSO Daytona Beach, FL		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
•WSO Orlando, FL									*
•WSO West Palm Beach, FL		***ASOS FY93***	FY94	FY94		FY95	FY95	FY95	*
•WSCMO Orlando, FL		ASOS FY94							
MIAMI, FL (WSFO to WFO)	FY95[1,2]	88D FY94 APUP FY95[4] 88D FY96[5] AWIPS*	***Destroyed***[3]	FY94	***FY93***				
•WSO Key West, FL[7]		ASOS FY95	*[6]	FY96[5]		FY95	FY95	*	*
•WSO West Palm Beach, FL[2]		***ASOS FY93***	FY94	FY94		FY95	FY95	FY95	*

1. The entire WSFO will move to the facility of the future WFO located in the WSFO's current commuting and service areas.
2. Upper air function will transfer from WSO West Palm Beach to the site of WFO Miami in FY 1995.
3. Radar was blown down during Hurricane Andrew, August 1992.
4. This associated PUP (APUP) will provide WFO Miami with direct access to the FAA WSR-88D at Georgetown, Bahamas, and dial-up access to the FAA WSR-88D at Grand Turk, British West Indies.
5. This radar, located at Key West, Florida, will be operated out of the Miami WFO.
6. Current radar will be dismantled upon delivery of the WSR-88D at Key West to clear the area for the 88D's construction. Radar observation responsibility will be transferred to appropriate backup sites until the commissioning of the WSR-88D.
7. Upper air function at WSO Key West to be contracted out in FY 1995.

STATE OF FLORIDA (Page 3 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MIAMI, FL (cont.)									
•WSCMO Miami, FL		ASOS FY95							
TALLAHASSEE, FL (WSO to WFO)	FY95[2,4]	88D FY95 APUP FY95[3] AWIPS*		FY95[2] FY95	FY94[1]	FY95[2]			
•Residual WSO Tallahassee, FL [2,4]		ASOS FY94				FY95	FY95		*
•WSO Apalachicola, FL			FY96	FY95		FY96		FY96	*

1. Meteorologist positions for WSR-88D filled. Training begun.
2. Forecast and warning service of WSO transferred to facility of future WFO. Surface observation function retained at original WSO location and office redesignated a residual WSO.
3. WFO Tallahassee also will use data, by means of an associated PUP (APUP), from the DOD WSR-88D at Elgin AFB.
4. Upper air function will remain at WSO Tallahassee until the availability of a roof launch capability at WFO Tallahassee.

STATE OF FLORIDA (Page 4 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TALLAHASSEE, FL (cont.)									
•WSO Columbus, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Macon, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
•WSO Montgomery, AL		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Pensacola, FL			FY95	FY95		FY96		FY96	*
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Waycross, GA			FY96			FY96			
TAMPA BAY AREA, FL (WSO to WFO)	FY95[1]	88D FY94 AWIPS*	FY95[2]	FY94	FY94				
•WSO Fort Meyers, FL[3]									*
•WSCMO Tampa, FL		ASOS FY95							

1. Upper air function will be contracted at the site of WSO Tampa Bay when WSO Tampa Bay moves to the facility of WFO Tampa Bay area.
2. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to appropriate backup sites until the commissioning of the WSR-88D.
3. WSO Ft. Meyers, which is collocated with the City Emergency Manager, is staffed with personnel from WSO/WFO Tampa Bay, in response to predictions of severe weather (e.g., hurricanes).

STATE OF FLORIDA (Page 5 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
MOBILE, AL (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS*	FY95[1]	FY95	FY94				
•WSO Pensacola, FL			FY95	FY95		FY96		FY96	*

1. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF GEORGIA (Page 1 of 4)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Georgia will be provided by one in-state WFO—Atlanta—and by WFOs in Birmingham, Alabama; Jacksonville, Florida; Greenville/Spartanburg, Columbia and Charleston, South Carolina; and Tallahassee, Florida. WFO Birmingham will serve four counties in western Georgia; WFO Jacksonville, 14 counties in southeastern Georgia; WFO Greenville/Spartanburg, six counties in northeastern Georgia; WFO Columbia, five counties in east central Georgia; WFO Charleston, 12 counties in southeastern Georgia; and WFO Tallahassee, 25 counties in southwestern Georgia.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ATLANTA, GA (WSFO to WFO)	FY94[2,3]	88D FY95 APUP FY95[4] AWIPS*		FY94[2] FY95	FY94[1]	FY94[2]			
•Residual WSO Atlanta, GA[2]		ASOS FY95	FY95			FY95	FY95	FY95	*
•WSO Augusta, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
•WSO Athens, GA[3]		ASOS FY95	FY95	FY95		FY95	FY96	FY95	*
•WSO Chattanooga, TN		ASOS FY95	FY95	FY95		FY96	FY95	FY96	*

1. Meteorologists positions for WSR-88D operation filled; training begun.
2. Forecast and warning services of the transitioning WSFO transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.
3. Upper air function will transfer from WSO Athens to the site of WFO Atlanta in FY 1994.
4. WFO Atlanta also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Robins AFB.

STATE OF GEORGIA (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ATLANTA, GA (cont.)									
•WSO Columbus, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Macon, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY96	FY95	FY96	*
ATLANTA, GA Southeast RFC	FY94	NPUP FY94 AWIPS*			FY94				
WFOs Out of State:									
BIRMINGHAM, AL (WSFO to WFO)	***FY94***	88D FY95 AWIPS*		FY95	***FY94***				
•WSO Columbus, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*

STATE OF GEORGIA (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CHARLESTON, SC (WSO to WFO)	FY94	88D FY95 ASOS FY95 AWIPS*	FY96	FY95	FY94				
•WSO Augusta, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Waycross, GA			FY96			FY96			
COLUMBIA, SC (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	***FY93***				
•WSO Augusta, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	FY95	88D FY95 ASOS FY95 AWIPS*		FY95	FY94				
•WSO Athens, GA		ASOS FY95	FY95	FY95		FY95	FY96	FY95	*

STATE OF GEORGIA (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
JACKSONVILLE, FL (WSO to WFO)	FY95	88D FY95 ASOS FY94 AWIPS*		FY95	FY94				
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Waycross, GA			FY96			FY96			
TALLAHASSEE, FL (WSO to WFO)	FY95	88D FY95 APUP FY95 AWIPS*		FY95	FY95				
•WSO Columbus, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Macon, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Waycross, GA			FY96			FY96			

STATE OF HAWAII (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Hawaii will be provided by one in-state WFO—Honolulu.[1]

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
HONOLULU, HI (WSFO to WFO)	FY95[3]	APUP FY96[4] AWIPS*		FY95[3] FY96	FY94[2]	FY95[3]			
•Residual WSO Honolulu, HI[3]		ASOS FY95				FY95	FY95		*

1. NWS will make no changes to these Pacific Region offices: WSOs Chuuk; Koror; Majuro, Marshall Islands; Pago Pago, American Samoa; Pohnpei, Wake Island and Yap.
2. Meteorologists positions for WSR-88D operation filled; training begun.
3. Forecast and warning service of the transitioning WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.
4. There will be two associated PUPs (APUP) at Honolulu for operation of FAA WSR-88Ds at Molokai, Kamuela, South Kauai and South Hawaii. FAA commissioning of its four radars is assumed to take place in 1996.

STATE OF HAWAII (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
HONOLULU, HI (cont.)									
•WSO Hilo, HI (WSO to DCO)[1]		ASOS FY95		FY96		*[2]		*[2]	
•WSO Kahului, HI		ASOS FY95		FY96		*[2]	FY95	*[2]	*
•WSO Lihue, Kauai, HI[1] (WSO to DCO)		ASOS FY95		FY96		*[2]		*[2]	
WFOs Out of State:									
NONE									

1. Upper air function will remain with this office.
2. No decrease in staff will occur until the commissioning of the AWIPS at WFO Honolulu.

STATE OF IDAHO (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Idaho will be provided by two in-state WFOs—Boise and Pocatello/Idaho Falls—and by WFOs in Missoula, Montana; Salt Lake City, Utah; and Spokane, Washington. WFO Missoula will serve four counties in northeastern Idaho; WFO Salt Lake City, three counties in southern Idaho; and WFO Spokane, seven counties in northern Idaho. WFO Boise also will serve three counties in Oregon.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BOISE, ID (WSFO to WFO)	***FY93***[1]	88D FY94 ASOS FY95 AWIPS*		FY94	***FY93***				
•WSO Twin Falls (AG), ID				*[2]		*		*	*
•WSMO Burns, OR		ASOS FY94				FY95			
POCATELLO/IDAHO FALLS, ID (WSO to WFO)	FY95	88D FY96 ASOS FY95 AWIPS*		FY96	FY95				

1. ***Upper air function was transferred with WSFO Boise to the site of WFO Boise in FY 1993.***
2. Service will be transferred upon commissioning of the Boise WFO's AWIPS.

STATE OF IDAHO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
MISSOULA, MT (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS*	FY95[1]	FY95	FY94				
•WSO Lewiston, ID		ASOS FY94		FY95		FY95	FY95	*	*
PENDLETON, OR (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS *		FY96	FY95				
•WSO Lewiston, ID		ASOS FY94		FY96		FY95	FY95	*	*
SALT LAKE CITY, UT (WSFO to WFO)	FY94	88D FY95 ASOS FY95 AWIPS*		FY95	FY94				
SPOKANE, WA (New WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSO Lewiston, ID		ASOS FY94		FY96		FY95	FY95	*	*

1. The current radar was dismantled to clear the area for the 88D's construction, and radar observation responsibility was transferred to appropriate backup sites. Back up will continue until the commissioning of WSR-88D.

STATE OF ILLINOIS (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Illinois will be provided by two in-state WFOs—Central Illinois and Chicago—and by WFOs in Paducah, Kentucky; Quad Cities, Iowa; and St. Louis, Missouri. WFO Paducah will serve 18 counties in southern Illinois; WFO Quad Cities, 13 counties in northwestern Illinois; and WFO St. Louis, 17 counties in southwestern Illinois. WFO Chicago also will serve 14 counties in northwestern Indiana.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CENTRAL ILLINOIS, IL (New WFO)	FY95[1]	88D FY96 AWIPS*		FY95	FY95				
•WSO Evansville, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Peoria, IL[2]		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Springfield, IL		ASOS FY94	FY96	FY96		FY95	FY95	FY96	*

1. Upper air function will transfer from WSO Paducah, Kentucky to the site of WFO Central Illinois in FY 1995.
2. Upper air function will transfer from WSO Peoria, Illinois to the site of WFO Quad Cities, Iowa, in FY 1994.

STATE OF ILLINOIS (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CHICAGO, IL (WSFO to WFO)	***FY92***	88D FY95 AWIPS*		FY95	***FY94***				
•WSO Chicago-O'Hare (AV), IL		ASOS FY94				FY95	FY95	FY95	*
•WSO Rockford, IL		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO South Bend, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Marseilles, IL			FY95			FY95			
WFOs Out of State:									
PADUCAH, KY (WSO to WFO)	FY95	88D FY95 ASOS FY94 AWIPS*	FY96	FY95	FY94				
QUAD CITIES, IA (WSO to WFO)	FY94	88D FY95 AWIPS*	FY95	FY95	FY94				
•Residual WSO Moline, IL		ASOS FY94	FY95			FY95	FY95	FY96	*
•WSO Peoria, IL		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Rockford, IL		ASOS FY94		FY95		FY95	FY95	FY96	*

STATE OF ILLINOIS (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ST. LOUIS, MO (WSFO to WFO)	***FY90***	88D FY94 AWIPS*		FY94	***FY92***				
•WSO Springfield, IL		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*

STATE OF INDIANA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Indiana will be provided by one in-state WFO—Indianapolis—and WFOs in Chicago, Illinois; Cincinnati, Ohio; Grand Rapids, Michigan; and Louisville and Paducah, Kentucky. WFO Chicago will serve 14 counties in northwestern Indiana; WFO Cincinnati, eight counties in southeastern Indiana; WFO Grand Rapids, four counties in northern Indiana; WFO Louisville, 10 counties in southern Indiana; and WFO Paducah, six counties in southern Indiana.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
INDIANAPOLIS, IN (WSFO to WFO)	***FY93***[2]	88D FY95 AWIPS*		***FY94***[2] FY95	FY94[1]	***FY93***[2]			
•Residual WSO Indianapolis, IN[2]		ASOS FY94	FY95			FY95	FY95	FY95	*
•WSO Cincinnati, OH		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
•WSO Fort Wayne, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Evansville, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*

1. Meteorologists positions for operation of the WSR-88D filled; training begun.
2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation functions were retained at original WSFO location and office redesignated residual WSO.

STATE OF INDIANA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
CENTRAL ILLINOIS, IL (New WFO)	FY95	88D FY96 AWIPS *		FY95	FY95				
•WSO Evansville, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
CHICAGO, IL (WSO to WFO)	***FY92***	88D FY95 AWIPS*		FY95	***FY94***				
•WSO South Bend, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
CINCINNATI, OH (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Fort Wayne, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
GRAND RAPIDS, MI (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*		FY95	FY95				
•WSO Fort Wayne, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO South Bend, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*

STATE OF INDIANA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
LOUISVILLE, KY (WSFO to WFO)	***FY93***	88D FY95 AWIPS*		FY94	FY94				
•WSO Evansville, IN		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
PADUCAH, KY (WSO to WFO)	FY95	88D FY95 ASOS FY94 AWIPS*	FY96	FY94	FY94				
•WSO Evansville, IN		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*

STATE OF IOWA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Iowa will be provided by two in-state WFOs: Des Moines and Quad Cities, and by WFOs in La Crosse, Wisconsin; Omaha, Nebraska; and Sioux Falls, South Dakota. WFO La Crosse will serve eight counties in northeastern Iowa; WFO Omaha, eight counties in southwestern Iowa; and WFO Sioux Falls, 11 counties in northwestern Iowa. WFO Quad Cities also will serve 13 counties in northwestern Illinois.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DES MOINES, IA (WSFO to WFO)	***FY93***[2]	88D FY95 AWIPS*		***FY93***[2] FY95	FY94[1]	***FY93***[2]			
•Residual WSO Des Moines, IA[2]		ASOS FY94	FY95			FY95	FY95	FY95	*
•WSO Waterloo, IA		ASOS FY94	FY96	FY95		FY95	FY95	*	*

1. Meteorologist positions for operation of the WSR-88D filled; training begun.

2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation functions retained at original WSFO location and office redesignated a residual WSO.

STATE OF IOWA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
QUAD CITIES, IA (WSO to WFO)	FY94[2,3]	88D FY95 AWIPS*		FY94[2] FY95	FY94[1]	FY94[2]			
•Residual WSO Moline, IL[2]		ASOS FY94	FY95			FY95	FY95	FY96	*
•WSO Dubuque, IA		ASOS FY94		FY95		FY95	FY95	*	*
•WSO Peoria, IL[3]		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Rockford, IL		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Waterloo, IA		ASOS FY94	FY96	FY95		FY95	FY95	*	*

1. Meteorologist positions for operation of the WSR-88D filled; training begun.
2. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Surface and radar observation functions retained at original WSO location and office redesignated a residual WSO.
3. Upper air function will transfer from WSO Peoria, Illinois, to the site of WFO Quad Cities in FY 1994.

STATE OF IOWA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
LA CROSSE, WI (New WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSO Dubuque, IA		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Waterloo, IA		ASOS FY94	FY96	FY96		FY95	FY95	*	*
MILWAUKEE, WI (WSFO to WFO)	***FY90***	88D FY95 AWIPS *		FY95	FY94				
•WSO Dubuque, IA		ASOS FY94		FY95		FY95	FY95	*	*
OMAHA, NE (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Sioux City, IA		ASOS FY94		FY95		FY95	FY95	FY95	*
SIOUX FALLS, SD (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	FY94				
•WSO Sioux City, IA		ASOS FY94		FY95		FY95	FY95	FY95	*

STATE OF KANSAS (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Kansas will be provided by four in-state WFOs—Dodge City, Goodland, Topeka and Wichita—and by WFOs Hastings, Nebraska; and Kansas City/Pleasant Hills and Springfield, Missouri. WFO Hastings will serve six counties in north central Kansas; WFO Kansas City/Pleasant Hill, seven counties in eastern Kansas; and WFO Springfield, three counties in southeastern Kansas. WFO Goodland also will serve three counties in Colorado and three counties in south central Nebraska.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DODGE CITY, KS (WSO to WFO)	***FY91***[1]	88D FY94 ***ASOS FY92*** AWIPS FY96		FY94	***FY91***				
•WSMO Garden City, KS			FY94			FY94			
GOODLAND, KS (WSO to WFO)	***FY90***	88D FY94 ***ASOS FY92*** AWIPS FY96	FY95	FY94	***FY93***				
•WSO Colorado Springs, CO		***ASOS FY93***		FY94		FY95	FY95	FY95	*

1. Upper air function was transferred with WSO Dodge City to the site of WFO Dodge City in FY 1991.

STATE OF KANSAS (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TOPEKA, KS (WSFO to WFO)	***FY90***[1]	88D FY95 ***ASOS FY93*** AWIPS FY96	FY95	FY94	FY94				
•WSO Concordia, KS		***ASOS FY92***	FY95	FY94		FY95	FY95	FY95	*
WICHITA, KS (WSO to WFO)	***FY92***	88D FY94 ***ASOS FY93*** AWIPS FY96	FY94[2]	FY94	***FY92***				
•WSO Concordia, KS		***ASOS FY92***	FY95	FY94		FY95	FY95	FY95	*
WFOs Out of State:									
KANSAS CITY/PLEASANT HILL, MO (WSO to WFO)	***FY93***	88D FY94 AWIPS FY96		FY94	***FY93***				

1. Current office building modified to accommodate WFO Topeka operations. Upper air remains in place.

2. Current radar was placed in stand by upon delivery of the WSR-88D to avoid interference with the 88D's pre-commissioning operations. Backup sites are providing radar observations until the commissioning of the WSR-88D.

STATE OF KANSAS (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
HASTINGS, NE (New WFO)	***FY93***	88D FY95 AWIPS *		FY94	FY94				
•WSO Concordia, KS		***ASOS FY92***	FY95	FY94		FY95	FY95	FY95	*
SPRINGFIELD, MO (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS *		FY95	FY94				

STATE OF KENTUCKY (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Kentucky will be provided by two in-state WFOs—Louisville and Paducah—and WFOs in Charleston, West Virginia; Cincinnati, Ohio; and Knoxville/Tri-Cities, Tennessee. WFO Charleston will serve seven counties in eastern Kentucky; and WFO Cincinnati, 12 counties in northern Kentucky. WFO Paducah also will serve 11 counties in southeastern Missouri, 18 counties in southern Illinois and six counties in southern Indiana; and WFO Louisville, 10 counties in southern Indiana. By law, WSO Jackson, Kentucky, will remain unchanged by modernization and will continue to provide services for 17 counties in eastern Kentucky. An ASOS, however, will be commissioned in FY 1994 at Jackson.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
LOUISVILLE, KY (WSFO to WFO)	***FY93***[2]	88D FY95 AWIPS*		***FY93***[2] FY94	*FY 94*[1]	***FY93***[2]			
•Residual WSO Louisville, KY[2]		ASOS FY94	FY94			FY94	FY95	FY94	*
•WSO Lexington, KY		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSO Evansville, IN		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*

1. Meteorologist positions for operation of the WSR-88D filled; training begun.

2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF KENTUCKY (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PADUCAH, KY (WSO to WFO)[1]	FY95	88D FY95 ASOS FY94 AWIPS*	FY96	FY94	FY94				
•WSO Evansville, IN		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
WFOs Out of State:									
CHARLESTON, WV (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
CINCINNATI, OH (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Lexington, KY		ASOS FY94		FY95		FY95	FY95	FY95	*

1. Upper air function will transfer from WSO Paducah to the site of WFO Central Illinois in FY 1995.

STATE OF LOUISIANA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994-1996

Modernized weather services in Louisiana will be provided by three in-state WFOs—Lake Charles, New Orleans/Baton Rouge and Shreveport. WFO Jackson, Mississippi, will serve nine counties in eastern Louisiana. WFO Lake Charles also will serve six counties in southeastern Texas; WFO New Orleans/Baton Rouge, eight counties in southern Mississippi; and WFO Shreveport, nine counties in southwestern Arkansas, 21 counties in northeastern Texas, and one county in southeastern Oklahoma.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
LAKE CHARLES, LA (WSO to WFO)	FY96[1]	88D FY94 ASOS FY94 AWIPS*	FY95[2]	FY95	FY94				
•WSO Port Arthur, TX		ASOS FY94		FY95		FY95	FY95	FY95	*
•WSO Baton Rouge, LA		***ASOS FY93***	FY95	FY95		FY95	FY95	FY95	*

1. WSO Lake Charles becomes WFO Lake Charles at its current location. Upper air function remains in place.
2. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF LOUISIANA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NEW ORLEANS/BATON ROUGE, LA (WSFO to WFO)	FY94[2,3]	88D FY94 AWIPS*		FY94[2] FY95	FY94[1]	FY94[2]			
•Residual WSO New Orleans, LA[2]			FY95			FY95		FY95	*
•WSO Baton Rouge, LA		***ASOS FY93***	FY95	FY95		FY95	FY95	FY95	*
•WSCMO New Orleans, LA[3]		ASOS FY95							
NEW ORLEANS/ BATON ROUGE, LA Lower Mississippi RFC	FY94	NPUP FY94 AWIPS*			FY94				

1. Meteorologists positions for WSR-88D operation filled; training begun.
2. Forecast and warning service of the transitioning WSFO transferred to facility of future WFO. Radar observation function retained at original WSFO location and office redesignated a residual WSO.
3. Upper air function will be transferred from WSCMO New Orleans to the site of WFO New Orleans/Baton Rouge in FY 1994.

