Trans-95-2

National Implementation Plan

For Modernization

Of The National Weather Service

For Fiscal Year 1996

Department of Commerce

National Oceanic and Atmospheric Administration

April 1995

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

APR 13 1995

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 1996 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

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MODERNIZATION TRANSITION COMMITTEE

Completion of Consultation on FY96 National Implementation Plan

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 1996. The Committee generally endorses the Plan with the following recommendations:

1. The Committee strongly endorses funding to the full level required for the successful execution of the Plan. ***The Committee believes that any delay in providing funds will postpone benefit to the public, resulting in a degradation of service.***

2. The Committee endorses the NRC review of the adequacy of NEXRAD coverage, but stresses that this may not have become necessary if the NWS were provided the flexibility to amend the Modernization Plan as warranted by changing circumstances; for example, where non-modernization related actions, such as Military base closures, impact weather support in a specific community. The Committee requests that appropriate actions be taken to permit this flexibility.

3. The Committee recommends that the NIP include an explanation (e.g. a separate portion of the executive summary or an attachment) which describes the key differences reflected in the current plan in relation to the previous plan.

4. The Committee encourages a pro-active flow of information from NWS to states and individual communities as early as possible to describe changes in weather service support as modernization progresses.

5. The Committee urges all parties (public, private and employee representatives) to work together in a cooperative partnership to rapidly but effectively resolve the issue associated with providing modernized services to customers in the aviation community. Until this resolution is accomplished, the Committee expects that adequate resources will be provided for augmenting operations.

The Committee's intention in making these recommendations is to ensure the timely and successful completion of the modernization process.

Peter R. Leavitt
Chair, Modernization
Transition Committee

12-15-94
Date

Summary of Changes Since the Fiscal Year 1995 National Implementation Plan

Since the publication of the fiscal year 1995 National Implementation Plan, there have been several significant changes. These changes are synopsized below:

- The National Research Council has been tasked to study the adequacy of NEXRAD coverage
- Jackson, Kentucky, will receive a NEXRAD system and will also become the 118th WFO
- Delays have been encountered in achieving full automation of surface observations
- The AWIPS program has undergone a major restructuring
- The NEXRAD and ASOS maps have been updated to reflect current locations
- Individual schedules and the Master Transition Schedule have been updated
- No Closure Certifications will take place prior to fiscal year 1999.

Executive Summary

Status Assessment

With implementation of new systems well underway, the modernization and associated restructuring of the National Weather Service (NWS) is nearing its mid-point. Actual performance of the new systems in an operational environment and initial responses from users of weather services provide a unique opportunity to examine successes and failures and to assess the validity and viability of the modernization plan and the implementation approach. The Secretary of Commerce has decided to take advantage of this opportunity. The Secretary has solicited public comments to identify areas of concern and has already begun an assessment of modernization that will continue throughout fiscal year 1995. The Secretary will use the results of this assessment to determine what mid-course corrections may be necessary.

The fundamental concept underlying the original modernization plan and the rationale for the implementation approach initially taken are briefly described below. This summary is followed by an objective report on the problem areas and the Secretary's action plan for fiscal year 1995 to complete the assessment and identify corrective actions. The results of the assessment and any needed corrective actions will be reported on and integrated into next year's National Implementation Plan.

The original modernization plan called for a number of components (systems, facilities, staffing, training, etc.) to be brought into operational use in an integrated and synchronized fashion. The plan was intended to provide a substantial improvement in weather services to this nation resulting in sizeable economic benefits and reductions in weather-related fatalities. An aggressive implementation approach was selected to synchronize availability of trained staff with new system deployments to capitalize on the capabilities of the new systems and provide improved weather services to each geographical area as early and as cost effectively as possible. Additionally, phase out of the existing obsolete systems would be accomplished as quickly as possible to avoid the risk of extended outages and loss of coverage.

A number of concerns about various aspects of NWS modernization have been voiced by users, the public and Congress. These concerns focus on certain changes resulting from modernization that some believe will cause a degradation in weather services:

- Closing local weather offices
- Adequacy of radar coverage from the planned NEXRAD network
- Loss of existing local warning radars
- Automation of surface weather observations at airports.