STATE OF LOUISIANA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SHREVEPORT, LA (WSO to WFO)	FY95[1]	88D FY96 ASOS FY94 AWIPS*	FY96	FY94	FY95				
•WSO Port Arthur, TX		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSMO Longview, TX[1]			FY96			FY96			
WFOs Out of State:									
JACKSON, MS (WSFO to WFO)	***FY93***	88D FY94 ***ASOS FY93*** AWIPS*	FY95[2]	FY94	***FY93***				
•WSO Baton Rouge, LA		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*

1. Upper air function will transfer from WSMO Longview to the site of WFO Shreveport in FY 1994.

2. Current radar was dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF MAINE (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Maine will be provided by one in-state WFO—Portland, which also will serve eight counties in New Hampshire.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
PORTLAND, ME (WSFO to WFO)	FY94[2,3]	88D FY95 88D *[4] AWIPS*		FY94[2] FY95	***FY93[1]***	FY94[2]			
•Residual WSO Portland, ME[2]		ASOS FY94	FY95			FY95	FY95	FY95	*
•WSO Caribou, ME[5]		ASOS FY94		FY95		FY95	FY95	*[6]	*
•WSO Concord, NH		ASOS FY94		FY95		FY95	FY95	FY96	*

1. Meteorologist positions for operation of the WSR-88D filled; training completed.

2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.
3. Upper air function will be transferred to the site of WFO Portland in FY 1995.
4. This WSR-88D, located in Aroostook County, ME, also will be operated by the Portland WFO.
5. Upper air function at WSO Caribou will be contracted upon closure of the WSO.
6. Consolidation is dependent upon commissioning of Houlton WSR-88D.

STATE OF MAINE (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
None									

STATE OF MARYLAND (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Maryland will be provided by WFOs Baltimore, MD/Washington, DC; Norfolk/Richmond, Virginia; and Philadelphia and Pittsburgh, Pennsylvania. WFO Baltimore, MD/Washington, DC, will serve 13 counties in central Maryland; WFO Norfolk/Richmond, four counties in eastern Maryland; WFO Philadelphia will serve five counties on the Eastern Shore of Maryland; and WFO Pittsburgh, one county in western Maryland.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	***FY 90***	88D FY94 AWIPS*		FY94	***FY 91***				
•WSO Baltimore, MD		ASOS FY94		FY94		FY95	FY95	FY96	*
•WSMO Patuxent River, MD			FY95			FY95			
MOREHEAD CITY, NC (New WFO)	*FY 94*	88D FY95 AWIPS *		FY95	***FY 93***				
•WSMO Patuxent River, MD			FY96			FY96			

STATE OF MARYLAND (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NORFOLK/RICHMOND, VA (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Baltimore, MD		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSMO Patuxent River, MD			FY95			FY95			
PHILADELPHIA, PA (WSFO to WFO)	***FY93***	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Baltimore, MD		ASOS FY94		FY95		FY95	FY95	FY96	*

STATE OF MASSACHUSETTS (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Massachusetts will be provided by one in-state WFO—Boston—and by WFO Albany, New York. Albany will serve one county in western Massachusetts. WFO Boston also will serve two counties in southern New Hampshire, three in Connecticut, and five in Rhode Island.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated with an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BOSTON, MA (WSFO to WFO)	***FY94***[2]	88D FY94 AWIPS*		***FY94***[2] FY94	***FY93***[1]	***FY94***[2]			
•Residual WSO Boston, MA[2]		ASOS FY94				FY95	FY95		*
•WSO Concord, NH		ASOS FY94		FY94		FY95	FY95	FY96	*
•WSO Hartford, CT		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*
•WSO Providence, RI		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSO Worcester, MA		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*
•WSMO Chatham, MA[3]			FY95	FY94		FY96			

1. Meteorologists positions for WSR-88D operation filled; training begun.

2. Forecast and warning service of the transitioning WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.

3. Upper air function at WSMO Chatham will be contracted out after decommissioning the WSR-74S at Chatham. Office will be redesignated a WSCMO.

STATE OF MASSACHUSETTS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
BOSTON, MA Northeast RFC	***FY93***	NPUP FY94 AWIPS*			FY94				
WFOs Out of State:									
ALBANY, NY (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	***FY93***				

STATE OF MICHIGAN (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Michigan will be provided by four in-state WFOs—North Central Lower Michigan; Detroit; Grand Rapids; and Marquette. WFO Grand Rapids also will serve four counties in Indiana and two in Ohio.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated with an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DETROIT, MI (WSFO to WFO)	***FY93***[1]	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Detroit, MI		ASOS FY94	FY95	FY94		FY94	FY95	FY95	*
•WSO Flint, MI[1]		ASOS FY94		FY94		FY94	FY95	FY95	*
GRAND RAPIDS, MI (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*		FY95	FY95				
•WSO Fort Wayne, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Houghton Lake, MI		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO Lansing, MI		ASOS FY94		FY96		FY95	FY95	FY96	*
•WSO Muskegon, MI		ASOS FY94	FY96	FY96		FY95	FY95	*	*

1. Upper air function was transferred from WSO Flint to the site of WFO Detroit in FY 1993.

STATE OF MICHIGAN (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GRAND RAPIDS, MI (cont.)									
•WSO South Bend, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
MARQUETTE, MI (WSO to WFO)	FY95[1]	88D FY96 AWIPS*	FY96	FY96	FY95				
•WSO Sault Ste. Marie, MI				FY96		*		*	*
NORTH CENTRAL LOWER MICHIGAN, MI (New WFO)	FY95[1]	88D FY96 AWIPS*		FY96	FY95				
•WSO Alpena, MI		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO Houghton Lake, MI		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO Muskegon, MI		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO Sault Ste. Marie, MI[1]				FY96		*		*	*
WFOs Out of State:									
NONE									

1. Upper air function will transfer from WSO Sault Ste. Marie to the site of WFO North Central Lower Michigan in FY 1995.

STATE OF MINNESOTA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Minnesota will be provided by two in-state WFOs—Duluth and Minneapolis, and WFOs Aberdeen, SD; Eastern North Dakota; La Crosse, Wisconsin; and Sioux Falls, South Dakota. WFO Aberdeen will serve two counties in western Minnesota; WFO Eastern North Dakota, 18 counties in western Minnesota; WFO La Crosse, seven counties in southeastern Minnesota; and WFO Sioux Falls, eight counties in southwestern Minnesota. WFO Duluth also will serve eight counties in northwestern Wisconsin; and WFO Minneapolis, nine counties in western Wisconsin.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decommis-sionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DULUTH, MN (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*	FY96	FY95	FY95				
•WSO International Falls, MN[1]		ASOS FY94		FY95		FY95	FY95	*	*

1. Upper air function at WSO International Falls will be contracted at this location upon closure of the WSO.

STATE OF MINNESOTA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MINNEAPOLIS, MN (WSFO to WFO)	FY95[1,3]	88D FY95 AWIPS*		FY94[3] FY95	FY94[2]	FY94[3]			
•Residual WSO Minneapolis, MN[1,3]		ASOS FY95	FY95			FY96	FY96	FY96	*
•WSO Fargo, ND		ASOS FY94	FY96	FY95		FY95	FY95	*	*
•WSO Rochester, MN		ASOS FY94	FY96	FY95		FY95	FY95	*	*
•WSO St. Cloud, MN[4]		ASOS FY94		FY95		FY95	FY95	FY96	*
MINNEAPOLIS, MN North Central RFC	FY95	NPUP FY95 AWIPS*			FY94				

1. Upper air function will transfer from WSO St. Cloud to the site of WFO Minneapolis in FY 1994.
2. Meteorologist positions for operation of the WSR-88D filled; training begun.
3. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.
4. Upper air function will transfer from WSO St. Cloud to the site of WFO Minneapolis in FY 1994.

STATE OF MINNESOTA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
ABERDEEN, SD (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS*		FY95	FY94				
•WSO St. Cloud, MN		ASOS FY94		FY95		FY95	FY95	FY96	*
EASTERN NORTH DAKOTA (New WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSO International Falls, MN		ASOS FY94		FY96		FY95	FY95	*	*
LA CROSSE, WI (New WFO)		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Rochester, MN		ASOS FY94	FY96	FY96		FY95	FY95	*	*
SIOUX FALLS, SD (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS *	FY95	FY95	FY94				

STATE OF MISSISSIPPI (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Mississippi will be provided by one in-state WFO—Jackson—and WFOs Memphis, Tennessee; Mobile, Alabama; and New Orleans/Baton Rouge, Louisiana. WFO Memphis will serve 24 counties in northern Mississippi; WFO Mobile, five counties in southeastern Mississippi; and WFO New Orleans/Baton Rouge, eight counties in southern Mississippi. WFO Jackson also will serve nine counties in eastern Louisiana and two in Arkansas.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
JACKSON, MS (WSFO to WFO)	***FY93***[1]	88D FY94 ***ASOS FY93*** AWIPS*	FY95[2]	FY94	***FY93***				
•WSO Baton Rouge, LA		***ASOS FY93***	FY95	FY94		FY96	FY95	FY95	*
•WSO Meridian, MS		ASOS FY95	FY95	FY94		FY96	FY96	FY96	*
•WSO Tupelo, MS		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*
•WSO Vicksburg, MS[3]									

1. Upper air function remains at its current location which is collocated with the site of WFO Jackson.

2. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

3. WSO Vicksburg is a one person office collocated at and supporting, on a reimbursable basis, a Corp of Engineers office (COE). Office will close if and when COE no longer needs support.

STATE OF MISSISSIPPI (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
BIRMINGHAM, AL (WSFO to WFO)	FY94	88D FY95 APUP FY95 AWIPS *		FY95	FY94				
•WSO Meridian, MS		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
MEMPHIS, TN (WSFO to WFO)	***FY93***	88D FY94 AWIPS*	FY95	FY94	***FY93***				
•WSO Tupelo, MS		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*
MOBILE, AL (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS*	FY95[1]	FY95	FY94				
•WSO Meridian, MS		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
NEW ORLEANS/BATON ROUGE, LA (WSFO to WFO)	FY94	88D FY94 AWIPS*		FY94	FY94				

1. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF MISSOURI (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Missouri will be provided by three in-state WFOs—Kansas City/Pleasant Hill, Springfield and St. Louis—and by WFOs Paducah, Kentucky, and Memphis, Tennessee. WFO Paducah will serve 11 counties in southeastern Missouri; and WFO Memphis, two counties in southeastern Missouri. WFO St. Louis also will serve 17 counties in southwestern Illinois; WFO Kansas City/Pleasant Hill, seven counties in eastern Kansas; and WFO Springfield, three counties in southeastern Kansas.

Shown below are notifiable actions scheduled to occur for fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
KANSAS CITY/ PLEASANT HILL, MO (WSO to WFO)	***FY94***[2]	88D FY94 AWIPS FY96		***FY94***[2] FY94	***FY91***[1]	***FY94***[2]			
•Residual WSO Kansas City, MO[2]		ASOS FY94	FY95			FY95	FY95	FY95	*
•WSO Columbia, MO		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
KANSAS CITY/PLEASANT HILL, MO Missouri Basin RFC	***FY92***	NPUP FY94 AWIPS FY96			***FY93***				

1. Meteorologist positions for operation of the WSR-88D filled; training begun.
2. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Radar observation function retained at original WSO location and office redesignated a residual WSO.

STATE OF MISSOURI (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SPRINGFIELD, MO (WSO to WFO)	FY94[1]	88D FY95 ASOS FY94 AWIPS*		FY95	FY94				
•WSO Columbia, MO		ASOS FY94	FY96	FY95		FY96	FY95	FY96	*
•WSMO Monett, MO[1]			FY96			FY96			
ST. LOUIS, MO (WSFO to WFO)	***FY90***[3]	88D FY94 AWIPS*		***FY90***[3] FY94	***FY92***[2]	***FY90***[3]			
•Residual WSO St. Louis, MO[2]			FY95			FY95		FY95	*
•WSO Columbia, MO		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
•WSO Springfield, IL		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
•WSCMO St. Louis, MO		ASOS FY94							
WFOs Out of State:									
PADUCAH, KY (WSO to WFO)	FY95	88D FY95 ASOS FY94 AWIPS*	FY96	FY95	FY94				

1. Upper air function will transfer from WSMO Monett to the site of WFO Springfield in FY 1994.

2. Meteorologist positions for operation of the WSR-88D filled; training completed FY92.

3. Forecast and warning services of WSFO transferred to facility of future WFO. Radar observation function retained at original WSFO site and office redesignated a residual WSO.

STATE OF MONTANA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Montana will be provided by four in-state WFOs—Billings, Glasgow, Great Falls and Missoula. WFO Billings will serve one county in north central Wyoming; and WFO Missoula, four counties in northeastern Idaho.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BILLINGS, MT (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*	*	FY96	FY95				
•WSO Sheridan, WY		ASOS FY94		FY96		FY95	FY95	*	*
GLASGOW, MT (WSO to WFO)	FY95[1]	88D FY96 ASOS FY94 AWIPS*		FY96	FY95				

1. Upper air function will transfer with WSO Glasgow to the site of WFO Glasgow in FY 1995.

STATE OF MONTANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GREAT FALLS, MT (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Havre, MT		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Helena, MT		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSCMO Great Falls, MT[2]		ASOS FY94							
MISSOULA, MT (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS*	FY95[1]	FY95	FY94				
•WSO Helena, MT		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Kalispell, MT		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Lewiston, ID		ASOS FY94		FY95		FY95	FY95	*	*
WFOs Out of State:									
NONE									

1. Current radar was dismantled to clear the area for the 88D's construction. Radar observation responsibility was transferred to the appropriate backup sites. Back up will continue until the commissioning of the WSR-88D.

2. Upper air function will remain at WSCMO Great Falls.

STATE OF NEBRASKA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Nebraska will be provided by three in-state WFOs Hastings, North Platte and Omaha—and by WFOs Goodland, Kansas, and Cheyenne, Wyoming. WFO Goodland will serve three counties in south central Nebraska; WFO Cheyenne, eight counties in western Nebraska. WFO Omaha also will serve eight counties in southwestern Iowa, and WFO Hastings, six counties in north central Kansas.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
HASTINGS, NE (New WFO)	***FY93***	88D FY95 AWIPS*		FY94	FY94				
•WSO Concordia, KS		***ASOS FY92***	FY95	FY94		FY95	FY95	FY95	*
•WSO Grand Island, NE		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*
NORTH PLATTE, NE (WSO to WFO)	FY95[1]	FY96 ASOS FY95 AWIPS*	FY96	FY96	FY95				
•WSO Norfolk, NE		ASOS FY94	FY96	FY96		FY95	FY95	FY96	*
•WSO Scottsbluff, NE		ASOS FY94		FY96		FY95	FY95	FY96	*

1. Upper air function will transfer with WSO North Platte to the site of WFO North Platte in FY 1995.

STATE OF NEBRASKA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NORTH PLATTE, NE (cont.)									
•WSO Valentine, NE		ASOS FY94		FY96		FY95	FY95	FY96	*
•WSMO Alliance, NE			FY96			FY96			
OMAHA, NE (WSFO to WFO)	FY94[1,3]	88D FY95 AWIPS*		FY94[3] FY95	FY94[2]	FY94[3]			
•Residual WSO Omaha, NE[3]			FY95			FY95		FY95	*
•WSO Lincoln, NE		***ASOS FY93***		FY95		FY95	FY95	FY95	*
•WSO Norfolk, NE		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Sioux City, IA		ASOS FY94		FY95		FY95	FY95	FY95	*

1. Upper air function will transfer with WSO Omaha to the site of WFO Omaha in FY 1994.
2. Meteorologist positions for operation of the WSR-88D filled; training begun.
3. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Radar observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF NEBRASKA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
RAPID CITY, SD (WSO to WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSMO Alliance, NE			FY96			FY96			
CHEYENNE, WY (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	FY94				
•WSO Scottsbluff, NE		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSMO Alliance, NE			FY96			FY96			

STATE OF NEVADA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Nevada will be provided by three in-state WFOs—Elko, Las Vegas and Reno. WFO Las Vegas also will serve two counties in southern California and one county in northwestern Arizona; and WFO Reno, eight counties in northeastern California.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ELKO, NV (WSO to WFO)	FY95[1]	88D FY96 AWIPS*		FY96	FY95				
•WSO Ely, NV[1]		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Winnemucca, NV[2]		ASOS FY94		FY96		FY95	FY95	*	*
LAS VEGAS, NV (New WFO)[3,4,5]	FY95	88D FY95 AWIPS*		FY95	FY95				
•WSO Las Vegas, NV		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*

1. Upper air function will transfer from WSO Ely to the site of WFO Elko in FY 1995.
2. Upper air function will transfer from WSO Winnemucca to the site of WFO Reno in FY 1995.
3. An ASOS also will be commissioned at unstaffed sites at Kingman Airport, Kingman, Arizona, and Bishop Airport, Bishop, California, in the administrative area of WFO Las Vegas. These commissionings are anticipated to occur in FY 1995 and FY 1994 respectively.
4. An ASOS will be commissioned FY 1994 at Dessert Rock Airport, Mercury, Nevada, in the administrative area of WFO Las Vegas. This site supports DOE's Nuclear Support Office.
5. An upper air facility will continue to be maintained at Dessert Rock Airport in support of DOE's Nuclear Support Office.

STATE OF NEVADA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
LAS VEGAS (cont.)									
•WSO Palmdale, CA				FY95		*		*	*
•WSO Riverside (AG & FW), CA				*[1]		*		*[1]	*
RENO, NV (WSFO to WFO)	FY94[2,4]	88D FY95 AWIPS*		FY94[4] FY95	FY94[3]	FY94[4]			
•Residual WSO Reno, NV[4]		ASOS FY94				FY95	FY95		*
•WSO Redding (FW), CA		ASOS FY95		FY95		FY96	FY96	*	*
•WSO Winnemucca, NV[2]		ASOS FY94		FY95		FY95	FY95	*	*
WFOs Out of State:									
NONE									

1. Service will be transferred upon the commissioning of an AWIPS at WFO Las Vegas.
2. Upper air function will transfer from WSO Winnemucca to the site of WFO Reno in FY 1995.
3. Meteorologist positions for operation of the WSR-88D filled; training begun.
4. Forecast and warning service of the transitioning WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF NEW HAMPSHIRE (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in New Hampshire will be provided by WFOs Portland, Maine, and Boston, Massachussetts. WFO Boston will serve two counties in southern New Hampshire; and WFO Portland, eight counties in New Hampshire.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

	CHANGE OF OPERATIONS						CERTIFICATIONS		
OFFICES	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs in-State:									
NONE									
WFOs Out of State:									
BOSTON, MA (WSFO to WFO)	***FY94***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Concord, NH		ASOS FY94		FY94		FY95	FY95	FY96	*
PORTLAND, ME (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Concord, NH		ASOS FY94		FY95		FY95	FY95	FY96	*

STATE OF NEW JERSEY (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in New Jersey will be provided by WFOs New York City, New York, and Philadelphia, Pennsylvania. WFO New York City will serve five counties in northern New Jersey; and WFO Philadelphia, 16 counties in southern New Jersey.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

	CHANGE OF OPERATIONS						CERTIFICATIONS		
OFFICES	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
NEW YORK CITY, NY [1] (WSFO to WFO)	***FY94***[2]	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Newark, NJ		ASOS FY95				FY95	FY95		*
PHILADELPHIA, PA (WSFO to WFO)	***FY93***	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Atlantic City, NJ[2]		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*

1. An ASOS also will be commissioned at an unstaffed site at Teterboro Airport, Teterboro, New Jersey, in the administrative area of WFO New York. This commissioning is anticipated to occur in FY 1995.
2. Upper air function will transfer from WSO Atlantic City to the site of WFO New York City in FY 1994.

STATE OF NEW MEXICO (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in New Mexico will be provided by one in-state WFO—Albuquerque—and WFOs El Paso, Texas and Midland/Odessa, Texas. WFO El Paso will serve six counties in southern New Mexico; and WFO Midland, two counties in eastern New Mexico.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ALBUQUERQUE, NM[1] (WSFO to WFO)	FY94[2]	88D FY95 APUP FY95[3] ASOS FY95 AWIPS*		FY95	FY94				
•WSO Roswell, NM		ASOS FY95		FY95[4]					*

1. An ASOS also will be commissioned at unstaffed sites at Clayton Memorial Airpark, Clayton, New Mexico, and Truth or Consequences Airport, Truth or Consequences, New Mexico, in the administrative area of WFO Albuquerque. These commissionings are anticipated to occur in FY 1995.
2. Upper air function will transfer with WSFO Albuquerque to the site of WFO Albuquerque in FY 1994.
3. Albuquerque also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Cannon AFB.
4. Service transfer to occur when APUP associated with Cannon AFB WSR-88D is commissioned. APUP commissioning assumes a commissioned DOD radar.

STATE OF NEW MEXICO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
EL PASO, TX (WSO to WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
MIDLAND/ODESSA, TX (WSO to WFO)	FY95	88D FY95 ASOS FY95 AWIPS*	FY96[1]	FY95	FY94				

1. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF NEW YORK (Page 1 of 4)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in New York will be provided by four in-state WFOs—Albany, Binghamton, Buffalo and New York. WFO Burlington, Vermont, will serve four counties in northeastern New York. WFO Albany also will serve two counties in southern Vermont, one in Connecticut and one in Massachusetts; WFO Binghamton, seven counties in northeastern Pennsylvania; and WFO New York City, four counties in southern Connecticut and five in northern New Jersey.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ALBANY, NY (WSFO to WFO)	FY94[1,3]	88D FY95 AWIPS*		FY94[3] FY95	***FY93***[2]	FY94[3]			
•Residual WSO Albany[1,3]		ASOS FY94	FY95			FY95	FY95	FY95	*
•WSO Hartford, CT		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*

1. Upper air function will transfer to the site of WFO Albany in FY95.
2. Meteorologist positions for operation of the WSR-88D filled; training begun.
3. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF NEW YORK (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
BINGHAMTON, NY (WSO to WFO)	***FY93***	88D FY94 ASOS FY94 AWIPS*	FY95[1]	FY94	***FY93***				
•WSO Allentown, PA		ASOS FY95		FY94		FY96	FY96	FY96	*
•WSO Rochester, NY		ASOS FY94		FY94		FY95	FY95	*	*
•WSO Syracuse, NY		***ASOS FY94***		FY94		FY95	FY95	*	*
•WSO Wilkes-Barre, PA		ASOS FY94		FY94		FY95	FY95	FY96	*
•WSO Williamsport, PA		ASOS FY94		FY94		FY95	FY95	FY96	*
BUFFALO, NY (WSFO to WFO)	FY95[2]	88D FY96 AWIPS*	FY96	FY96	FY94				
•WSO Rochester, NY		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Syracuse, NY		***ASOS FY94***		FY96		FY95	FY95	*	*
•WSCMO Buffalo, NY[2]		ASOS FY94							

1. Current radar was placed on standby in order to avoid interference with the replacing WSR-88D's operations during its acceptance and commissioning. Radar observation responsibility was transferred to appropriate backup sites and will remain at these sites until the commissioning of the WSR-88D.

2. Upper air function will transfer from WSCMO Buffalo to the site of WFO Buffalo in FY 1995.

STATE OF NEW YORK (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NEW YORK CITY, NY [1] (WSFO to WFO)	***FY94***[3,4]	88D FY94 AWIPS*		***FY94***[3] FY94	***FY93***[2]	***FY94***[3]			
•Residual WSO New York[3]			FY95			FY95		FY95	*
•WSO Bridgeport, CT		ASOS FY95		FY94		FY95	FY96	FY95	*
•WSO Hartford, CT		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*
•WSO Newark, NJ		ASOS FY95				FY95	FY95		*
•WSCMO New York/Kennedy		ASOS FY95							
•WSCMO New York/Laguardia		ASOS FY95							

1. An ASOS also will be commissioned at an unstaffed site at Teterboro Airport, Teterboro, New Jersey, in the administrative area of WFO New York. This commissioning is anticipated to occur in FY 1995.

2. Meteorologist positions for WSR-88D operation filled; training begun.

3. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Radar observation function retained at original WSFO location and office redesignated a residual WSO.

4. Upper air function will transfer from WSO Atlantic City to the site of WFO New York City in FY 1994.

STATE OF NEW YORK (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
BURLINGTON, VT (WSO to WFO)	FY96	88D FY96 ASOS FY94 AWIPS*	*[1]	FY96	FY95				
•WSO Syracuse, NY		***ASOS FY94***		FY96		FY95	FY95	*	*

1. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF NORTH CAROLINA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in North Carolina will be provided by three in-state WFOs—Morehead City, Raleigh/Durham and Wilmington, and WFOs Greenville/Spartanburg, South Carolina; Knoxville/Tri-Cities, Tennessee; and Norfolk/Richmond and Roanoke, Virginia. WFO Greenville/Spartanburg will serve 28 counties in southwestern North Carolina; WFO Knoxville/Tri-Cities, two counties in western North Carolina; WFO Norfolk/Richmond, nine counties in northeastern North Carolina; and WFO Roanoke, nine counties in northwestern North Carolina. WFO Wilmington also will serve eight counties in northeastern South Carolina.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
MOREHEAD CITY, NC[1] (New WFO)	*FY 94*[2]	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Cape Hatteras, NC[2]			FY95	FY95		FY95		FY95	*
•WSMO Patuxent River, MD			FY96			FY96			

1. An ASOS also will be commissioned at an unstaffed site at Mitchell Field, Cape Hatteras, North Carolina, in the administrative area of WFO Morehead City. This commissioning is scheduled to occur in FY 1995.
2. Upper air function will transfer from WSO Cape Hatteras to the site of WFO Morehead City in FY 1994.

STATE OF NORTH CAROLINA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
RALEIGH/DURHAM, NC (WSFO to WFO)	*FY 94*[1,3]	88D FY95 AWIPS*		FY94[3] FY95	FY94[2]	FY94[3]			
•Residual WSO Raleigh, NC[3]		ASOS FY94	FY95			FY95	FY95	FY95	*
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Charlotte, NC		ASOS FY95	FY95	FY95		FY95	FY95	FY95	*
•WSO Greensboro, NC[1]		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSMO Volens, VA			FY96			FY96			
WILMINGTON, NC (WSO to WFO)	FY94	88D FY95 ASOS FY95 AWIPS*	FY95	FY95	FY94				

1. Upper air function will transfer from WSO Greensboro to the site of WFO Raleigh/Durham in FY1995.
2. Meteorologist positions for WSR-88D operation filled; training begun.
3. Forecast and warning services of transitioning WSFO were transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF NORTH CAROLINA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
GREENVILLE/SPARTANBURG, SC (WSO TO WFO)	FY95	88D FY95 ASOS FY95 AWIPS*		FY95	FY94				
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Charlotte, NC		ASOS FY95	FY95	FY95		FY95	FY95	FY95	*
•WSO Greensboro, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
KNOXVILLE/TRI-CITIES, TN (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
NORFOLK/RICHMOND, VA (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Cape Hatteras, NC			FY95	FY95		FY95		FY95	*
ROANOKE, VA (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Greensboro, NC		ASOS FY95		FY95		FY96	FY96	FY96	*

STATE OF NORTH DAKOTA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in North Dakota will be provided by two in-state WFOs—Bismarck and Eastern North Dakota. WFO Eastern North Dakota also will serve 18 counties in western Minnesota.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BISMARCK, ND (WSFO to WFO)	FY94[1]	88D FY95 APUP FY95[2] ASOS FY94 AWIPS*	FY96	FY95	FY94				
•WSO Fargo, ND		ASOS FY94	FY96	FY95		FY95	FY95	*	*
•WSO Williston, ND		ASOS FY94	*	FY95		FY95	FY95	*	*
EASTERN NORTH DAKOTA (New WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSO Fargo, ND		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO International Falls, MN		ASOS FY94		FY96		FY95	FY95	*	*

1. Upper air function will transfer with WSFO Bismarck to the site of WFO Bismarck in FY 1994.
2. WFO Bismarck also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D located at Minot AFB.

STATE OF NORTH DAKOTA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
ABERDEEN, SD (WSO to WFO)	FY94	88D FY95 ASOS FY94 AWIPS *		FY95	FY94				
•WSO Fargo, ND		ASOS FY94	FY96	FY95		FY95	FY95	*	*
MINNEAPOLIS, MN (WSFO to WFO)	FY95	88D FY95 AWIPS *		FY95	FY94				
•WSO Fargo, ND		ASOS FY94	FY96	FY95		FY95	FY95	*	*

STATE OF OHIO (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Ohio will be provided by two in-state WFOs—Cincinnati and Cleveland—and WFOs Charleston, West Virginia; Grand Rapids, Michigan; and Pittsburgh, Pennsylvania. WFO Charleston will serve nine counties in southeastern Ohio; WFO Grand Rapids, two counties in northern Ohio; and WFO Pittsburgh, 11 counties in eastern Ohio. WFO Cincinnati also will serve 12 counties in northern Kentucky and eight counties in southeastern Indiana; and WFO Cleveland, two counties in northwestern Pennsylvania.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CINCINNATI, OH (New WFO)	FY94[1]	88D FY95 AWIPS*		FY95	FY94				
•WSO Cincinnati, OH		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
•WSO Columbus, OH		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Dayton, OH		ASOS FY94		FY95		FY95	FY95	FY95	*
•WSO Fort Wayne, IN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Huntington, WV		ASOS FY95		FY95		FY95	FY95	FY96	*

1. Upper air function at WSCMO Dayton will transfer to the site of WFO Cincinnati FY 1995.

STATE OF OHIO (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CINCINNATI, OH (cont.)									
•WSO Lexington, KY		ASOS FY94		FY95		FY95	FY95	FY95	*
•WSO Toledo, OH		ASOS FY94		FY95		FY95	FY95	FY95	*
•WSCMO Dayton, OH[1]									
CINCINNATI, OH Ohio RFC	FY94	NPUP FY95 AWIPS*			FY94				
CLEVELAND, OH (WSFO to WFO)	***FY93***	88D FY94 ASOS FY94 AWIPS*	FY95	FY94	***FY93***				
•WSO Akron, OH		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*
•WSO Columbus, OH		ASOS FY94	FY95	FY94		FY95	FY95	FY96	*
•WSO Erie, PA		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
•WSO Mansfield, OH		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSO Toledo, OH		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSO Youngstown, OH		ASOS FY94		FY94		FY95	FY95	FY95	*

1. Upper air function at WSCMO Dayton will transfer to the site of WFO Cincinnati in FY 1995.

STATE OF OHIO (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
CHARLESTON, WV (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Akron, OH		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Columbus, OH		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
GRAND RAPIDS, MI (WSO to WFO)	FY95	88D FY96 ASOS FY 94 AWIPS*		FY96	FY95				
INDIANAPOLIS, IN (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	***FY93***				
•WSO Cincinnati, OH		ASOS FY95	FY95	FY95		FY96	FY96	FY96	*
PITTSBURGH, PA (WSFO to WFO)	***FY93***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Akron, OH		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*
•WSO Columbus, OH		ASOS FY94	FY95	FY94		FY95	FY95	FY96	*
•WSO Youngstown, OH		ASOS FY94		FY94		FY95	FY95	FY95	*

STATE OF OKLAHOMA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Oklahoma will be provided by two in-state WFOs—Oklahoma City and Tulsa, and by WFOs Amarillo, Texas, and Shreveport, Louisiana. WFO Amarillo will serve three counties in northwestern Oklahoma; and WFO Shreveport, one county in southeastern Oklahoma. WFO Oklahoma City will serve eight counties in northern Texas; and WFO Tulsa, six counties in northwestern Arkansas.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
OKLAHOMA CITY, OK (WSFO to WFO)	***FY87***[1,3]	88D FY94 AWIPS FY96		***FY87***[3] FY94	***FY90***[2]	***FY87***[3]			
•Residual WSO Oklahoma City, OK[3]		***ASOS FY93***	FY94			FY95	FY95	FY95	*
•WSO Wichita Falls, TX		***ASOS FY93***	FY95	***FY93***[4]		FY95	FY95	FY95	*

1. Upper air function was transferred with WSFO Oklahoma City to the site of WFO Oklahoma City in FY 1989.

2. Meteorologist positions for operation of the WSR-88D filled; training completed.

3. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation function retained at original WSFO location and office redesignated a residual WSO.

4. NWS has transferred eight of eleven counties comprising the WSO Wichita Falls county warning area to the future WFO Oklahoma City, currently WSFO Norman, Oklahoma, before commissioning the WSR-88D at Norman. This is an authorized deviation from the NWS transition policy of transferring county warning responsibilities at the time of the commissioning the receiving WSR-88D. The deviation supports risk reduction activities at Norman required to evaluate the operations proposed for WFOs.

STATE OF OKLAHOMA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TULSA, OK (WSO to WFO)	***FY92***[2]	88D FY94 AWIPS FY96		***FY92***[2] FY94	***FY93***[1]	***FY92***[2]			
•Residual WSO Tulsa, OK[2]		***ASOS FY93***	FY94			FY95	FY95	FY95	*
•WSO Fort Smith, AR		ASOS FY94	FY95	FY94		FY95	FY95	FY96	*
TULSA, OK Arkansas-Red Basin RFC	***FY92***	NPUP FY94 AWIPS FY96			***FY91***				
WFOs Out of State:									
AMARILLO, TX (WSO to WFO)	***FY90***	88D FY94 ***ASOS FY93*** AWIPS FY96	FY94[3]	FY94	***FY92***				
SHREVEPORT, LA (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*	FY96	FY96	FY95				

1. Meteorologist positions for operation of WSR-88D filled; training begun.

2. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Surface and radar observation functions retained at original WSO location and office redesignated a residual WSO.

3. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF OREGON (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Oregon will be provided by three in-state WFOs—Medford, Pendleton and Portland and by WFO Boise, Idaho, which will serve three counties in eastern Oregon. WFO Medford also will serve two counties in northern California; WFO Pendleton, eight counties in southern Washington; and WFO Portland, six counties in southern Washington.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
MEDFORD, OR[1] (WSO to WFO)	FY95[2]	88D FY96 ASOS FY95 AWIPS*	FY96[3]	FY96	FY95				
•WSO Eugene, OR		ASOS FY95		FY96		FY95	FY95	*	*
•WSO Klamath Falls, OR									*
•WSO Redding (FW), CA		ASOS FY95		FY96		FY96	FY96	*	*
•WSCMO Sexton Summit, OR		***ASOS FY93***							

1. An ASOS also will be commissioned at an unstaffed, non-airport, site at Mt. Shasta, California, in the administrative area of WFO Medford. This commissioning is anticipated to occur in FY 1995.
2. Upper air function will remain at its current location which is collated with site of WFO Medford.
3. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF OREGON (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PENDLETON, OR (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*		FY96	FY95				
•WSO Lewiston, ID		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Wenatchee (AG & FW), WA				*[1]		*		*[1]	*
•WSO Yakima, WA		ASOS FY94		FY96		FY95	FY95	*	*
PORTLAND, OR (WSFO to WFO)	FY94[2,4]	88D FY96 AWIPS*		FY94[4] FY96	FY94[3]	FY94[4]			
•Residual WSO Portland, OR[4]		ASOS FY95	FY96			FY96	FY96	FY96	*
•WSO Astoria, OR		***ASOS FY93***		FY96		FY95	FY95	FY96	*
•WSO Eugene, OR		ASOS FY95		FY96		FY95	FY95	*	*
•WSO Olympia (FW), WA				FY96		FY96		FY96	*

1. Service will be transferred upon the commissioning of an AWIPS at WFO Pendleton.
2. Upper air function will be contracted at Salem location until roof launch capability is available.
3. Meteorologist positions for operation of WSR-88D filled; training begun.
4. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation functions retained at original WSFO location and office redesignated a residual WSO.

STATE OF OREGON (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PORTLAND, OR (cont.)									
•WSO Salem, OR[1]		ASOS FY95		FY96		FY96	*	FY96	*
•WSO Salem (FW), OR				FY96		FY96		FY96	*
PORTLAND, OR Northwest RFC	FY94	NPUP FY95 AWIPS*			FY94				
WFOs Out of State:									
BOISE, ID (WSFO to WFO)	***FY93***	88D FY94 ASOS FY95 AWIPS*		FY94	***FY93***				
•WSMO Burns, OR		ASOS FY94				FY95			

1. Upper air function will be contracted at WSO Salem until roof launch capability is available at WFO Portland.

STATE OF PENNSYLVANIA (Page 1 of 4)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Pennsylvania will be provided by three in-state WFOs—Central Pennsylvania, Philadelphia and Pittsburgh, and WFOs Binghamton, New York, and Cleveland, Ohio. WFO Binghamton will serve seven counties in northeastern Pennsylvania; WFO Cleveland, two counties in northwestern Pennsylvania. WFO Philadelphia also will serve 16 counties in southern New Jersey, all three counties in Delaware and five counties on the Eastern Shore of Maryland; and WFO Pittsburgh, 11 counties in eastern Ohio, nine in northern West Virginia and one in western Maryland.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

	CHANGE OF OPERATIONS						CERTIFICATIONS		
OFFICES	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CENTRAL PENNSYLVANIA (New WFO)	***FY93***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Allentown, PA		ASOS FY95		FY94		FY96	FY96	FY96	*
•WSO Erie, PA		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
•WSO Harrisburg, PA			FY95	FY94		FY96		FY96	*
•WSO Wilkes-Barre, PA		ASOS FY94		FY94		FY95	FY95	FY96	*
•WSO Williamsport, PA		ASOS FY94		FY94		FY95	FY95	FY96	*

STATE OF PENNSYLVANIA (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CENTRAL PENNSYLVANIA Middle Atlantic RFC	***FY93***	NPUP FY94 AWIPS*			***FY93***				
PHILADELPHIA, PA [1] (WSFO to WFO)	***FY93***[2]	88D FY95 AWIPS*		FY95	***FY93***				
•WSO Allentown, PA		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Atlantic City, NJ		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Baltimore, MD		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Harrisburg, PA			FY95	FY95		FY96		FY96	*
•WSO Reading, PA				FY95		FY96		FY96	*
•WSO Wilkes-Barre, PA		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Williamsport, PA		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Wilmington, DE		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSCMO Philadelphia, PA		ASOS FY95							

1. An ASOS also will be commissioned at an unstaffed site at Northeast Philadelphia Airport, Philadelphia, Pennsylvania, in the administrative area of WFO Philadelphia. This commissioning is anticipated to occur in FY 1995.

2. The entire WSFO moved, in FY 1993, to the facility of the future WFO located in the WSFO's current commuting and service areas.

STATE OF PENNSYLVANIA (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PITTSBURGH, PA (WSFO to WFO)	***FY93***[1]	88D FY94 AWIPS*	FY95[2]	FY94	***FY93***				
•WSO Akron, OH		ASOS FY94	FY95	FY94		FY95	FY95	FY95	*
•WSO Columbus, OH		ASOS FY94	FY95	FY94		FY96	FY95	FY96	*
•WSO Elkins, WV		ASOS FY95		FY94		FY95	FY95	FY96	*
•WSO Erie, PA		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*
•WSO Youngstown, OH		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSCMO Pittsburgh, PA		ASOS FY94							

1. Upper air function was transferred with WSFO Pittsburgh to the site of WFO Pittsburgh in FY 1993.

2. Current radar has been placed in standby in order to avoid interference with the replacing WSR-88D's operation during its acceptance and commissioning. Radar observation responsibility has been transferred to the appropriate backup sites and will remain with these sites until the commissioning of the WSR-88D.

STATE OF PENNSYLVANIA (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
BINGHAMTON, NY (WSO to WFO)	***FY93***	88D FY94 ASOS FY94 AWIPS*	FY95[1]	FY94	***FY93***				
•WSO Allentown, PA		ASOS FY95		FY94		FY96	FY96	FY96	*
•WSO Wilkes-Barre, PA		ASOS FY94		FY94		FY95	FY95	FY96	*
•WSO Williamsport, PA		ASOS FY94		FY94		FY95	FY95	FY96	*
CLEVELAND, OH (WSFO to WFO)	***FY93***	88D FY94 ASOS FY94 AWIPS*	FY95	FY94	***FY93***				
•WSO Erie, PA		ASOS FY94	FY96	FY94		FY95	FY95	FY96	*

1. Current radar was placed in standby in order to avoid interference with the WSR-88D's operations during its acceptance and commissioning. Radar observation responsibility was transferred to the appropriate backup sites and will remain at these sites until the commissioning of the WSR-88D.

TERRITORY OF PUERTO RICO (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Puerto Rico will be provided by a WFO in San Juan.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996.