In order to better understand what and where the concerns are, the Secretary recently solicited comments from the public on perceived degradation of service that would result from decommissioning existing radars, or closing, consolidating, automating or relocating weather offices. The Secretary furnished all public comments that were received to the National Academy of Science's National Research Council (NRC). The NRC is using these comments in conducting its scientific assessment of proposed NEXRAD coverage and consolidation of weather offices. Based on recommendations to be made by the NRC, the Secretary will report to Congress on how the concerns are to be addressed and what corrective actions, if any, to the modernization plan are needed. The report from the NRC to the Secretary is expected in the summer of 1995. The Secretary's report to Congress is expected in the fall of 1995. No existing radars will be decommissioned nor will any weather office be closed, consolidated, automated or relocated in an area of concern until the Secretary has reported to Congress and corrective actions can be implemented.

To address concerns about replacing human observers with automated weather observation equipment at airports, the NWS is working in collaboration with the Department of Transportation's Federal Aviation Administration (FAA) and the aviation community. A series of workshops between the NWS, FAA and aviation community are being held to define the essential service standards for automated observations that are needed to ensure safe and efficient aviation operations. A joint demonstration project will be conducted during fiscal year 1995 to validate that these essential service standards can be met using the Automated Surface Observing System (ASOS). The FAA will be soliciting public comments as part of the demonstration project to ensure concerns are being addressed. The FAA and the aviation community must be satisfied with the results of the demonstration project before NWS moves forward with automation of weather offices.

The Advanced Weather Interactive Processing System (AWIPS) is the key integrating component of the modernization. AWIPS will be the nerve center of the Weather Forecast Office of the future. AWIPS also will be the last system delivered. Concerns about delays in development of AWIPS prompted the Deputy Under Secretary for Oceans and Atmosphere to charter an independent review of the AWIPS program in May 1994. As a result of this review, a number of management, technical and structural changes have been made in the AWIPS development effort. Recognizing the critical need for AWIPS capabilities in modernized operations and the high cost of delay, NOAA has restructured the approach to developing and deploying AWIPS. This restructured approach calls for an early prototype capability to be deployed at a few sites in fiscal year 1995. The remaining AWIPS capabilities have been broken down into smaller increments that will be developed, tested and deployed more rapidly. Although the full level of required AWIPS capabilities will consequently take somewhat longer to implement, this approach will reduce the risk of further schedule delays. The sequencing of AWIPS capabilities has been done to support consolidation and automation certifications.

Highlights

As the NWS nears the mid-point of its massive modernization and restructuring, the public is seeing a huge return on its investment in new technology. Major advances in meteorology and hydrology, coupled with technological breakthroughs for observing and analyzing the atmosphere are preventing unnecessary evacuations of storm threatened areas and expensive shut downs of government and business operations. Most important, new technology is helping to save lives by giving Americans faster and more accurate forecasts of severe weather and floods.

In September 1992, the National Institute of Standards and Technology released the results of a cost-benefit study of the NWS 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.

The Nation has begun to experience the benefits brought by the modernization of the NWS. Fiscal year 1994 has seen the commissioning of the first 12 NEXRADs. The NEXRADs, otherwise known as the Weather Surveillance Radar 1988 Doppler (WSR-88D), have enabled our forecasters to issue improved warnings for severe weather and flash floods. For example, warning accuracy for severe weather and tornados has improved from 70 to 73 and 47 to 53 percent respectively. Lead-times for the warnings have improved nearly 10 percent over previous years.

The improved warning accuracy is important and illustrates the impact the modernization will have on the forecast and warning program. We expect lead time and accuracy for severe weather, tornado, and flash flood warnings to continue to improve as NEXRAD deployments continue across the Nation and our offices are staffed to use the radar. Statistics do not tell the entire story. The NEXRAD provides NWS forecasters with information that has never been available before. For example, when tropical storm Alberto made landfall in the Florida Panhandle, NEXRAD provided local forecasters with accurate estimates of precipitation across the entire region. Those estimates verified isolated spotter reports of heavy rain and enabled forecasters to issue flood warnings. Another example of the use of the radar is in the Pacific Northwest. The Seattle, Washington, radar was accepted in March of 1994. Wind information provided by the NEXRAD was used by NWS support meteorologists to issue accurate forecasts to assist firefighters battle many raging forestfires this past summer that blackened parts of the Pacific Northwest.