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs in the Territory of Puerto Rico:									
SAN JUAN, PR (WSFO to WFO)	FY94[1]	APUP FY95[2] ASOS FY94 AWIPS*	FY95	FY95	FY94				

1. Upper air function remains at its current location, which is collacted with the site of WFO San Juan.
2. The WFO will use, by means of an associated PUP (APUP), an FAA WSR-88D located in the vicinity of San Juan.

STATE OF RHODE ISLAND (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Rhode Island will be provided by WFO Boston, Massachusetts.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996.

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
BOSTON, MA (WSFO to WFO)	***FY94***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Providence, RI		ASOS FY94		FY94		FY95	FY95	FY95	*

STATE OF SOUTH CAROLINA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in South Carolina will be provided by three in-state WFOs—Charleston, Columbia and Greenville/Spartanburg. WFO Wilmington, North Carolina, will serve eight counties in northeastern South Carolina. WFO Charleston also will serve 12 counties in southeastern Georgia; WFO Columbia, five counties in east central Georgia; and Greenville/Spartanburg, 28 counties in southwestern North Carolina and six in northeastern Georgia.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CHARLESTON, SC (WSO to WFO)	FY94[1]	88D FY95 ASOS FY95 AWIPS*	FY96	FY95	FY94				
•WSO Augusta, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*
•WSO Savannah, GA		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSMO Waycross, GA			FY96			FY96			
COLUMBIA, SC (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	***FY93***				
•WSO Augusta, GA		ASOS FY94	FY95	FY95		FY95	FY95	FY95	*

1. Upper air function remains in place; WFO Charleston will be located a short distance from site of WSO Charleston.

STATE OF SOUTH CAROLINA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	FY95	88D FY95 ASOS FY95 AWIPS*		FY95	FY94				
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Athens, GA		ASOS FY95	FY95	FY95		FY95	FY96	FY95	*
•WSO Charlotte, NC		ASOS FY95	FY95	FY95		FY95	FY95	FY95	*
•WSO Greensboro, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
WFOs Out of State:									
WILMINGTON, NC (WSO to WFO)	FY94	88D FY95 ASOS FY95 AWIPS*	FY95	FY95	FY94				

STATE OF SOUTH DAKOTA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in South Dakota will be provided by three in-state WFOs—Aberdeen, Rapid City and Sioux Falls. WFO Sioux Falls also will serve 11 counties in northwestern Iowa and eight counties in southwestern Minnesota; WFO Aberdeen, two counties in western Minnesota; and WFO Rapid City, three counties in eastern Wyoming.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ABERDEEN, SD (WSO to WFO)	FY94[1]	88D FY95 ASOS FY94 AWIPS*		FY95	FY94				
•WSO Fargo, ND		ASOS FY94	FY96	FY95		FY95	FY95	*	*
•WSO Huron, SD[1]		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO St. Cloud, MN		ASOS FY94		FY95		FY95	FY95	FY96	*

1. Upper air function will transfer from WSO Huron to the site of WFO Aberdeen in FY 1994.

STATE OF SOUTH DAKOTA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
RAPID CITY, SD (WSO to WFO)	FY95[2,3]	88D FY96 AWIPS*		FY95[2] FY96	FY95[1]	FY95[2]			
•Residual WSO Rapid City, SD[2,3]		ASOS FY95	FY96			FY95	FY95	*	*
•WSO Casper, WY		ASOS FY95		FY96		FY96	FY96	*	*
•WSMO Alliance, NE			FY96			FY96			
SIOUX FALLS, SD (WSFO to WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	***FY93***				
•WSO Huron, SD		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Sioux City, IA		ASOS FY94		FY95		FY95	FY95	FY95	*
WFOs Out of State:									
NONE									

1. Meteorologist positions for operation of the WSR-88D filled; training begun.
2. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Radar and surface observation functions retained at original WSO location and office redesignated a residual WSO.
3. Upper air function will transfer with WSO Rapid City to the site of WFO Rapid City in FY 1995.

STATE OF TENNESSEE (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Tennessee will be provided by three in-state WFOs—Knoxville/Tri-Cities, Memphis, and Nashville. WFO Knoxville/Tri-Cities also will serve two counties in North Carolina, and five counties in Virginia; and WFO Memphis, 24 counties in northern Mississippi, 12 counties in northeastern Arkansas and two counties in Missouri.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
KNOXVILLE/TRI-CITIES, TN (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Bristol, TN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Chattanooga, TN		ASOS FY95	FY95	FY95		FY95	FY95	FY96	*
•WSO Knoxville, TN		ASOS FY94		FY95		FY95	FY95	FY96	*

STATE OF TENNESSEE (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MEMPHIS, TN (WSFO to WFO)	***FY93***	88D FY94 APUP FY95[1] AWIPS*	FY95	FY94	***FY93***				
•WSO Tupelo, MS		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*
NASHVILLE, TN (WSO to WFO)	FY94[2]	88D FY95 AWIPS*	FY95[3]	FY95	FY94				
•WSO Chattanooga, TN		ASOS FY95	FY95	FY95		FY95	FY95	FY96	*
•WSO Knoxville, TN		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSCMO Nashville, TN		ASOS FY95							

1. WFO Memphis also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Columbus AFB.
2. Upper air function remains at its current location, which is collated with the site of WFO Nashville.
3. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF TENNESSEE (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
ATLANTA, GA (WSFO to WFO)	FY94	88D FY95 APUP FY95 AWIPS*		FY95	FY94				
•WSO Chattanooga, TN		ASOS FY95	FY95	FY95		FY95	FY95	FY96	*
CHARLESTON, WV (WSFO to WFO)	FY94	88D FY95 AWIPS *		FY95	FY94				
•WSO Bristol, TN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
ROANOKE, VA (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Bristol, TN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*

STATE OF TEXAS (Page 1 of 7)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Texas will be provided by 10 in-state WFOs—Amarillo, Austin/San Antonio, Brownsville, Corpus Christi, Dallas/Fort Worth, El Paso, Houston/Galveston, Lubbock, Midland/Odessa and San Angelo—and by WFOs Lake Charles, Louisiana; Oklahoma City, Oklahoma; and Shreveport, Louisiana. WFO Lake Charles will serve six counties in southeastern Texas; WFO Oklahoma City, eight counties in northern Texas; and WFO Shreveport, 21 counties in northeastern Texas. WFO Amarillo also will serve three counties in Oklahoma; WFO El Paso, six counties in southern New Mexico; and WFO Midland, two counties in eastern New Mexico.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
AMARILLO, TX (WSO to WFO)	***FY90***[1]	88D FY94 ***ASOS FY93*** AWIPS FY96	FY94[2]	FY94	***FY92***				

1. Upper air function will remain at its current site, which is collocated with the site of WFO Amarillo.

2. Current radar was dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility was transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF TEXAS (Page 2 of 7)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
AUSTIN/SAN ANTONIO, TX (WSFO to WFO)	FY94[2]	88D FY95 APUP FY95[3] AWIPS*		FY94[2] FY95	FY94[1]	FY94[2]			
•Residual WSO San Antonio, TX[2]		ASOS FY95				FY95	FY95		*
•WSO Austin, TX		ASOS FY95	FY95	FY95		FY95	FY95	FY95	*
•WSO Del Rio, TX[4]		ASOS FY95		FY95[5]		FY95	FY95	FY96	*
•WSO Victoria, TX		ASOS FY94	*	FY95		FY95	FY95	*	*
•WSMO Hondo, TX			FY95			FY95			
BROWNSVILLE, TX (WSO to WFO)	FY95[6]	88D FY95 ASOS FY94 AWIPS*	FY96	FY95	FY95				

1. Meteorologists positions for WSR-88D operation filled; training begun.
2. Forecast and warning service of the transitioning WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.
3. WFO Austin/San Antonio also will use, by means of an Associated PUP (APUP), data from the DOD Laughlin AFB WSR-88D.
4. Upper air function will be contracted out at its current location in FY 1995.
5. Service will be transferred upon commissioning of the APUP associated with the Laughlin AFB WSR-88D. Commissioning of APUP assumes a commissioned DOD radar.
6. Upper air function will transfer with WSO Brownsville to the site of WFO Brownsville in FY 1995.

STATE OF TEXAS (Page 3 of 7)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CORPUS CHRISTI, TX (WSO to WFO)	FY95[1]	88D FY96 ASOS FY94 AWIPS*	*	FY96	FY95				
•WSO Victoria, TX		ASOS FY94	*	FY96		FY95	FY95	*	*
DALLAS/FORT WORTH, TX (WSFO to WFO)	***FY94***[2,3]	88D FY94 APUP FY94[4] APUP FY94[5] AWIPS*		FY94	***FY93***				
•WSO Abilene, TX		ASOS FY95	*	FY94		FY95	FY95	*	*
•WSO Austin, TX		ASOS FY95	*	FY94		FY95	FY95	FY95	*
•WSO Waco, TX		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*
•WSO Wichita Falls, TX		***ASOS FY93***	FY95	***FY93***[6]		FY95	FY95	FY95	*
•WSMO Stephenville, TX[3]			FY95			FY95			

1. Upper air function will transfer from WSO Corpus Christi to the site of WFO Corpus Christi in FY 1995.

2. The entire WSFO moved to the facility of the future WFO located within the WSFO's current commuting and service areas.

3. Upper air function will transfer from WSO Stephensville to the site of WFO Dallas/Fort Worth in FY 1994.

4. WFO Dallas/Fort Worth also will use, by means of an associated PUP (APUP), the data from the DOD Central Texas WSR-88D.

5. WFO Dallas/Fort Worth also will use, by means of an APUP, the data from the DOD WSR-88D at Dyess AFB.

6. NWS has transferred three of the eleven counties comprising the WSO Wichita Falls county warning area to the future WFO Dallas/Fort Worth, currently WSFO Dallas/Fort Worth, before the commissioning of the WSR-88D at Dallas/Fort Worth. This is an authorized deviation from the NWS transition policy of transferring county warning responsibilities at the time of commissioning the receiving WSR-88D. The deviation supports the risk reduction activities at WSFO Norman, Oklahoma, which are required to evaluate the operations proposed for WFOs.

STATE OF TEXAS (Page 4 of 7)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
DALLAS/FORT WORTH, TX (cont.)									
•WSMO Longview, TX[1]			FY96			*			
•WSCMO Dallas/Fort Worth, TX		ASOS FY95							
DALLAS/FORT WORTH, TX West Gulf RFC	***FY94***	NPUP FY94 AWIPS*			***FY94***				
EL PASO, TX (WSO to WFO)	FY95[3,4]	88D FY96 AWIPS*		FY95[3] FY96	FY95[2]	FY95[3]			
•Residual WSO El Paso, TX[3,4]		ASOS FY95				FY95	FY95		*
HOUSTON/GALVESTON, TX (WSO to WFO)	***FY91***	88D FY94 AWIPS*		FY94	***FY92***				
•WSO Austin, TX		ASOS FY95	FY95	FY94		FY95	FY95	FY95	*

1. Upper air function will transfer from WSMO Longview to the site of WFO Shreveport in FY 1995.
2. Meteorologist positions for WSR-88D operation filled; training begun.
3. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Surface observation function retained at original WSO location and office redesignated a residual WSO.
4. Upper air function will transfer from WSO El Paso to the site of WFO El Paso in FY 1995.

STATE OF TEXAS (Page 5 of 7)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
HOUSTON/GALVESTON, TX (cont.)									
•WSO Galveston, TX			FY94	FY94		FY95		FY95	*
•WSO Victoria, TX		ASOS FY94	*	FY94		FY95	FY95	*	*
•WSO Waco, TX		***ASOS FY93***	FY95	FY94		FY95	FY95	FY95	*
•WSCMO Houston, TX		ASOS FY94							
LUBBOCK, TX (WSFO to WFO)	***FY94***[2]	88D FY94 AWIPS*		***FY94***[2] FY94	***FY93***[1]	***FY94***[2]			
•Residual WSO Lubbock, TX[2]		ASOS FY95	FY95			FY95	FY96	FY95	*
•WSO Abilene, TX		ASOS FY95	*	FY94		FY95	FY95	*	*
MIDLAND/ODESSA, TX (WSO to WFO)	FY95[4]	88D FY95 ASOS FY95 AWIPS*	FY96[3]	FY95	FY94				

1. Meteorologist positions for WSR-88D operation filled; training begun.

2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation functions retained at original WSFO location and office redesignated a residual WSO.

3. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

4. Upper air function will remain at its current location, which is collocated with the site of WFO Midland/Odessa.

STATE OF TEXAS (Page 6 of 7)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SAN ANGELO, TX (WSO to WFO)	FY95	88D FY96 ASOS FY95 AWIPS*	*	FY96	FY95				
•WSO Abilene, TX		ASOS FY95	*	FY96		FY95	FY95	*	*
WFOs Out of State:									
LAKE CHARLES, LA (WSO to WFO)	FY96	88D FY94 ASOS FY94 AWIPS*	FY95[1]	FY94	FY94				
•WSO Port Arthur, TX		ASOS FY94		FY94		FY95	FY95	FY95	*
SHREVEPORT, LA (WSO to WFO)	FY96	88D FY96 ASOS FY94 AWIPS*	FY96	FY94	FY95				
•WSO Port Arthur, TX		ASOS FY94		FY94		FY95	FY95	FY95	*
•WSMO Longview, TX			FY96			FY96			

1. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate back up sites until the commissioning of the WSR-88D.

STATE OF TEXAS (PAGE 7 of 7)

OFFICES	CHANGES OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
OKLAHOMA CITY, OK (WSFO to WFO)	***FY87***	88D FY94 AWIPS FY96		FY94	***FY90***				
•WSO Wichita Falls, TX		***ASOS FY93***	FY95	***FY93[1]***		FY95	FY95	FY95	*

1. NWS has transferred eight of 11 counties comprising the WSO Wichita Falls county warning area to the future WFO Oklahoma City, currently WSFO Norman, Oklahoma, before the commissioning of the WSR-88D at Norman. This is an authorized deviation from the NWS transition policy of transferring county warning responsibilities at the time of the commissioning the receiving WSR-88D. The deviation supports risk reduction activities at Norman required to evaluate the operations proposed for WFOs.

STATE OF UTAH (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Utah will be provided by one in-state WFO—Salt Lake City—and WFO Grand Junction, Colorado. WFO Grand Junction will serve three counties in eastern Utah. WFO Salt Lake City also will serve three counties in southern Idaho and one county in southwestern Wyoming.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

OFFICES	CHANGES OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
SALT LAKE CITY, UT[1] (WSFO to WFO)	FY94[2]	88D FY95 ASOS FY95 88D FY96*[3] AWIPS*		FY95	FY94				
SALT LAKE CITY, UT Colorado Basin RFC	FY94	NPUP FY94 AWIPS*			FY94				
WFOs Out of State:									
GRAND JUNCTION, CO (WSO to WFO)	FY95	88D FY96 ASOS FY95 AWIPS*		FY96	FY95				

1. An ASOS also will be commissioned at an unstaffed site at Milford Municipal Airport, Milford, Utah, in the administrative area of WFO Salt Lake City. This commissioning is anticipated to occur in FY 1995.
2. Upper air function will transfer with WSFO Salt Lake City to the site of WFO Salt Lake City in FY 1994.
3. A second WSR-88D, located at Cedar City, UT, is to be controlled and used by the Salt Lake City WFO.

STATE OF VERMONT (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Vermont will be provided by one in-state WFO—Burlington—and by WFO Albany, New York. WFO Albany will serve two counties in southern Vermont. WFO Burlington also will serve four counties in northeastern New York.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BURLINGTON, VT (WSO to WFO)	FY96	88D FY96 APUP FY96[1] ASOS FY94 AWIPS*	*[2]	FY96	FY95				
•WSO Syracuse, NY		***ASOS FY94***		FY96		FY95	FY95	*	*
WFOs Out of State:									
ALBANY, NY (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	***FY93***				

1. WFO Burlington also will use, by means of an associated PUP (APUP), the data from the DOD WSR-88D at Griffiss AFB.
2. Current radar will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction. Radar observation responsibility will be transferred to the appropriate backup sites until the commissioning of the WSR-88D.

STATE OF VIRGINIA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Virginia will be provided by three in-state WFOs—Baltimore, MD/Washington, DC; Norfolk/Richmond; and Roanoke—and by WFOs Charleston, West Virginia, and Knoxville/Tri-Cities, Tennessee. WFO Charleston will serve two counties in western Virginia; and WFO Knoxville/Tri-Cities, five counties in southwestern Virginia. WFO Baltimore, MD/Washington, DC, also will serve the District of Columbia, 13 counties in Maryland and eight in eastern West Virginia; WFO Norfolk/Richmond, nine counties in northeastern North Carolina and four in eastern Maryland; and WFO Roanoke, nine counties in northwestern North Carolina and four in southeastern West Virginia.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

	CHANGE OF OPERATIONS						CERTIFICATIONS		
OFFICES	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	***FY90***[1]	88D FY94 AWIPS*		FY94	***FY91***				
•WSO Baltimore, MD		ASOS FY94		FY94		FY95	FY95	FY96	*
•WSO Elkins, WV		ASOS FY95		FY94		FY95	FY95	FY96	*
•WSO Richmond, VA		ASOS FY95		FY94		FY96	FY96	FY96	*

1. Upper air function at WSCMO Washington-Dulles moved to WFO Baltimore, MD/Washington, D.C. in FY 1992.

STATE OF VIRGINIA (PAGE 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
BALTIMORE, MD/WASHINGTON, D.C. (cont.)									
•WSMO Patuxent River, MD			FY96			FY96			
•WSMO Volens, VA			FY96			FY96			
•WSCMO Washington-Dulles[1]		ASOS FY95							
•WSCMO Washington-National		ASOS FY95							
NORFOLK/RICHMOND, VA (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Baltimore, MD		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSO Norfolk, VA		ASOS FY95		FY95		FY95	FY96	FY95	*
•WSO Richmond, VA		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Cape Hatteras, NC			FY95	FY95		FY95		FY95	*
•WSMO Patuxent River, MD			FY95			FY95			
•WSCMO Wallops Island, VA[2]		ASOS FY95							

1. ***Upper air function at WSCMO Washington-Dulles moved to WFO Baltimore, MD/Washington D.C. in FY 1992.***
2. Upper air function remains at WSCMO Wallops Island.

STATE OF VIRGINIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ROANOKE, VA (New WFO)	FY94[1]	88D FY95		FY95	FY94				
•WSO Asheville, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Beckley, WV		ASOS FY95	FY96	FY95		FY95	FY95	FY96	*
•WSO Bristol, TN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Greensboro, NC		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Lynchburg, VA		ASOS FY95		FY95		FY95	FY95	FY96	*
•WSO Richmond, VA		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSO Roanoke, VA		ASOS FY95		FY95		FY96	FY96	FY96	*
•WSMO Volens, VA			FY96			FY96			
WFOs Out of State:									
CHARLESTON, WV (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
KNOXVILLE/TRI-CITIES, TN (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				

1. Upper air function will transfer from WSO Huntington, WV, to the site of WFO Roanoke in FY 1995.

STATE OF WASHINGTON (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Washington will be provided by two in-state WFOs—Seattle/Tacoma and Spokane, and WFOs Pendleton and Portland, Oregon. WFO Portland will serve six counties in southern Washington; and WFO Pendleton, eight counties in southern Washington. WFO Spokane also will serve seven counties in northern Idaho.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
SEATTLE/TACOMA, WA (WSFO to WFO)	***FY94***	88D FY95 AWIPS*		FY95	***FY94***				
•WSO Olympia, WA		ASOS FY95		FY95		FY95	FY95	FY96	*
•WSO Olympia (FW), WA				FY95		FY96		FY96	*
•WSCMO Quillayute, WA[1]		ASOS FY95							
•WSCMO Seattle/Tacoma, WA		ASOS FY94							
•WSCMO Stampede Pass, WA		***ASOS FY93***							

1. Upper air function will remain at WSCMO Quillayute.

STATE OF WASHINGTON (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SPOKANE, WA (New WFO)	FY95[1]	88D FY96 AWIPS*		FY96	FY95				
•WSO Spokane, WA[1]		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Lewiston, ID		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Yakima, WA		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Wenatchee (AG & FW), WA				*[2]		*		*	*
WFOs Out of State:									
PENDLETON, OR (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*		FY96	FY95				
•WSO Yakima, WA		ASOS FY94		FY96		FY95	FY95	*	*
•WSO Wenatchee (AG & FW), WA				*[3]		*		*	*

1. Upper air function will transfer from WSO Spokane to the site of WFO Spokane in FY 1995.
2. Service will be transferred upon the commissioning of an AWIPS at WFO Spokane.
3. Service will be transferred upon the commissioning of an AWIPS at WFO Pendleton.