In fiscal year 1994, Automated Surface Observing System (ASOS) units were delivered, installed and tested at more than 150 NWS, FAA, and Department of Defense (DOD) sites. NWS commissioned 18 ASOS units in fiscal year 1994, bringing the total of NWS sites to 40.

NWS also fully staffed to the Stage 1 requirement 50 more NEXRAD Weather Forecast Service Offices (WFSOs) and NEXRAD Weather Service Offices (WSOs).

The new NWS Lightning Data contract is providing real-time lightning data to the National Severe Storms Forecast Center, a MARD central receiving site, and a 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. The Wind Profiler Demonstration Network, a 31-station system, provides information hourly on wind profiles and can respond as often as every six minutes.

Modernized river forecast operations were demonstrated at the Arkansas-Red Basin River Forecast Center (RFC) in Tulsa. This was accomplished using pre-AWIPS work stations and the primary hydrologic/hydrometeorologic forecasting components of a modernized RFC. Reaction to the new RFC products and services from cooperators and other users has been very positive so far.

Last year, NWS finalized and approved the NEXRAD Information Dissemination Service (NIDS) Implementation Plan. NIDS provided telecommunications for 45 additional NEXRAD sites during fiscal year 1994, including two sites in Alaska and two sites in Hawaii. A total of 101 sites are currently supported.

In December 1993, the NWS received five prototype radiosonde upper air systems from the National Center for Atmospheric Research. NWS conducted a four-season field evaluation at 16 sites in severe climatic conditions to assess components, such as the NAVAID wind determining system, pressure-temperature-humidity processors and the inflation-launch shelters. Results of the field evaluation have been extremely promising.

In keeping with a congressional mandate to ensure NWS staff is trained to use and maintain new technology, NWS offered four new Cooperative Program for Operational Meteorology Education and Training (COMET) courses in 1994. These intensive classes cover the latest theories and techniques in meteorology and hydrology.

Due to budget and time constraints, NWS will provide most staff training on site. Courses will be taught by personnel trained at intensive courses or by new interactive computer workstations. NWS staff now have access to eight computer-based learning modules. In addition, the NEXRAD Operational Support Facility held 27 classes on NEXRADs in 1994, training 520 students.

Although the technology being installed is state-of-the-art, researchers continue to improve equipment and software 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.

Other innovations in the last year include parallel testing by the Geophysical Fluid Dynamics Laboratory of a new Hurricane Forecast System. This model physically and mathematically defines the detailed hurricane vortex. The National Severe Storms Laboratory is conducting an experiment to determine the origins of tornadoes and their dynamics that continues into 1995. By the end of 1994, the Environmental Research Laboratory planned to install six Navstar Global Positioning Systems, which will measure integrated water vapor. A long list of research programs are in development to further improve forecast accuracy and timeliness.

Communications accomplishments in 1994 include finalizing the *Internal and External Communication and Coordination Plan for the Modernization and Associated Restructuring of the NWS* for technical coordination and service confirmation. This plan specifies how NWS employees should communicate the MAR to external communities. Other communications efforts include "The Critical Path" for NWS employees on transition progress and an awards program recognizing exceptional staff efforts during the modernization. NWS staff continue to brief congressional and State government staff.

Major objectives for fiscal year 1995 are to:

- Install and commission more NEXRADs, especially those at MARD sites
- Install and commission more ASOS units across the country
- 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. A field office at an airport cannot be closed or relocated unless the Secretary of Commerce conducts an air safety appraisal in consultation with the Secretary of Transportation and the Modernization Transition Committee and determines that such action will not result in a degradation of service that affects aircraft safety. 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 also created a Modernization Transition Committee (MTC) to advise the Secretary of Commerce on proposed certifications. The Committee will report on modernization criteria, the NIP and other matters of public safety. Members of the committee include weather service employees, meteorological experts, private sector users, representatives from NWS, DOD, FAA, the Federal Emergency Management Administration, civil defense and public safety organizations, the news media and labor groups. The Secretary of Commerce may request the MTC to review a proposed certification and should do so if there is a significant possibility

service will degrade in that 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 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, *Toward a New National Weather Service—Review of Modernization Criteria*. 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.

In March 1994, the NRC released *Toward a New National Weather Service—National Weather Service Employee Feedback,* an analysis of a survey conducted by the Council to measure acceptance of the modernization by field personnel. In addition, NRC released a report on new aviation safety services, *Toward a New National Weather Service—Weather for Those Who Fly*.

Table 6 provides anticipated dates for proposed actions to change operations and certify field offices during fiscal years 1995 through 1997. This table notifies the public of these events as required by Sections 703 and 705 of the Public Law.

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 1996 Presidential budget. This NIP describes modernization goals for fiscal years 1996 and 1997. To provide a more comprehensive picture of the transition, this NIP includes progress achieved during fiscal year 1994 as well as actions planned for fiscal year 1995. The transition from today's operation to the modernized NWS will require an agency-wide transformation. When the NWS has completed the transformation to the fully modernized NWS, i.e. achieved national implementation, it will have retooled all major systems, commissioned all WFOs, closed all field offices scheduled for closure under the strategic plan, and will be providing 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

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 (larger) 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 only been able to react to events providing warnings of severe weather or flash floods after detecting these events or after reports of visual sightings. It has been difficult for NWS forecasters to predict small-scale violent weather, resulting in short lead times for warnings.

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 understand the complementary aspects of 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 designed 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 long-range events become more certain. The long-range outlook, which covers 6 years, provides a broad look at modernization and associated restructuring (MAR) targets and their greatest uncertainties. The medium-range projection, covering 3 years, offers more detail for 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 National Implementation Staff (NIS) 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. The Deputy Assistant Administrator for Modernization and the National Implementation Staff (NIS) 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 of the NIP 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 are the second tier of the transition planning hierarchy. Regional 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.