STATE OF WASHINGTON (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PORTLAND, OR (WSFO to WFO)	FY94	88D FY96 ASOS FY95 AWIPS*	FY96	FY96	FY94				
•WSO Olympia (FW), WA				FY96		FY96		FY96	*

STATE OF WEST VIRGINIA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in West Virginia will be provided by one in-state WFO—Charleston—and WFOs Baltimore, MD/Washington, DC; Pittsburgh, Pennsylvania; and Roanoke, Virginia. WFO Pittsburgh will serve nine counties in northern West Virginia; WFO Roanoke, four counties in southeastern West Virginia; and WFO Baltimore, MD/Washington, DC, eight counties in eastern West Virginia. WFO Charleston also will serve two counties in Virginia, seven in eastern Kentucky, and nine in southeastern Ohio.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CHARLESTON, WV (WSFO to WFO)	FY94[2]	88D FY95 AWIPS*		FY94[2] FY95	FY94[1]	FY94[2]			
•Residual WSO Charleston, WV[2]		ASOS FY94	FY95			FY95	FY95	FY96	*
•WSO Akron, OH		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*
•WSO Beckley, WV		ASOS FY95	FY96	FY95		FY95	FY95	FY96	*
•WSO Bristol, TN		ASOS FY94	FY96	FY95		FY95	FY95	FY96	*
•WSO Columbus, OH		ASOS FY94	FY95	FY95		FY95	FY95	FY96	*

1. Meteorologist positions for operation of the WSR-88D filled; training begun.
2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observation functions retained at original WSFO location and office redesignated a residual WSO.

STATE OF WEST VIRGINIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CHARLESTON, WV (cont.)									
•WSO Elkins, WV		ASOS FY95		FY95		FY95	FY95	FY96	*
•WSO Huntington, WV[1]		ASOS FY95		FY95		FY95	FY95	FY96	*
WFOs Out of State:									
BALTIMORE, MD/WASHINGTON, DC (WSFO to WFO)	***FY90***	88D FY94 AWIPS*		FY94	***FY91***				
•WSO Elkins, WV		ASOS FY95		FY94		FY95	FY95	FY96	*
CINCINNATI, OH (New WFO)	FY94	88D FY95 AWIPS *		FY95	FY94				
•WSO Huntington, WV		ASOS FY95		FY95		FY95	FY95	FY96	*
PITTSBURGH, PA (WSFO to WFO)	***FY93***	88D FY94 AWIPS*		FY94	***FY93***				
•WSO Elkins, WV		ASOS FY95		FY94		FY95	FY95	FY96	*

1. Upper air function will transfer from WSO Huntington to the site of WFO Roanoke in FY 1995.

STATE OF WEST VIRGINIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ROANOKE, VA (New WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				
•WSO Beckley, WV		ASOS FY95	FY96	FY95		FY95	FY95	FY96	*

STATE OF WISCONSIN (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services in Wisconsin will be provided by three in-state WFOs—Green Bay, La Crosse and Milwaukee—and WFOs Duluth and Minneapolis, Minnesota. WFO Duluth will serve eight counties in northwestern Wisconsin; and WFO Minneapolis, nine counties in western Wisconsin. WFO La Crosse also will serve seven counties in southeastern Minnesota and eight in northeast Iowa.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
GREEN BAY, WI (WSO to WFO)	FY94[1]	88D FY95 ASOS FY94 AWIPS*		FY95	FY94				
•WSO Madison, WI		ASOS FY94	FY96	FY95		FY95	FY95	*	*
•WSMO Neenah, WI			FY95			FY96			

1. Upper air function will transfer with WSO Green Bay to the site of WFO Green Bay in FY 1994.

STATE OF WISCONSIN (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
LA CROSSE, WI (New WFO)	FY95	88D FY96 AWIPS*		FY96	FY95				
•WSO Dubuque, IA		ASOS FY94		FY96		FY95	FY95	*	*
•WSO La Crosse, WI				FY96		*		*	*
•WSO Madison, WI		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO Rochester, MN		ASOS FY94	FY96	FY96		FY95	FY95	*	*
•WSO Waterloo, IA		ASOS FY94	FY96	FY96		FY95	FY95	*	*
MILWAUKEE, WI (WSFO to WFO)	***FY90***[2]	88D FY95 AWIPS*		***FY/90***[2] FY95	FY94[1]	***FY90***[2]			
•Residual WSO Milwaukee, WI[2]		ASOS FY94				FY95	FY95		*
•WSO Dubuque, IA		ASOS FY94		FY95		FY95	FY95	*	*
•WSO Madison, WI		ASOS FY94	FY96	FY95		FY95	FY95	*	*

1. Meteorologist positions for operation of the WSR-88D filled; training begun.

2. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF WISCONSIN (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATION		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
Out of State:									
DULUTH, MN (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*	FY96	FY96	FY95				
MINNEAPOLIS, MN (WSFO to WFO)	FY94	88D FY95 AWIPS*		FY95	FY94				

STATE OF WYOMING (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1994 - 1996

Modernized weather services will be provided by two in-state WFOs—Cheyenne and Riverton and by out-of-state WFOs at Billings, Montana; Rapid City, South Dakota; and Salt Lake City, Utah. Billings will serve one county in northern Wyoming; Rapid City, three counties in eastern Wyoming; and Salt Lake City, one county in southwestern Wyoming. WFO Cheyenne also will serve eight counties in western Nebraska.

Shown below are notifiable actions scheduled to occur in fiscal years 1994-1996. Actions anticipated to occur after fiscal year 1996 are indicated by an asterisk (*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CHEYENNE, WY (WSFO TO WFO)	***FY93***	88D FY95 ASOS FY94 AWIPS*	FY95	FY95	FY94				
•WSO Casper, WY		ASOS FY95		FY95		FY96	FY96	*	*
•WSO Scottsbluff, NE		ASOS FY94		FY95		FY95	FY95	FY96	*
•WSMO Alliance, NE			FY96			FY96			
RIVERTON, WY (New WFO)	FY95[1]	88D FY96 ASOS FY95 AWIPS*		FY96	FY95				
•WSO Casper, WY		ASOS FY95		FY96		FY96	FY96	*	*

1. Upper air function will transfer from WSO Lander to the site of WFO Riverton in FY 1995.

STATE OF WYOMING (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfers	Significant Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
RIVERTON, WY (cont.)									
•WSO Lander, WY[1]				FY96		*		*	*
•WSO Sheridan, WY		ASOS FY94		FY96		FY95	FY95	*	*
WFOs Out-of-State:									
BILLINGS, MT (WSO to WFO)	FY95	88D FY96 ASOS FY94 AWIPS*	*	FY96	FY95				
•WSO Sheridan, WY		ASOS FY94		FY96		FY95	FY95	*	*
RAPID CITY, SD (WSO to WFO)	FY95	88D FY96 AWIPS *		FY96	FY95				
•WSO Casper, WY		ASOS FY95		FY96		FY96	FY96	*	*
SALT LAKE CITY, UT (WSFO to WFO)	FY94	88D FY95 ASOS FY95 88D * AWIPS*		FY95	FY94				

1. Upper air function will transfer from WSO Lander to the site of WFO Riverton in FY 1995.

Master Transition Schedule

The Master Transition Schedule (MTS) is the official document for review and evaluation of transition progress to the modernized NWS. The MTC shows the schedules for major activities and events identified in the transition Work Breakdown Structure (WBS), and their interdependencies. In addition to the major systems acquisition phases, such as the limited and full scale production phases of NEXRAD and development and production phases of ASOS, the MTS shows related activities in future operations and services, training and professional development, facilities preparation, implementation and phaseover, human resources, etc., as defined by the WBS. Changes to the MTS will be controlled through the transition change management process.

The current approved MTS is attached. An explanation of the symbols used and description of the activities depicted follows.

Explanation of MTS Symbols

The MTS is a Program Evaluation and Review Technique chart, also called a PERT network, and shows the duration of various transition activities that must be accomplished against a time scale as well as the logical order in which these activities must occur.

The basic elements that comprise the MTS are shown in Figure A1. Each activity is shown as a horizontal rectangular box with an activity title below it. The vertical lines connecting activities together represent linkages, also called dependencies, between activities. In Figure A1, Activity B is dependent on Activity A. That is, Activity A must be completed before Activity B can start. This is called a "finish-to-start" type dependency. Activities may also be linked as "start-to-start" (which means that the start of one activity triggers the start of another) and "finish-to-finish" (which means that two activities must be completed at the same time). The numbers on the left and right side of Figure A1 are reference line numbers for locating activities.

Figure A2 illustrates the concept of float. The start of Activity B depends on completing Activities A and C. Since Activity C is scheduled to be completed before Activity A, the time between the scheduled completion of Activity C and the scheduled completion of Activity A is called "float." Float represents an allowance for slippage of scheduled completion of an activity that does not affect the overall time it takes to complete the set of activities. Thus in Figure A2, completion of Activity C could slip until the completion of Activity A without increasing the total time to complete all three activities.

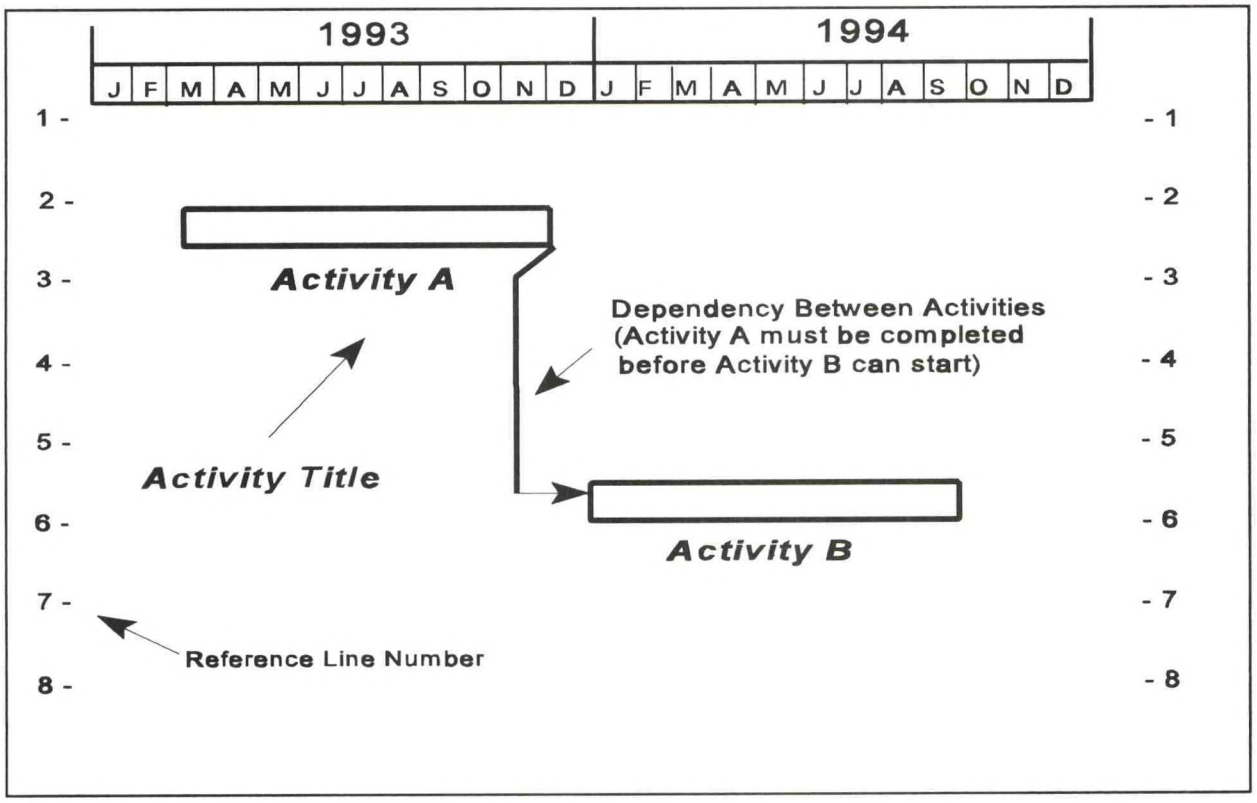


Figure A1

The longest path in time through all the activities in the network is called the "critical path" and represents the total time required to complete the entire project. Any schedule slippage in an activity on the critical path will delay completion of the overall project correspondingly.

Description of the Activities Depicted on the MTS

The activities shown on the MTS comprise the major steps in transition to the modernized and restructured National Weather Service. These activities are described below. Reference line numbers are given to help locate the various activities on the MTS.

Principal Path—The Principal Path, described in Section 3.7 of this report, consists of Pre-MARD Risk Reduction Programs (reference line #6); an Office Transition & Evaluation period for MARD (reference line #6); the MARD—Modernization and Associated Restructuring Demonstration—(reference line #6); and Initial Stage 2 Service Implementation nationwide (reference line #10). At the end of the Office Transition & Evaluation period is a MARD Sites Stable Operations Period (reference line #5). A MARD Evaluation activity (reference line #7) runs in parallel with the MARD. The Principal Path activities are dependent on the other major sets of transition activities described below.

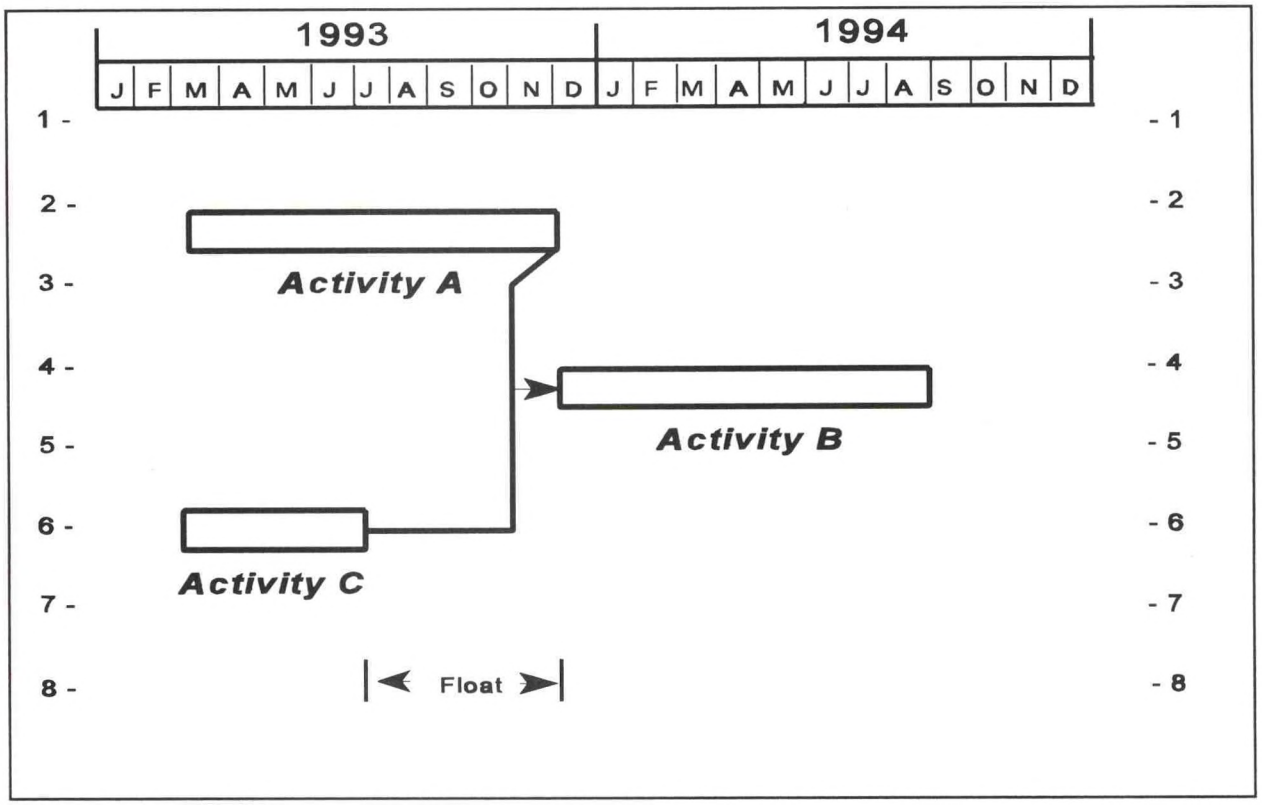


Figure A2

Transition Planning—Planning activities include completing the following: Strategic Plan (not shown) and initial National Implementation Plan (not shown), submitted to Congress in March 1989 and March 1990 respectively; next annual update to the National Implementation Plan (reference line #12); Site Implementation Plan updates (reference line #13); certifications that services will not degrade (not shown); and the MARD Plan (reference line #14).

Risk Reduction—Risk reduction activities in the first several years include the DARE II project (completed, not shown), "ISPAN" (reference line #18), the PROTEUS project (reference line #19), and the Norman project (reference line #20).

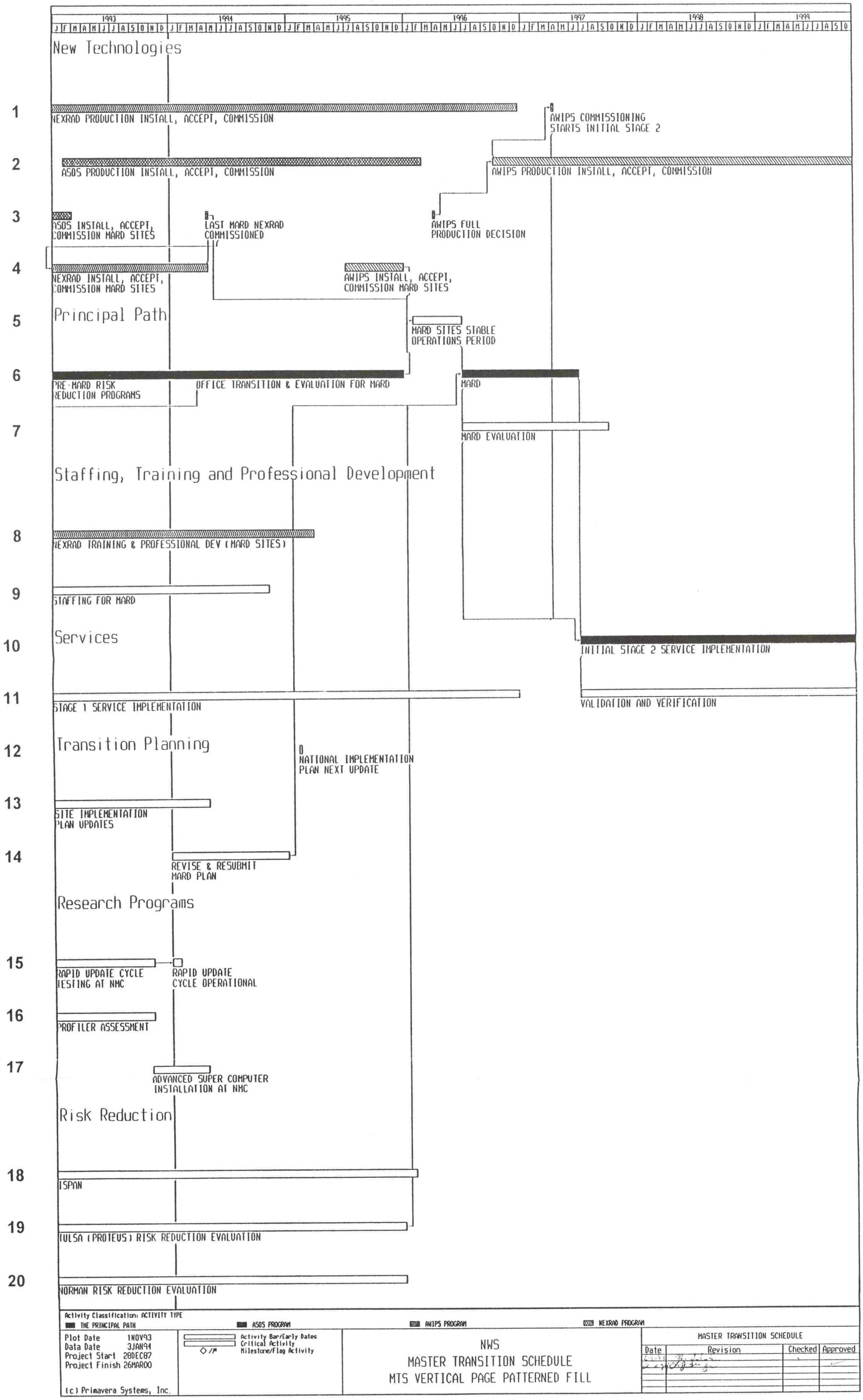
Research Programs—Research activities shown include: Rapid Update Cycle Testing at NMC (reference line #15); and Profiler Production and Assessment Phase I (completed, not shown) and Assessment Phase II (reference line #16).

New Technologies—Activities associated with implementing and commissioning the various new technologies required for the MARD include ASOS installation, acceptance and

commissioning for the MARD sites (reference line #3); NEXRAD installation, acceptance and commissioning for the MARD sites (reference line #4); AWIPS installation, acceptance and commissioning for the MARD sites (reference line #4); and installation of the Cray YMP8 computer system (completed, not shown) and the advanced super computer system for NMC (reference line #17). Activities associated with implementation and commissioning of the various new technologies required for modernization nationwide include: ASOS installation, acceptance and commissioning (reference line #2); NEXRAD installation, acceptance and commissioning (reference line #1); and AWIPS installation, acceptance and commissioning (reference line #2).

Staffing, Training and Professional Development—Staffing the MARD sites (reference line #9) is followed by NEXRAD Training and Professional Development (reference lines #8) for MARD site personnel.

Services—Activities associated with operational services include NMC Full Capability (completed, not shown), providing centrally prepared guidance products to field offices; Stage 1 Service Implementation (reference line #11); Initial Stage 2 Service Implementation (reference line #10); and Validation and Verification (reference line #11) of services.


1993
1994
1995
1996
1997
1998
1999
J F M A M J J A S O N D
New Technologies
1
NEXRAD PRODUCTION INSTALL, ACCEPT, COMMISSION
AWIPS COMMISSIONING STARTS INITIAL STAGE 2
2
ASOS PRODUCTION INSTALL, ACCEPT, COMMISSION
AWIPS PRODUCTION INSTALL, ACCEPT, COMMISSION
3
ASOS INSTALL, ACCEPT, COMMISSION MARD SITES
LAST MARD NEXRAD COMMISSIONED
AWIPS FULL PRODUCTION DECISION
4
NEXRAD INSTALL, ACCEPT, COMMISSION MARD SITES
AWIPS INSTALL, ACCEPT, COMMISSION MARD SITES
Principal Path
5
MARD SITES STABLE OPERATIONS PERIOD
6
PRE-MARD RISK REDUCTION PROGRAMS
OFFICE TRANSITION & EVALUATION FOR MARD
MARD
7
MARD EVALUATION
Staffing, Training and Professional Development
8
NEXRAD TRAINING & PROFESSIONAL DEV (MARD SITES)
9
STAFFING FOR MARD
Services
10
INITIAL STAGE 2 SERVICE IMPLEMENTATION
11
STAGE 1 SERVICE IMPLEMENTATION
VALIDATION AND VERIFICATION
Transition Planning
12
NATIONAL IMPLEMENTATION PLAN NEXT UPDATE
13
SITE IMPLEMENTATION PLAN UPDATES
14
REVISE & RESUBMIT MARD PLAN
Research Programs
15
RAPID UPDATE CYCLE TESTING AT NMC
RAPID UPDATE CYCLE OPERATIONAL
16
PROFILER ASSESSMENT
17
ADVANCED SUPER COMPUTER INSTALLATION AT NMC
Risk Reduction
18
ISPAN
19
TULSA (PROTEUS) RISK REDUCTION EVALUATION
20
NORMAN RISK REDUCTION EVALUATION
Activity Classification: ACTIVITY TYPE
THE PRINCIPAL PATH
ASOS PROGRAM
AWIPS PROGRAM
NEXRAD PROGRAM
Plot Date 1NOV93
Data Date 3JAN94
Project Start 28DEC87
Project Finish 26MAR00
(c) Primavera Systems, Inc.
Activity Bar/Early Dates
Critical Activity
Milestone/Flag Activity
NWS
MASTER TRANSITION SCHEDULE
MTS VERTICAL PAGE PATTERNED FILL
MASTER TRANSITION SCHEDULE
Date
Revision
Checked
Approved

Site Implementation Plan Outline

The outline below provides guidance to the Regions in preparing a Site Implementation Plan:

Site Implementation Plan Outline

1. Introduction (Executive Summary) (Short, 2-3 Pages)

   Scope: Office transitioning to WFO, other offices both within and outside of WFO CWFA included in the overall transition strategy for the WFO.

   Brief overview of timing of transition and end state of WFO and remaining offices (DCO, CWSU, WSCMOs, DOE/NASA Support, etc).

2. Office Transition Scenarios (Graphic presentations of individual office transitions)

   Compilation of transition scenarios for each office with clarifying verbiage as necessary. Properly designed scenarios are envisioned as requiring minimal clarification.

   - WFO
   - RFC if collocated
   - WSOs in WFO's area of responsibility
   - WSMOs/WSCMOs in the WFO's area of responsibility
   - WSOs outside of WFO's area of responsibility if that office is in some way affecting the WFO's transition, e.g., handing off a county and associated service responsibility.

3. Maps/Charts

   Compilation of maps and/or charts, with minimal verbiage, addressing:

   - CWA - Before and After
   - Affected Areas re Certifications
   - Forecast Responsibility Area Relationships between NWSFO and NWSOs
   - Zone Boundaries before and after (if applicable)
   - Marine Responsibilities Before and After
   - Other Responsibility Transfers
   - Technology placements (ASOS, WSR-88D, NWR transmitters, etc.
   - WSR-88D primary and back-up coverage

4. Activity Schedules/SIP Summary (Primarily NTD Generated)

- WFO (RFC if collocated)
  - Facilities Occupancy
  - Upper Air Relocations, Contracts, etc.
  - Staffing
  - Training

  - Systems Implementation
  - Systems Commissionings

  - Systems Inventory
  - Systems Decommissioning
  - Systems Transfers

  - Services Inventory
  - Services Acquisition/Transfer

  - Technical Coordination
  - Service Confirmations
  - Certification
  - Other

- WSOs/WSMOs/WSCMOs

  - System Implementations (ASOS)
  - System Commissionings

  - System Inventory
  - System Decommissionings
  - System Transfers

  - Service Inventory
  - Service Transfers
  - Service Confirmations
  - Certifications

  - Staff Utilizations
  - Staff Drawdowns

  - Participation with other WFOs (e.g., affected areas)
  - Other

5. Other Items MIC or Regional Personnel Require

Related Transition Planning Documents

To ensure an orderly transition to the modernized NWS, a number of transition planning documents and associated publications are required. Given below is the current list of related transition planning documents along with their effective date. A blank date indicates the plan or document is still under development.

Document Title	Effective Date
NWS Regulations for Stage 1 (Final)	Dec 93
Modernization Criteria (Proposed)	Dec 93
Certification Plan for the Modernization and Associated Restructuring of the NWS (Draft)	Jun 93
MARD Plan (Preliminary)	Oct 92
Office Transition & Evaluation Plan	
Integrated Operations and Services Plan	
Stage 1 Operations Concept (Draft)	Oct 93
AWIPS Operations Concept (Stage 2)	Jan 87
Public Services Plan	Dec 93
Stage 2 County Warning Forecast Area Assignments	May 93
Marine Services Plan	Mar 93
Aviation Plan	Aug 93
Fire Weather Operations and Services Plan	Apr 93
Surface Observation Modernization Plan	
National Centers Transition Plan	Aug 90
Dissemination Transition Plan	
Quantitative Precipitation Forecasting Operations Concept	
Hydrometeorological Service Operations for the 1990s	
Transition Systems Development and Integration Plan	Apr 89
ASOS Deployment Schedule	Jan 92
NEXRAD Deployment Schedule	Oct 93
AWIPS Deployment Schedule	
External and Internal Coordination Plan	Sep 92
Facilities Management Plan	
Integrated Training and Professional Development Plan	Jan 92

Implementation and Phase Over Plan	Nov 91
ASOS Systems Commissioning Plan	Nov 93
NEXRAD Systems Commissioning Plan	Aug 93
AWIPS Systems Commissioning Plan	
Decommissioning Plan for NWS Sponsored Radar Systems	Oct 93
Decommissioning Plan for NWS Sponsored Surface Observing Equipment	
Human Resources Plan	Dec 93

Documents Incorporated in NIP by Reference:

WBS Description Document and Dictionary (Section 5.2)	Jan 89
Program Monitoring and Control System Description Document (Section 5.4)	Jul 88
Transition Change Management Policy Document (Section 5.5)	Jan 93

Other Specific Information

This appendix is intended to be an expandable appendix, and will be used to provide specific information concerning modernization and associated restructuring of NWS, as it becomes available for release. Attached are the following:

LOCATIONS OF THE WEATHER FORECAST OFFICES

Weather Forecast Office Locations

WFO Name—Metropolitan Area	Proposed Office Location
Aberdeen, SD	Aberdeen Regional Airport
Albany, NY	State University of New York, Albany
Albuquerque, NM	Albuquerque International Airport
Amarillo, TX	Amarillo International Airport
Anchorage, AK	Anchorage International Airport
Atlanta, GA	Falcon Field, Peachtree City
Austin/San Antonio, TX	New Braunfels Municipal Airport
Baltimore, MD/Washington, DC	Sterling, VA
Billings, MT	Billings-Logan International Airport
Binghamton, NY	Binghamton Regional - Edwin Link Field
Birmingham, AL	Shelby County Airport
Bismarck, ND	Bismarck Municipal Airport
Boise, ID	Boise Interagency Fire Center
Boston, MA	Taunton, MA
Brownsville, TX	Brownsville International Airport
Buffalo, NY	Greater Buffalo International Airport
Burlington, VT	Burlington International Airport
Central Illinois, IL	Logan County Airport
Central Pennsylvania, PA	State College, PA
Charleston, SC	Charleston International Airport
Charleston, WV	Ruthdale, WV
Cheyenne, WY	Cheyenne Municipal Airport
Chicago, IL	Lewis University Airport
Cincinnati, OH	Wilmington, OH
Cleveland, OH	Cleveland-Hopkins International Airport
Columbia, SC	Columbia Metropolitan Airport
Corpus Christi, TX	Corpus Christi International Airport
Dallas/Fort Worth, TX	Fort Worth, TX
Denver/Boulder, CO	Boulder, CO
Des Moines, IA	Johnston, IA
Detroit, MI	Pontiac/Indian Springs Metropark
Dodge City, KS	Dodge City Regional Airport
Duluth, MN	Duluth, MN
Eastern North Dakota, ND	near University of North Dakota
El Paso, TX	Dona Ana County Airport at Santa Theresa, NM
Elko, NV	Elko, NV
Eureka, CA	Woodley Island, CA
Fairbanks, AK	University of Alaska, Fairbanks, AK
Flagstaff, AZ	Navajo Army Depot, Bellmont, AZ

Weather Forecast Office Locations
(continued)

WFO Name—Metropolitan Area	Proposed Office Location
Glasgow, MT	Glasgow City and County International Airport
Goodland, KS	Goodland Municipal Airport
Grand Junction, CO	Walker Field, Grand Junction Airport
Grand Rapids, MI	Kent County International Airport
Great Falls, MT	near Great Falls Int'l Airport
Green Bay, WI	Austin-Straubel Field
Greenville/Spartanburg, SC	Greenville/Spartanburg Airport
Hastings, NE	Hastings, NE
Honolulu, HI	University of Hawaii, Honolulu, HI
Houston/Galveston, TX	League City, TX
Indianapolis, IN	Indianapolis International Airport
Jackson, MS	Jackson Municipal Airport
Jacksonville, FL	Jacksonville International Airport
Juneau, AK	(not yet determined)
Kansas City/Pleasant Hill, MO	Pleasant Hill, MO
Knoxville/Tri Cities, TN	Morristown Airport Industrial District
La Crosse, WI	La Crosse Ridge, La Crosse, WI
Lake Charles, LA	Lake Charles Regional Airport
Las Vegas, NV	Las Vegas, NV
Little Rock, AR	North Little Rock Municipal Airport
Los Angeles, CA	Oxnard, CA
Louisville, KY	Louisville, KY
Lubbock, TX	Lubbock, TX
Marquette, MI	Marquette County Airport
Medford, OR	Medford-Jackson County Airport
Melbourne, FL	Melbourne Regional Airport
Memphis, TN	Agricenter International Complex
Miami, FL	Florida International University
Midland/Odessa, TX	Midland International Airport
Milwaukee, WI	Sullivan Township, Jefferson County
Minneapolis, MN	Chanhassen, MN
Missoula, MT	Missoula International Airport
Mobile, AL	Mobile Regional Airport
Morehead City, NC	Newport, NC
Nashville, TN	Old Hickory Mountain, TN
New Orleans/Baton Rouge, LA	Slidell Airport
New York City, NY	Brookhaven National Lab, Upton, NY
Norfolk/Richmond, VA	Wakefield, VA
North Central Lower Michigan, MI	Passenheim Road, Waters, MI
North Platte, NE	North Platte Regional Airport

Weather Forecast Office Locations
(continued)

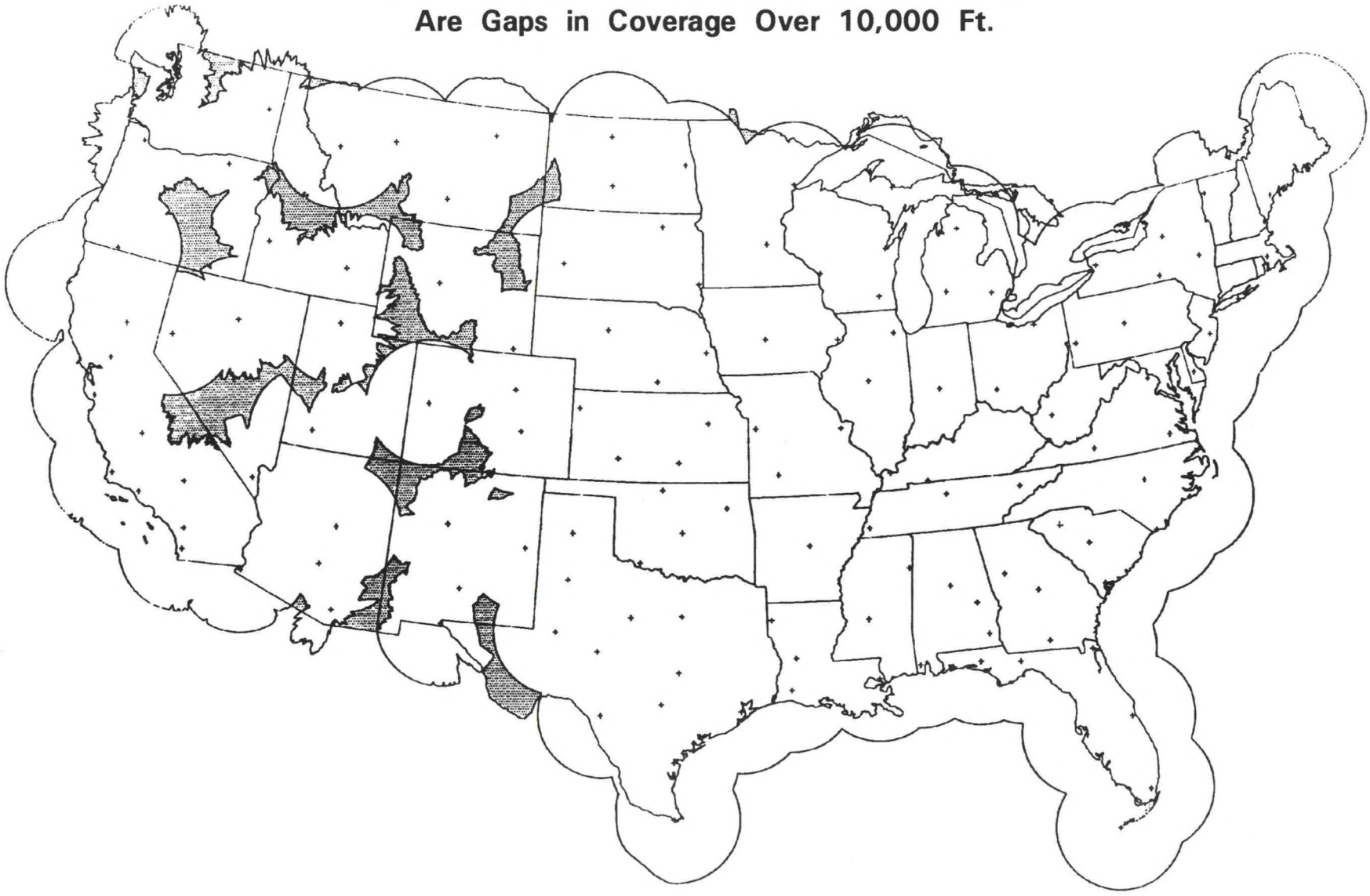
WFO Name Metropolitan Area	Proposed Office Location
Oklahoma City, OK	University of Oklahoma Westheimer Airpark
Omaha, NE	Valley, NE
Paducah, KY	Barkley Regional Airport
Pendleton, OR	Pendleton Municipal Airport
Philadelphia, PA	Mt. Holly, NJ
Phoenix, AZ	Phoenix, AZ
Pittsburgh, PA	Coraopolis, PA
Pocatello/Idaho Falls, ID	Pocatello Regional Airport, ID
Portland, ME	Gray, ME
Portland, OR	near Portland International Airport
Pueblo, CO	Pueblo Municipal Airport
Quad Cities, IA	Davenport Municipal Airport
Raleigh/Durham, NC	N.C. State University, Raleigh, NC
Rapid City, SD	Rapid City, SD
Reno, NV	Reno, NV
Riverton, WY	Riverton Regional Airport
Roanoke, VA	Blacksburg, VA
Sacramento, CA	Sacramento, CA
Salt Lake City, UT	Salt Lake City International Airport
San Angelo, TX	Mathis Field
San Diego, CA	(not yet determined)
San Francisco Bay Area, CA	Monterey, CA
San Joaquin Valley, CA	Hanford Municipal Airport
San Juan, PR	Luis Munoz Marin Int'l Airport
Seattle/Tacoma, WA	NOAA Western Regional Center
Shreveport, LA	Shreveport Regional Airport
Sioux Falls, SD	Sioux Falls Municipal Airport
Spokane, WA	Rambo Road, Spokane, WA
Springfield, MO	Springfield Regional Airport
St. Louis, MO	Research Park, St. Charles County
Tallahassee, FL	Florida State University
Tampa Bay Area, FL	Ruskin, FL
Topeka, KS	Philip Billard Municipal Airport
Tucson, AZ	University of Arizona, Tucson, AZ
Tulsa, OK	Guaranty Bank Building
Wichita, KS	Wichita Mid-Continent Airport
Wilmington, NC	New Hanover International Airport

River Forecast Centers

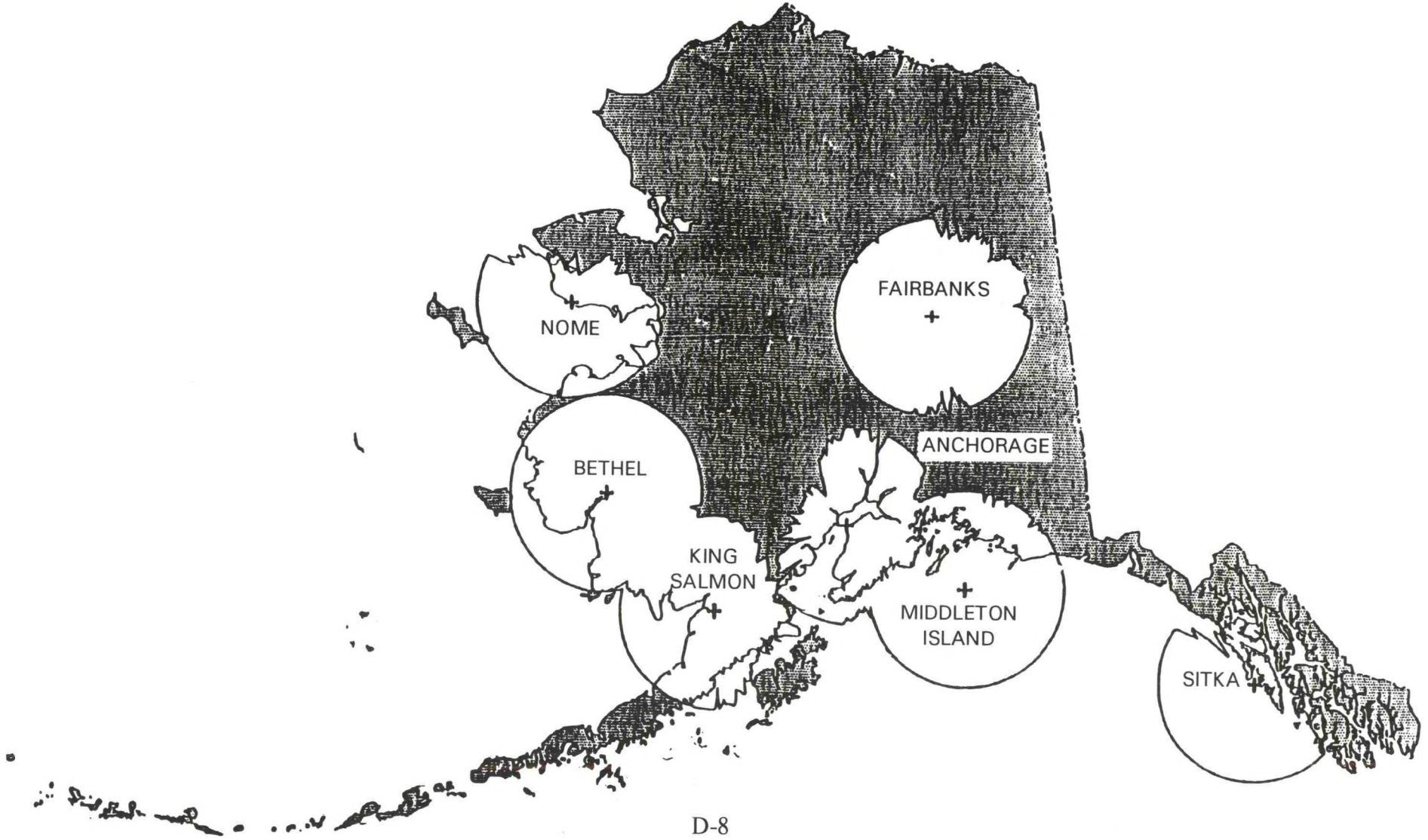
River Forecast Center Name	Co-located Weather Forecast Office
Southeast RFC	Atlanta, GA
Lower Mississippi RFC	New Orleans/Baton Rouge, LA
Arkansas-Red Basin RFC	Tulsa, OK
West Gulf RFC	Dallas/Fort Worth, TX
Ohio RFC	Cincinnati, OH
Middle Atlantic RFC	Central Pennsylvania, PA
Northeast RFC	Boston, MA
Colorado Basin RFC	Salt Lake City, UT
California-Nevada RFC	Sacramento, CA
Northwest RFC	Portland, OR
North Central RFC	Minneapolis, MN
Missouri Basin RFC	Kansas City/Pleasant Hill, MO
Alaska RFC	Anchorage, AK