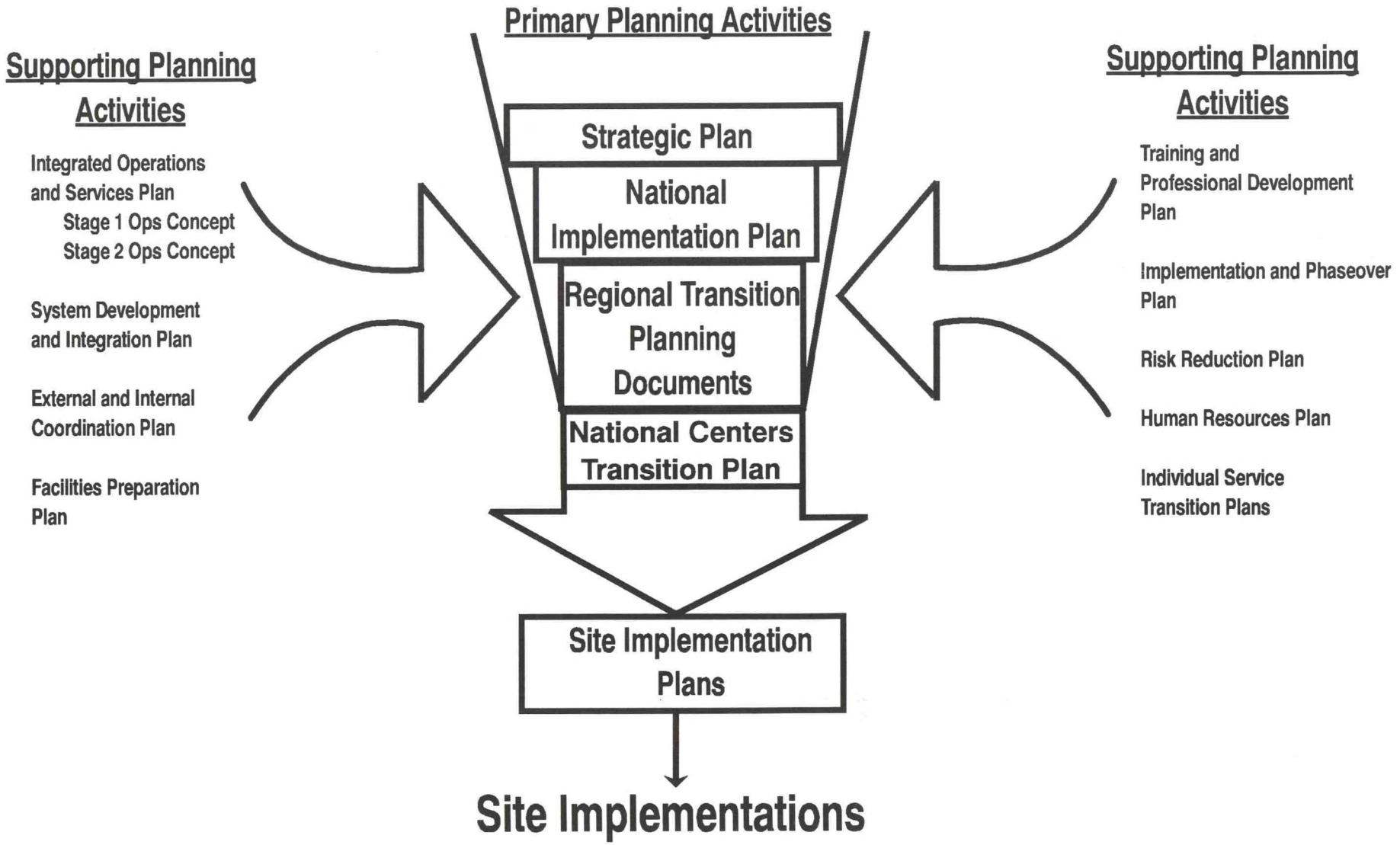
The final tier in the planning hierarchy is the Site Implementation Plan (SIP), which contains specific, detailed actions and schedules for an office. Each Weather Forecast Office (WFO) and WFO/River Forecast Center (RFC) has a SIP to address site transitions in its area of responsibility. SIPs are modified 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 for Environmental Prediction (NCEP) Plan as a counterpart to regional planning documents. This plan addresses the transition activities and schedules for each of the National Centers: the Hydrometeorological Prediction Center, Tropical Prediction Center, Storm Prediction Center, Marine Prediction Center, Aviation Weather Center, and Climate Prediction Center.

National, Regional/National Center and site level plans form the main planning path. As depicted in Figure 1, Page 5, 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 employees to help 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, 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. Stage 1 gives field office staff time to adjust to and become familiar with the new Doppler radar and high-resolution surface observation data.

The major feature of Stage 1 is improving severe weather detection capability. NWS will achieve this goal through 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 better detect severe weather. In Stage 1, NWS will continue its two-tier field office structure. The 52 Weather Service Forecast Offices (WSFOs) are responsible for statewide forecasts. Each WSFO is receiving 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 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, consolidating 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, consolidating 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
- Collocate with NWSFO/NWSO
- 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:
  - National Meteorological Center (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.
  - National Hurricane Center (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.
  - Central Pacific Hurricane Center (CPHC) 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. Upon national implementation 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 a network of WFO's, RFC's, and National Centers. Current plans call for 118 WFO's and 13 RFC's. 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 serve 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 information than that currently produced by the area-average procedures. RFCs will better coordinate and integrate meteorological data and forecasts into hydrologic products and services. Modernized 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 be more centralized. 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 is 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 products 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 to serve as input to RFCs' hydrologic models.

Weather Service Offices (WSOs)

- 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) (DCOs)

- 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 (RFCs)

- 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 forecasts and guidance to WFOs and water resource cooperators
- 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 and guidance of hurricanes, thunderstorms and flash floods by using better numerical models of the atmosphere and better atmospheric observations.