**Depiction of the Total Coverage (At 10,000 Ft.)
Provided by the Compelted NEXRAD Network.**

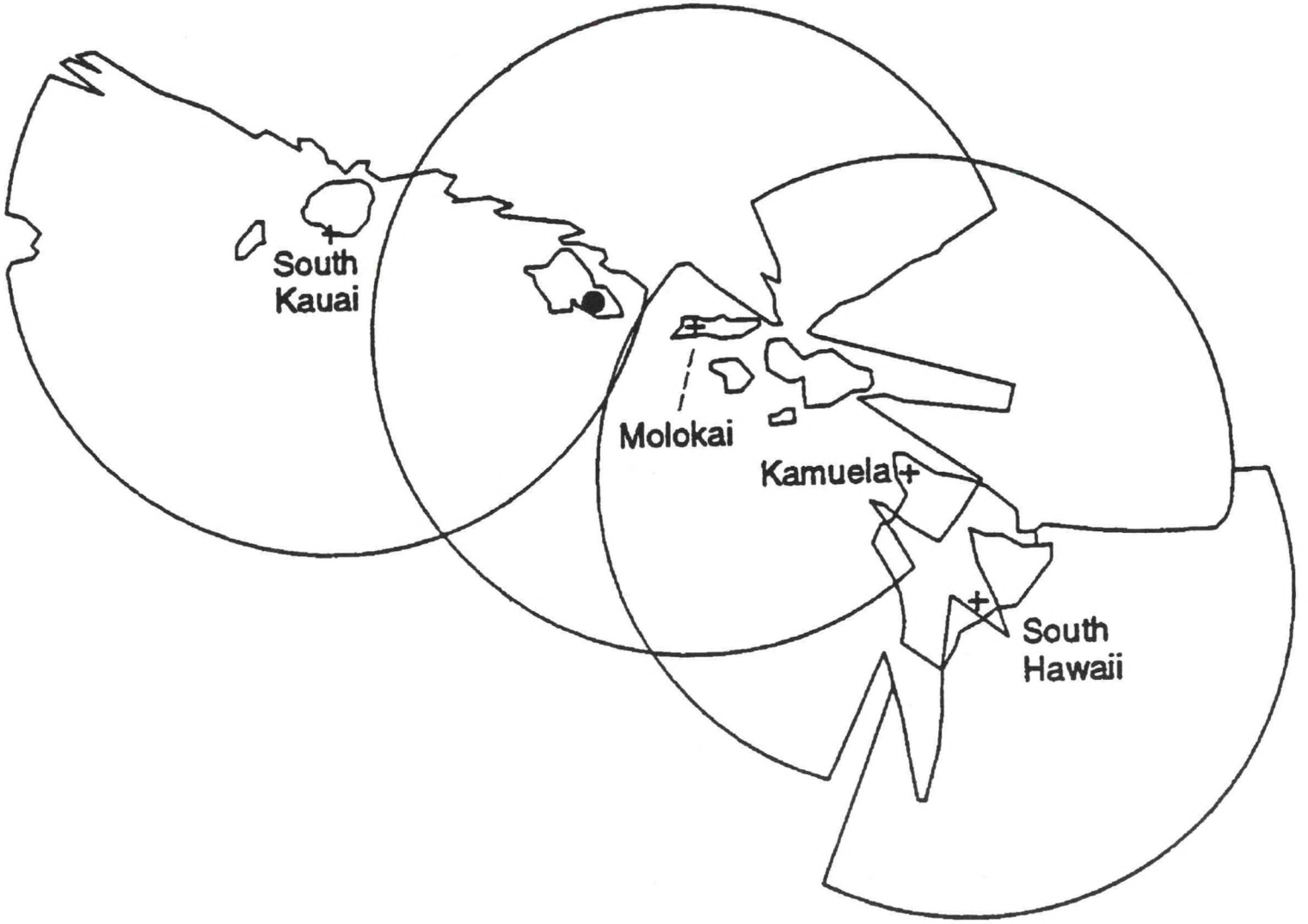
**Darkened Areas Over the Rocky Mountains
Are Gaps in Coverage Over 10,000 Ft.**



NEXRAD SITES AND ESTIMATED COVERAGE (AT 10,000 FT ELEVATION) FOR ALASKA



NEXRAD SITES AND ESTIMATED COVERAGE (AT 10,000 FT) FOR HAWAII



NEXRAD Locations

Metropolitan Area	Proposed NEXRAD Location
Aberdeen, SD	Aberdeen Regional Airport
Albany, NY	East Berne, NY
Albuquerque, NM	Albuquerque, NM
Amarillo, TX	Amarillo International Airport
Aroostook County, ME	Houlton, ME
Atlanta, GA	Falcon Field, Peachtree City
Austin/San Antonio, TX	New Braunfels Municipal Airport
Baltimore, MD/Washington, DC	Sterling, VA
Billings, MT	Alkali Creek Rd, Yellowstone County
Binghamton, NY	Binghamton Regional - Edwin Link Field
Birmingham, AL	near Shelby County Airport
Bismarck, ND	Bismarck Municipal Airport
Boise, ID	Wild Horse Corral, Ada County
Boston, MA	Taunton, MA
Brownsville, TX	Brownsville International Airport
Buffalo, NY	Greater Buffalo International Airport
Burlington, VT	Burlington International Airport
Cedar City, UT	Blowhard Mountain, Iron County
Central Illinois, IL	Logan County Airport
Central Pennsylvania, PA	Moshannon State Forest
Charleston, SC	Sheldon, SC
Charleston, WV	Ruthdale, WV
Cheyenne, WY	Cheyenne Municipal Airport
Chicago, IL	Lewis University Airport
Cincinnati, OH	Wilmington, OH
Cleveland, OH	Cleveland-Hopkins Int'l Airport
Columbia, SC	Columbia Metropolitan Airport
Corpus Christi, TX	Corpus Christi Int'l Airport
Dallas/Fort Worth, TX	Fort Worth Spinks Airport
Denver/Boulder, CO	Front Range Airport
Des Moines, IA	Camp Dodge Mil Reserve, Johnston, IA
Detroit, MI	Pontiac/Indian Springs Metropark
Dodge City, KS	Dodge City Regional Airport
Duluth, MN	Duluth International Airport
Eastern North Dakota, ND	Mayville, ND
El Paso, TX	Santa Teresa Airport, NM
Elko, NV	Sheep Creek Mountain, Lander County
Eureka, CA	Bunker Hill, Humboldt County
Flagstaff, AZ	Blue Ridge Mountain, Coconino, AZ
Glasgow, MT	Glasgow City and County International Airport
Goodland, KS	Goodland Municipal Airport

NEXRAD Locations
(Continued)

Metropolitan Area	Proposed NEXRAD Location
Grand Junction, CO	Grand Mesa, Mesa, CO
Grand Rapids/Muskegon, MI	Kent County International Airport
Great Falls, MT	near Great Falls International Airport
Green Bay, WI	Austin-Straubel Field
Greenville/Spartanburg, SC	Greenville/Spartanburg Airport
Hastings, NE	Blue Hill, NE
Houston/Galveston, TX	League City, TX
Indianapolis, IN	Indianapolis International Airport
Jackson, MS	Jackson Municipal Airport
Jacksonville, FL	Jacksonville International Airport
Kansas City/Pleasant Hill, MO	Pleasant Hill, MO
Key West, FL	Key West International Airport
Knoxville/Tri Cities, TN	Morristown Airport Indus. District
La Crosse, WI	La Crosse Ridge, La Crosse, WI
Lake Charles, LA	Lake Charles Regional Airport
Las Vegas, NV	Opal Mountain, Nelson, NV
Little Rock, AR	North Little Rock Muncipal Airport
Los Angeles, CA	Sulphur Mountain, Ventura County
Louisville, KY	Fort Knox Military Reservation
Lubbock, TX	Lubbock International Airport
Marquette, MI	Marquette County Airport
Medford, OR	Mount Ashland, Jackson County
Melbourne, FL	Melbourne Regional Airport
Memphis, TN	Millington Naval Air Station
Miami, FL	Richmond Heights
Midland/Odessa, TX	Midland International Airport
Milwaukee, WI	Sullivan Township, Jefferson County
Minneapolis, MN	Chanhassen Township
Missoula, MT	Pt. Six Mountain, Missoula County
Mobile, AL	Mobile Regional Airport
Morehead City, NC	Newport, NC
Nashville, TN	Old Hickory Mountain, TN
New Orleans/Baton Rouge, LA	Slidell Airport
New York City, NY	Brookhaven National Lab, Upton, NY
Norfolk/Richmond, VA	Wakefield, VA
North Central Lower Michigan, MI	Passenheim Road, Waters, MI
North Platte, NE	New Thomas County Airport, Thedford, NE

NEXRAD Locations

(Continued)

Metropolitan Area	Proposed NEXRAD Location
Oklahoma City, OK	Twin Lakes Airport
Omaha, NE	Valley, NE
Paducah, KY	Barkley Regional Airport
Pendleton, OR	Pendleton Municipal Airport
Philadelphia, PA	Fort Dix, NJ
Phoenix, AZ	Williams Air Force Base
Pittsburgh, PA	Coraopolis, PA
Pocatello/Idaho Falls, ID	Springfield, ID
Portland, ME	Gray, ME
Portland, OR	Dixie Mountain, Washington County
Pueblo, CO	Boone/Highland Roads, Pueblo County
Quad Cities, IA	Davenport Municipal Airport
Raleigh/Durham, NC	Clayton, NC
Rapid City, SD	New Underwood, SD
Reno, NV	Virginia Peak, Washoe County
Riverton, WY	Riverton Regional Airport
Roanoke, VA	Coles Knob, Floyd County
Sacramento, CA	USAF Davis Communications Site
Salt Lake City, UT	Promontory Point, Box Elder County
San Angelo, TX	Mathis Field
San Diego, CA	Miramar Naval Air Station
San Francisco Bay Area, CA	Mt. Umunhum, Santa Clara County
San Joaquin Valley, CA	Hanford Municipal Airport
Seattle/Tacoma, WA	South Camano Island, WA
Shreveport, LA	Shreveport Regional Airport
Sioux Falls, SD	Sioux Falls Municipal Airport
Spokane, WA	Rambo Road, Spokane, WA
Springfield, MO	Springfield Regional Airport
St. Louis, MO	Research Park, St. Charles County
Tallahassee, FL	Tallahassee Regional Airport
Tampa Bay Area, FL	Ruskin, FL
Topeka, KS	Wabaunsee County
Tucson, AZ	near Sahuarita, AZ
Tulsa, OK	Shreck Farm, Rogers County
Wichita, KS	Wichita Mid-Continent Airport
Wilmington, NC	Shallotte, NC
Yuma, AZ	near Yuma International Airport

NEXRAD Locations

NEXRADs in Alaska and Hawaii

Metropolitan Area	Proposed NEXRAD Location
Anchorage, AK	Kenai, AK
Bethel, AK	Bethel Airport
Fairbanks, AK	Pedro Dome Road
Kamuela, HI	Kamuela
King Salmon, AK	Airport site
Middleton Island, AK	Middleton Island
Molokai, HI	Mauna Loa Ridge, "B" site
Nome, AK	Nome
Sitka, AK	Biorka Island
South Hawaii, HI	South Hawaii
South Kauai, HI	South Kauai

NOTE: Puerto Rico will have NEXRAD coverage.

Department of Defense Supplemental NEXRADs:
Beale Air Force Base, CA
Cannon Air Force Base, NM
Central Texas (Granger), TX
Columbus Air Force Base, MS
Dover Air Force Base, DE
Dyess Air Force Base, TX
East Alabama (Carrville), AL
Edwards Air Force Base, CA
Frederick, OK
Ft. Campbell, KY
Ft. Rucker, AL
Griffiss Air Force Base, NY
Holloman Air Force Base, NM
Laughlin Air Force Base, TX
March Air Force Base, CA
Minot Air Force Base, ND
Moody Air Force Base, GA
Northwest Florida (Red Bay), FL
Robins Air Force Base, GA
Vandenberg Air Force Base, CA
Vance Air Force Base, OK

Candidate ASOS Locations (NWS and FAA)

AK	Anchorage	FAA
AK	Anchorage	FAA
AK	Anchorage	NWS
AK	Annette	NWS
AK	Barrow	NWS
AK	Bethel	NWS
AK	Bettles	FAA
AK	Cold Bay	NWS
AK	Cordova	FAA
AK	Deadhorse	FAA
AK	Deering	FAA
AK	Delta Jct/Ft Greely	FAA
AK	Eagle	FAA
AK	Fairbanks	NWS
AK	Gulkana	FAA
AK	Haines	FAA
AK	Homer	NWS
AK	Iliamna	FAA
AK	Juneau	FAA
AK	Kaltag	FAA
AK	Karluk	FAA
AK	Kenai	FAA
AK	Ketchikan	FAA
AK	King Salmon	NWS
AK	Kivalina	FAA
AK	Klawock	FAA
AK	Kodiak	NWS
AK	Kotzebue	NWS
AK	McGrath	NWS
AK	Nenana	NWS
AK	Nome	NWS
AK	Northway	FAA
AK	Nuiqsut	FAA
AK	Palmer	FAA
AK	Portage	FAA
AK	Seldovia	FAA
AK	Seward	FAA
AK	Sitka	FAA
AK	Skagway	FAA
AK	St George Island	FAA
AK	St Paul Island	NWS
AK	Talkeetna	NWS
AK	Tanana	FAA
AK	Wainwright	FAA
AK	Yakutat	NWS
AL	Alabaster	FAA
AL	Anniston	FAA
AL	Birmingham	FAA
AL	Decatur	FAA
AL	Dothan	FAA
AL	Evergreen	FAA
AL	Huntsville	NWS
AL	Mobile	FAA
AL	Mobile	NWS
AL	Montgomery	NWS
AL	Muscle Shoals	FAA
AL	Troy	FAA
AL	Tuscaloosa	FAA
AR	Blytheville	FAA
AR	De Queen	FAA
AR	El Dorado	FAA
AR	Fayetteville	FAA
AR	Fort Smith	NWS
AR	Harrison	FAA
AR	Hot Springs	FAA
AR	Jonesboro	FAA
AR	Little Rock	FAA
AR	Monticello	FAA
AR	Mountain Home	FAA
AR	Pine Bluff	FAA
AR	Russellville	FAA
AR	Texarkana	FAA
AZ	Flagstaff	NWS
AZ	Grand Canyon	FAA
AZ	Kayenta	FAA
AZ	Kingman	NWS
AZ	Nogales	FAA
AZ	Page	NWS
AZ	Phoenix	FAA
AZ	Phoenix	NWS
AZ	Prescott	FAA
AZ	Scottsdale	FAA
AZ	St Johns	FAA
AZ	Tucson	NWS
AZ	Winslow	NWS
CA	Arcata/Eureka	FAA
CA	Avalon	FAA
CA	Bakersfield	NWS

Candidate ASOS Locations (NWS and FAA)

(Continued)

CA	Bishop	NWS
CA	Blythe	FAA
CA	Burbank	FAA
CA	Carlsbad	FAA
CA	Chino	FAA
CA	Concord	FAA
CA	Daggett	FAA
CA	Emigrant Gap	NWS
CA	Fresno	NWS
CA	Fullerton	FAA
CA	Hanford	FAA
CA	Hawthorne	FAA
CA	Hayward	FAA
CA	Imperial	FAA
CA	Livermore	FAA
CA	Long Beach	NWS
CA	Los Angeles	NWS
CA	Madera	FAA
CA	Marysville	FAA
CA	Modesto	FAA
CA	Monterey	FAA
CA	Mt Shasta	NWS
CA	Napa	FAA
CA	Oakland	FAA
CA	Oceanside	FAA
CA	Ontario	FAA
CA	Oroville	FAA
CA	Oxnard	FAA
CA	Palm Springs	FAA
CA	Palmdale	FAA
CA	Palo Alto	FAA
CA	Paso Robles	FAA
CA	Red Bluff	NWS
CA	Redding	NWS
CA	Riverside	FAA
CA	Sacramento	FAA
CA	Sacramento	FAA
CA	Salinas	FAA
CA	San Diego	FAA
CA	San Diego	NWS
CA	San Diego	NWS
CA	San Francisco	NWS
CA	San Jose	FAA
CA	San Luis Obispo	FAA
CA	Sandberg	NWS
CA	Santa Ana	FAA
CA	Santa Barbara	FAA
CA	Santa Maria	NWS
CA	Santa Monica	FAA
CA	Santa Rosa	FAA
CA	South Lake Tahoe	FAA
CA	Stockton	NWS
CA	Vacaville	FAA
CA	Van Nuys	FAA
CA	Watsonville	FAA
CO	Akron	FAA
CO	Alamosa	NWS
CO	Aspen	FAA
CO	Burlington	FAA
CO	Colorado Springs	NWS
CO	Cortez	FAA
CO	Craig	FAA
CO	Denver	FAA
CO	Denver	NWS
CO	Durango	FAA
CO	Grand Junction	NWS
CO	La Junta	FAA
CO	Lamar	FAA
CO	Limon	NWS
CO	Meeker	FAA
CO	Montrose	FAA
CO	Pueblo	NWS
CO	Rifle	FAA
CT	Bridgeport	NWS
CT	Danbury	FAA
CT	Groton/New London	FAA
CT	Hartford	FAA
CT	Meriden	FAA
CT	New Haven	FAA
CT	Willimantic	FAA
CT	Windsor Locks	NWS
DC	Washington DC	NWS
DC	Washington DC	NWS
DE	Georgetown	FAA

Candidate ASOS Locations (NWS and FAA)

(Continued)

DE	Wilmington	NWS
FL	Brooksville	FAA
FL	Crestview	FAA
FL	Daytona Beach	NWS
FL	Destin	FAA
FL	Fort Lauderdale	FAA
FL	Fort Lauderdale	FAA
FL	Fort Myers	FAA
FL	Fort Myers	FAA
FL	Fort Pierce	FAA
FL	Gainesville	FAA
FL	Hollywood	FAA
FL	Jacksonville	FAA
FL	Jacksonville	NWS
FL	Key West	NWS
FL	Leesburg	FAA
FL	Marathon	FAA
FL	Marianna	FAA
FL	Melbourne	FAA
FL	Miami	FAA
FL	Miami	FAA
FL	Miami	NWS
FL	New Port Richey	FAA
FL	Orlando	FAA
FL	Orlando	NWS
FL	Panama City	FAA
FL	Pensacola	FAA
FL	Pompano Beach	FAA
FL	Punta Gorda	FAA
FL	Sarasota/Bradenton	FAA
FL	St Petersburg	FAA
FL	St Petersburg	FAA
FL	Tallahassee	NWS
FL	Tampa	NWS
FL	Vero Beach	FAA
FL	West Palm Beach	NWS
FL	Winter Haven	FAA
GA	Albany	FAA
GA	Alma	FAA
GA	Athens	NWS
GA	Atlanta	FAA
GA	Atlanta	FAA
GA	Atlanta	FAA
GA	Atlanta	NWS
GA	Augusta	FAA
GA	Augusta	NWS
GA	Brunswick	FAA
GA	Cartersville	FAA
GA	Columbus	NWS
GA	Gainesville	FAA
GA	Macon	NWS
GA	Savannah	NWS
HI	Hilo	NWS
HI	Honolulu	NWS
HI	Kahului	NWS
HI	Kailu-Kona	FAA
HI	Lihue	NWS
IA	Ames	FAA
IA	Burlington	FAA
IA	Cedar Rapids	FAA
IA	Davenport	FAA
IA	Des Moines	NWS
IA	Dubuque	NWS
IA	Estherville	FAA
IA	Iowa City	FAA
IA	Marshalltown	FAA
IA	Mason City	FAA
IA	Ottumwa	FAA
IA	Sioux City	NWS
IA	Spencer	FAA
IA	Waterloo	NWS
ID	Boise	NWS
ID	Burley	FAA
ID	Idaho Falls	FAA
ID	Jerome	FAA
ID	Lewiston	NWS
ID	Mullan Pass	FAA
ID	Pocatello	NWS
ID	Rexburg	FAA
ID	Twin Falls	FAA
IL	Cahokia/St Louis	FAA
IL	Carbondale	FAA
IL	Champaign/Urbana	FAA
IL	Chicago	FAA
IL	Chicago	NWS
IL	Chicago/Aurora	FAA
IL	Chicago/West Chicago	FAA
IL	Chicago/Wheeling	FAA