Center Weather Service Units (CWSUs)

- 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 is using to modernize and restructure. The terms risk reduction and demonstration are used to define internal and external validation, respectively. This section emphasizes the importance of programs that reduce risk 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. This approach is based on the assumption 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 is gaining this support by keeping individuals and organizations informed about its goals. Support from staff and users requires that they understand the goals of modernization and have proof of NWS's ability to reach them. 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 the 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 will pace the transition of offices. NWS also will base staff changes and training on delivery schedules, with the dual goals of providing the people needed 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. NWS will make these staff changes 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 an 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 informed of significant changes and given evidence that changes will not degrade warning services and required observations.

NWS is transforming 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 the staff will be needed to continue services until additional NEXRAD systems are operating.

Headquarters staff is overseeing transition to Stage 1, with regional offices performing an extensive amount of detailed, site specific 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 Hydromet products and procedures
  - Implement NEXRAD data assimilation procedures, on-site, interactive hydrologic modeling, and other primary components of modernized RFC operations to the extent possible using PROTEUS (Prototype RFC Operational Test, Evaluation, and User Simulation) and other types of pre-AWIPS equipment.

- 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. AWIPS IDB will be upgraded as an ongoing process to allow introduction of needed capabilities and to introduce changes learned from operational experiences.

As with Stage 1, NWS headquarters will maintain 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 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 and document areas of improvements

- 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 and basic training courses for new hires.

Professional Development

Ideally, NWS would provide professional development by sending employees to centrally located courses; however, logistical and budgetary constraints rule this option out. Except for some courses for specialized personnel, most professional development will be conducted on site. The NWS is trying to maximize opportunities for on-site 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 Officer (SOO) and Development and Operations Hydrologist (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 and the latest management 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. Computer-Based Learning Modules should provide the most cost-effective and efficient method for professional development for NWS meteorologists and hydrologists.

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. The results of these tests will form a significant part of the certifications to Congress that services will not be degraded. As test results cumulate as modernization proceeds, the certification process is expected to accelerate. Before completion of Stage 2 (national implementation), NWS will have completed the Modernization and Associated Restructuring Demonstration (MARD) of the modernized weather service.

Modernization and Associated Restructuring Demonstration

In Stage 2, NWS will demonstrate its ability to deliver services from offices with new technology as a model for nationwide operations. The MARD process will apply new technologies and techniques and convert current 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 main-stream river flooding forecasts and flash flood guidance. The new technologies will help RFCs support 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.

The following must be met to test the new operating configuration; involve sufficient WFOs and RFCs to test new hydrometeorological support and forecasting operations, and coordination and support functions in realistic situations and provide warning and forecast services over a significant area.

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 use mesoscale forecasting techniques. In addition, NWS will install and integrate the new technology systems with each other and with existing technology at the MARD offices. After an initialization period, including 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. In light of the recent restructuring of the AWIPS program, the configuration and schedule for the MARD is being revised by the NWS in conjunction with the NRC's National Weather Service Modernization Committee. Next year's NIP will report the results of this review of the MARD.

In preparing for and conducting the operational demonstration, the NWS will:

- Deploy new technologies and integrate them into operations
- Staff restructured offices with the required 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, establishes certification requirements and procedures. This section summarizes these certification requirements. NWS has 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, used to conclude that services 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

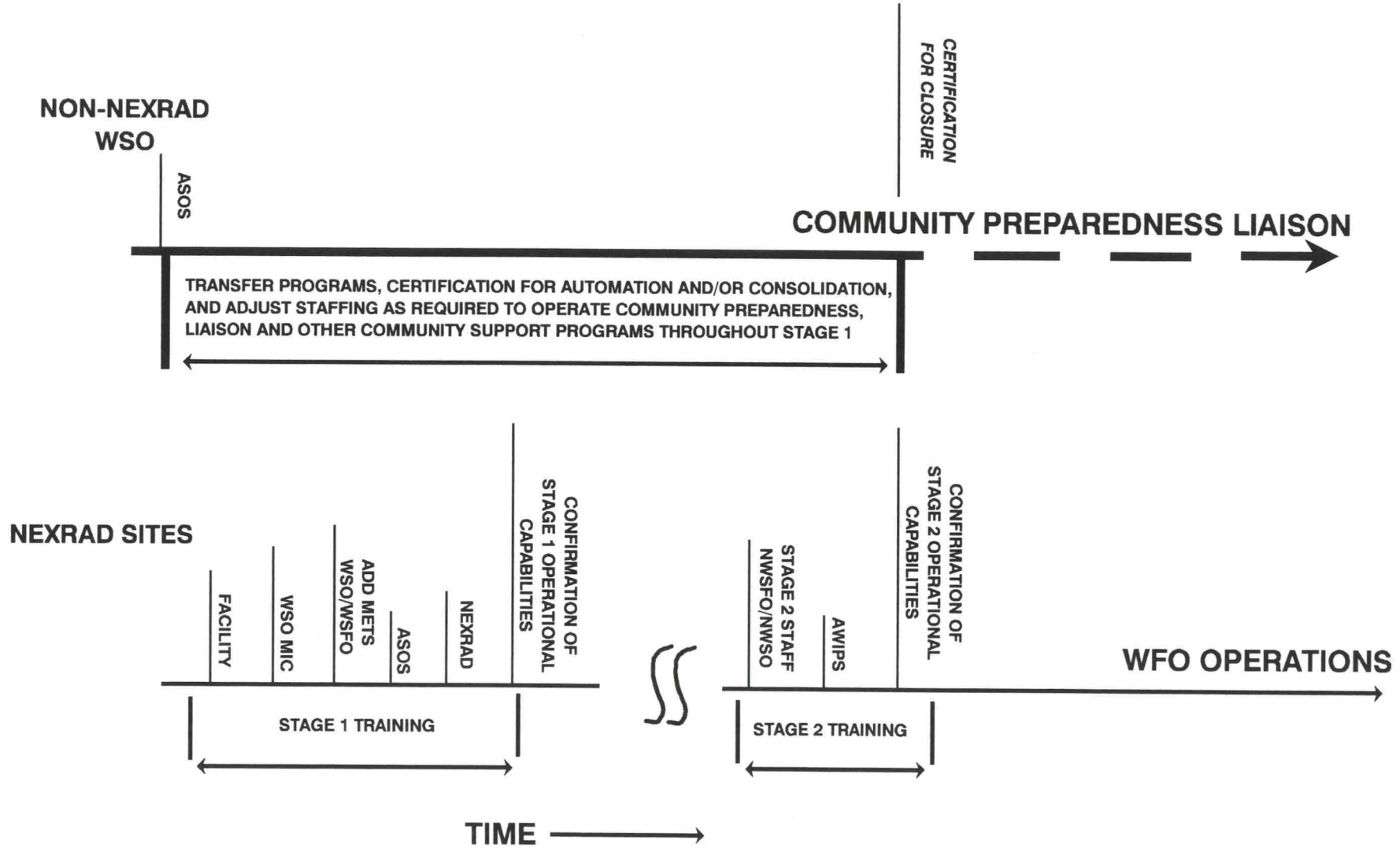
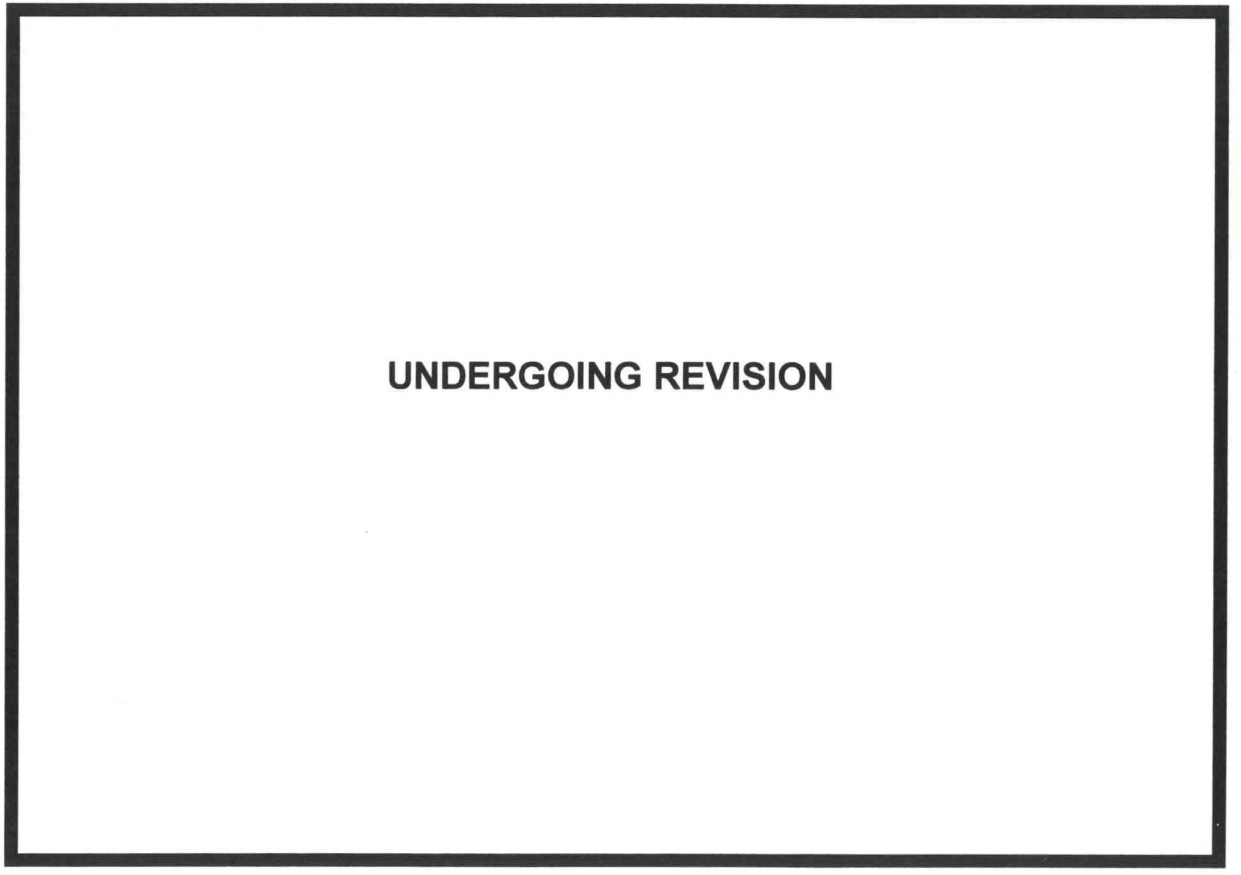