Candidate ASOS Locations (NWS and FAA)

(Continued)

IL	Decatur	FAA
IL	Lawrenceville	FAA
IL	Mattoon/Charleston	FAA
IL	Moline	NWS
IL	Peoria	NWS
IL	Rockford	NWS
IL	Springfield	NWS
IN	Bloomington	FAA
IN	Evansville	NWS
IN	Fort Wayne	NWS
IN	Goshen	FAA
IN	Indianapolis	FAA
IN	Indianapolis	NWS
IN	Lafayette	FAA
IN	Muncie	FAA
IN	Shelbyville	FAA
IN	South Bend	NWS
IN	Terre Haute	FAA
IN	Valparaiso	FAA
KS	Chanute	FAA
KS	Coffeyville	FAA
KS	Concordia	NWS
KS	Dodge City	NWS
KS	Emporia	FAA
KS	Garden City	FAA
KS	Goodland	NWS
KS	Hill City	FAA
KS	Hutchinson	FAA
KS	Lawrence	FAA
KS	Manhattan	FAA
KS	Manhattan	FAA
KS	Olathe	FAA
KS	Olathe	FAA
KS	Parsons	FAA
KS	Russell	FAA
KS	Salina	FAA
KS	Topeka	FAA
KS	Topeka	NWS
KS	Wichita	FAA
KS	Wichita	NWS
KS	Winfield	FAA
KY	Bowling Green	FAA
KY	Covington/Cincinnati	NWS
KY	Frankfort	FAA
KY	Jackson	NWS
KY	Lexington	NWS
KY	London	FAA
KY	Louisville	FAA
KY	Louisville	NWS
KY	Paducah	NWS
LA	Alexandria	FAA
LA	Baton Rouge	NWS
LA	Lafayette	FAA
LA	Lake Charles	NWS
LA	Monroe	FAA
LA	New Iberia	FAA
LA	New Orleans	FAA
LA	New Orleans	NWS
LA	Shreveport	FAA
LA	Shreveport	NWS
LA	Slidell	FAA
MA	Bedford	FAA
MA	Beverly	FAA
MA	Boston	NWS
MA	Chatham	FAA
MA	Fitchburg	FAA
MA	Hyannis	FAA
MA	Lawrence	FAA
MA	Nantucket	FAA
MA	New Bedford	FAA
MA	North Adams	FAA
MA	Norwood	FAA
MA	Orange	FAA
MA	Pittsfield	FAA
MA	Plymouth	FAA
MA	Taunton	FAA
MA	Westfield	FAA
MA	Worcester	NWS
MD	Baltimore	NWS
MD	Hagerstown	FAA
MD	Ocean City	FAA
MD	Salisbury	FAA
ME	Augusta	FAA
ME	Bangor	FAA
ME	Caribou	NWS
ME	Frenchville	FAA
ME	Fryeburg	FAA
ME	Houlton	FAA

Candidate ASOS Locations (NWS and FAA)

(Continued)

ME	Millinocket	FAA
ME	Portland	NWS
ME	Wiscasset	FAA
MI	Adrian	FAA
MI	Alpena	NWS
MI	Ann Arbor	FAA
MI	Battle Creek	FAA
MI	Benton Harbor	FAA
MI	Detroit	FAA
MI	Detroit	FAA
MI	Detroit	NWS
MI	Flint	NWS
MI	Gaylord	FAA
MI	Grand Rapids	NWS
MI	Hancock	FAA
MI	Holland	FAA
MI	Houghton Lake	NWS
MI	Iron Mountain	FAA
MI	Kalamazoo	FAA
MI	Lansing	NWS
MI	Muskegon	NWS
MI	Pellston	FAA
MI	Pontiac	FAA
MI	Saginaw	FAA
MI	Traverse City	FAA
MN	Alexandria	FAA
MN	Baudette	FAA
MN	Brainerd	FAA
MN	Duluth	NWS
MN	Hibbing	FAA
MN	International Falls	NWS
MN	Minneapolis	FAA
MN	Minneapolis	FAA
MN	Minneapolis	NWS
MN	Park Rapids	FAA
MN	Redwood Falls	FAA
MN	Rochester	NWS
MN	St Cloud	NWS
MN	St Paul	FAA
MO	Cape Girardeau	FAA
MO	Columbia	NWS
MO	Jefferson City	FAA
MO	Joplin	FAA
MO	Kansas City	FAA
MO	Kansas City	NWS
MO	Rolla/Vichy	FAA
MO	Sedalia	FAA
MO	Springfield	NWS
MO	St Charles	FAA
MO	St Joseph	FAA
MO	St Louis	FAA
MO	St Louis	NWS
MO	West Plains	FAA
MS	Greenville	FAA
MS	Gulfport	FAA
MS	Hattiesburg	FAA
MS	Jackson	FAA
MS	Jackson	NWS
MS	McComb	FAA
MS	Meridian	NWS
MS	Pascagoula	FAA
MS	Tupelo	NWS
MS	Vicksburg	FAA
MT	Baker	FAA
MT	Billings	NWS
MT	Bozeman	FAA
MT	Butte	FAA
MT	Dillon	FAA
MT	Glasgow	NWS
MT	Great Falls	NWS
MT	Havre	NWS
MT	Helena	NWS
MT	Kalispell	NWS
MT	Livingston	FAA
MT	Miles City	FAA
MT	Missoula	NWS
MT	Wolf Point	FAA
NC	Asheville	NWS
NC	Beaufort	FAA
NC	Burlington	FAA
NC	Chapel Hill	FAA
NC	Charlotte	NWS
NC	Elizabeth City	FAA
NC	Fayetteville	FAA
NC	Gastonia	FAA
NC	Greensboro	NWS
NC	Hatteras	NWS
NC	Hickory	FAA

Candidate ASOS Locations (NWS and FAA)

(Continued)

NC	Kinston	FAA
NC	Lumberton	FAA
NC	Maxton	FAA
NC	Monroe	FAA
NC	New Bern	FAA
NC	Raleigh/Durham	NWS
NC	Roanoke Rapids	FAA
NC	Rocky Mount	FAA
NC	Wilmington	NWS
NC	Winston Salem	FAA
ND	Bismarck	NWS
ND	Dickinson	FAA
ND	Fargo	NWS
ND	Grand Forks	FAA
ND	Hettinger	FAA
ND	Jamestown	FAA
ND	Minot	FAA
ND	Williston	NWS
NE	Alliance	FAA
NE	Chadron	FAA
NE	Grand Island	NWS
NE	Hastings	FAA
NE	Lincoln	NWS
NE	McCook	FAA
NE	Norfolk	NWS
NE	North Platte	NWS
NE	Omaha	FAA
NE	Scottsbluff	NWS
NE	Sidney	FAA
NE	Tekamah	FAA
NE	Valentine	NWS
NH	Berlin	FAA
NH	Concord	NWS
NH	Jaffrey	FAA
NH	Lebanon	FAA
NH	Manchester	FAA
NH	Rochester	FAA
NH	Whitefield	FAA
NJ	Atlantic City	NWS
NJ	Caldwell	FAA
NJ	Lincoln Park	FAA
NJ	Millville	FAA
NJ	Morristown	FAA
NJ	Mount Holly	FAA
NJ	Newark	NWS
NJ	Robbinsville	FAA
NJ	Somerville	FAA
NJ	Sussex	FAA
NJ	Teterboro	NWS
NJ	Trenton	FAA
NM	Albuquerque	NWS
NM	Carlsbad	FAA
NM	Clayton	NWS
NM	Deming	FAA
NM	Gallup	FAA
NM	Las Vegas	FAA
NM	Roswell	NWS
NM	Santa Fe	FAA
NM	Truth or Consequence	NWS
NM	Tucumcari	FAA
NV	Ely	NWS
NV	Las Vegas	NWS
NV	Lovelock	FAA
NV	Mercury	NWS
NV	Reno	NWS
NV	Tonopah	FAA
NV	Winnemucca	NWS
NY	Albany	NWS
NY	Binghamton	NWS
NY	Buffalo	NWS
NY	Dansville	FAA
NY	Dunkirk	FAA
NY	Elmira	FAA
NY	Farmingdale	FAA
NY	Fulton	FAA
NY	Glens Falls	FAA
NY	Islip	FAA
NY	Massena	FAA
NY	Montgomery	FAA
NY	New York	NWS
NY	New York	NWS
NY	Penn Yan	FAA
NY	Plattsburgh	FAA
NY	Poughkeepsie	FAA
NY	Rochester	NWS
NY	Saranac Lake	FAA
NY	Shirley	FAA
NY	Syracuse	NWS

Candidate ASOS Locations (NWS and FAA)

(Continued)

NY	Utica	FAA
NY	Watertown	FAA
NY	Wellsville	FAA
NY	Westhampton Beach	FAA
NY	White Plains	FAA
OH	Akron	FAA
OH	Akron	NWS
OH	Ashtabula	FAA
OH	Cincinnati	FAA
OH	Cleveland	FAA
OH	Cleveland	NWS
OH	Columbus	FAA
OH	Columbus	NWS
OH	Dayton	FAA
OH	Dayton	NWS
OH	Defiance	FAA
OH	Hamilton	FAA
OH	Lancaster	FAA
OH	Lima	FAA
OH	Lorain/Elyria	FAA
OH	Mansfield	NWS
OH	Marion	FAA
OH	New Philadelphia	FAA
OH	Newark	FAA
OH	Toledo	FAA
OH	Toledo	NWS
OH	Wooster	FAA
OH	Youngstown	NWS
OH	Zanesville	FAA
OK	Bartlesville	FAA
OK	Clinton	FAA
OK	Frederick	FAA
OK	Gage	FAA
OK	Guthrie	FAA
OK	Hobart	FAA
OK	Lawton	FAA
OK	Mc Alester	FAA
OK	Muskogee	FAA
OK	Oklahoma City	FAA
OK	Oklahoma City	NWS
OK	Ponca City	FAA
OK	Stillwater	FAA
OK	Tulsa	FAA
OK	Tulsa	NWS
OR	Astoria	NWS
OR	Aurora	FAA
OR	Baker	FAA
OR	Burns	NWS
OR	Eugene	NWS
OR	Hermiston	FAA
OR	Klamath Falls	FAA
OR	McMinnville	FAA
OR	Medford	NWS
OR	Ontario	FAA
OR	Pendleton	NWS
OR	Portland	FAA
OR	Portland	FAA
OR	Portland	NWS
OR	Roseburg	FAA
OR	Salem	NWS
OR	Scappoose	FAA
OR	Sexton Summit	NWS
OR	The Dalles	FAA
PA	Allentown	NWS
PA	Altoona	FAA
PA	Bradford	FAA
PA	Clearfield	FAA
PA	Downingtown	FAA
PA	Doylestown	FAA
PA	Erie	NWS
PA	Harrisburg	FAA
PA	Harrisburg	FAA
PA	Johnstown	FAA
PA	Lancaster	FAA
PA	Meadville	FAA
PA	Monongahela	FAA
PA	Philadelphia	NWS
PA	Philadelphia	NWS
PA	Philipsburg	FAA
PA	Pittsburgh	FAA
PA	Pittsburgh	NWS
PA	Pottstown	FAA
PA	Reading	FAA
PA	Selinsgrove	FAA
PA	Wilkesbarre-Scranton	NWS
PA	Williamsport	NWS
PA	York	FAA
PR	San Juan	NWS

Candidate ASOS Locations (NWS and FAA)

(Continued)

RI	Newport	FAA
RI	Providence	NWS
RI	Westerly	FAA
SC	Anderson	FAA
SC	Charleston	NWS
SC	Clemson	FAA
SC	Columbia	FAA
SC	Columbia	NWS
SC	Florence	FAA
SC	Greenville	FAA
SC	Greenwood	FAA
SC	Greer	NWS
SC	North Myrtle Beach	FAA
SC	Orangeburg	FAA
SC	Rock Hill	FAA
SD	Aberdeen	NWS
SD	Huron	NWS
SD	Pierre	FAA
SD	Pine Ridge	FAA
SD	Rapid City	NWS
SD	Sioux Falls	NWS
SD	Watertown	FAA
SD	Winner	FAA
TN	Bristol/Johnson	NWS
TN	Chattanooga	NWS
TN	Clarksville	FAA
TN	Crossville	FAA
TN	Jackson	FAA
TN	Knoxville	NWS
TN	Memphis	FAA
TN	Nashville	NWS
TX	Abilene	NWS
TX	Alice	FAA
TX	Amarillo	NWS
TX	Angleton/Lk Jackson	FAA
TX	Arlington	FAA
TX	Austin	NWS
TX	Beaumont/Port Arthur	NWS
TX	Borger	FAA
TX	Brownsville	NWS
TX	Burnet	FAA
TX	Childress	FAA
TX	College Station	FAA
TX	Conroe	FAA
TX	Corpus Christi	NWS
TX	Corsicana	FAA
TX	Cotulla	FAA
TX	Dalhart	FAA
TX	Dallas	FAA
TX	Dallas	FAA
TX	Dallas/Fort Worth	NWS
TX	Del Rio	NWS
TX	Denton	FAA
TX	El Paso	NWS
TX	Fort Stockton	FAA
TX	Fort Worth	FAA
TX	Fort Worth	FAA
TX	Galveston	FAA
TX	Harlingen	FAA
TX	Hondo	FAA
TX	Houston	FAA
TX	Houston	FAA
TX	Houston	FAA
TX	Houston	NWS
TX	Huntsville	FAA
TX	Longview	FAA
TX	Lubbock	NWS
TX	Lufkin	FAA
TX	McAllen	FAA
TX	McKinney	FAA
TX	Midland	NWS
TX	Mineral Wells	FAA
TX	New Braunfels	FAA
TX	Odessa	FAA
TX	Port Isabel	FAA
TX	Rockport	FAA
TX	San Angelo	NWS
TX	San Antonio	FAA
TX	San Antonio	NWS
TX	Terrell	FAA
TX	Tyler	FAA
TX	Victoria	NWS
TX	Waco	NWS
TX	Wichita Falls	NWS
TX	Wink	FAA
UT	Bryce Canyon	FAA
UT	Cedar City	FAA
UT	Logan	FAA

Candidate ASOS Locations (NWS and FAA)

(Continued)

UT	Milford	NWS
UT	Moab	FAA
UT	Price	FAA
UT	Salt Lake City	NWS
UT	Vernal	FAA
VA	Charlottesville	FAA
VA	Danville	FAA
VA	Lynchburg	NWS
VA	Newport News	FAA
VA	Norfolk	NWS
VA	Richmond	FAA
VA	Richmond	NWS
VA	Roanoke	NWS
VA	Wallops Island	NWS
VI	Charlotte Amalie	FAA
VI	Christiansted	FAA
VT	Barre-Montpelier	FAA
VT	Bennington	FAA
VT	Burlington	NWS
VT	Morrisville	FAA
VT	Springfield	FAA
WA	Deer Park	FAA
WA	Ellensburg	FAA
WA	Ephrata	FAA
WA	Everett	FAA
WA	Friday Harbor	FAA
WA	Hoquiam	FAA
WA	Moses Lake	FAA
WA	Olympia	NWS
WA	Omak	FAA
WA	Pasco	FAA
WA	Port Angeles	FAA
WA	Pullman/Moscow	FAA
WA	Quillayute	NWS
WA	Renton	FAA
WA	Seattle	FAA
WA	Seattle	NWS
WA	Spokane	FAA
WA	Spokane	NWS
WA	Stampede Pass	NWS
WA	Tacoma	FAA
WA	Toledo	FAA
WA	Walla Walla	FAA
WA	Yakima	NWS
WI	Ashland	FAA
WI	Boscobel	FAA
WI	Fond du Lac	FAA
WI	Green Bay	NWS
WI	Hayward	FAA
WI	Kenosha	FAA
WI	La Crosse	FAA
WI	Lone Rock	FAA
WI	Madison	NWS
WI	Marshfield	FAA
WI	Milwaukee	NWS
WI	Oshkosh	FAA
WI	Racine	FAA
WI	Rhinelander	FAA
WI	Sheboygan	FAA
WI	Wausau	FAA
WI	Wisconsin Rapids	FAA
WV	Beckley	NWS
WV	Bluefield	FAA
WV	Charleston	NWS
WV	Clarksburg	FAA
WV	Elkins	NWS
WV	Huntington	NWS
WV	Martinsburg	FAA
WV	Morgantown	FAA
WV	Wheeling	FAA
WY	Big Piney	FAA
WY	Buffalo	FAA
WY	Casper	NWS
WY	Cheyenne	NWS
WY	Douglas	FAA
WY	Evanston	FAA
WY	Greybull	FAA
WY	Laramie	FAA
WY	Rawlins	FAA
WY	Riverton	NWS
WY	Sheridan	NWS
WY	Torrington	FAA
WY	Worland	FAA

Acronyms

ACAR	ARINC Communications Addressing and Reporting System
AOML	Atlantic Oceanographic and Meteorological Laboratory
ASOS	Automated Surface Observing System
AWIPS	Advanced Weather Interactive Processing System
COMAP	COMET Mesoscale Analysis and Prediction Course
COMET	Cooperative Program for Operational Meteorology Education and Training
CRS	Console Replacement System (NOAA Weather Radio)
CWSU	Center Weather Service Unit
DARE	Denver AWIPS Risk Reduction and Requirements Evaluation
DOC	Department of Commerce
DOD	Department of Defense
DOH	Development and Operations Hydrologist
ERL	Environmental Research Laboratory
FAA	Federal Aviation Administration
FSL	Forecast Systems Laboratory
GDP	Government Development Platform (AWIPS)
GFDL	Geophysical Fluid Dynamics Laboratory
GOES	Geostationary Operational Environmental Satellite
HAS	Hydrometeorological Analysis and Support
HRL	Hydrologic Research Laboratory
IDB	Initial Deployment Baseline (AWIPS)
ISPAN	Information Stream Project for AWIPS and NOAAPORT
LAPS	Local Analysis and Prediction System
MAPS	Mesoscale Analysis and Prediction System
MAR	Modernization and Associated Restructuring
MARD	Modernization and Associated Restructuring Demonstration
MTS	Master Transition Schedule
NCDC	National Climatic Data Center
NESDIS	National Environmental Satellite, Data and Information Service
NEXRAD	Next Generation Weather Radar
NHC	National Hurricane Center
NIP	National Implementation Plan
NMC	National Meteorological Center
NOAA	National Oceanic and Atmospheric Administration

NOAAPORT	Data transmission system in AWIPS environment
NSSFC	National Severe Storms Forecast Center
NSSL	National Severe Storms Laboratory
NWR	NOAA Weather Radio
NWS	National Weather Service
NWSFO	NEXRAD Weather Service Forecast Office
NWSO	NEXRAD Weather Service Office
NWSRFS	National Weather Service River Forecast System
OH	Office of Hydrology
OHRFC	Ohio River Forecast Center
OM	Office of Meteorology
OSD	Office of Systems Development
OSF	NEXRAD Operational Support Facility
OT&E	Office Transition and Evaluation
PERT	Program Evaluation and Review Technique
PROTEUS	Prototype RFC Operational Test, Evaluation and User Simulation
PUP	Principal User Processor (NEXRAD)
RFC	River Forecast Center
SIP	Site Implementation Plan
SOO	Science and Operations Officer
SPO	Systems Program Office
TDL	Techniques Development Laboratory
TPO	Transition Program Office
WBS	Work Breakdown Structure
WFO	Weather Forecast Office
WSCMO	Weather Service Contract Meteorological Observatory
WSFO	Weather Service Forecast Office
WSMO	Weather Service Meteorological Observatory
WSO	Weather Service Office

☆ U.S. GOVERNMENT PRINTING OFFICE:1994-368-903/10369