Figure 3
MODERNIZATION AND ASSOCIATED RESTRUCTURING DEMONSTRATION AREA



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 weather 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 through dedicated laboratory facilities across the nation. Programs include research on observational systems, modeling and prediction, severe storms, hurricanes, clouds and precipitation processes, synoptic and mesoscale meteorology, processing, display, and dissemination and information systems. ERL staff often work within the operational NWS environment (e.g., Phoenix, AZ, and Norman, OK); operational forecasters rotate through assignments in certain laboratories.

Forecast Systems Laboratory

The ERL Forecast Systems Laboratory (FSL) in Boulder, CO, is a major contributor to the NWS modernization. The focus of FSL is to conduct research and to develop and transfer new technologies and scientific advancements to the NWS and other operational organizations. One principal FSL activity is to provide technical expertise for, design, and develop real-time meteorological workstations. These systems, such as the DARE and WFO-Advanced systems, are the vehicles through which FSL carries out NWS AWIPS risk reduction activities.

FSL staff help design, implement and support the advanced interactive forecaster workstations. These workstations 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. The DARE-II system was implemented in fiscal year 1990. A new system, WFO-Advanced, which will replace the DARE systems in 1996, will provide many additional capabilities such as connections to three

radars and a complete suite of hydrologic techniques to support Denver and Norman WFO operations. Because the WFO-Advanced hardware environment will be nearly identical to AWIPS and its software environment similar, techniques can be demonstrated and tested in operational settings before integration in AWIPS.

The FSL programs also evaluate new observational technologies 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.

FSL also 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 will then feed diagnostic and predictive models to enhance short-range forecasting.

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 32 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); six systems have been installed at WPDN sites. By the end of 1994, ERL planned to install three more RASS units. ERL also is researching other profiler-complementary technologies, such as measuring integrated water vapor using the Navstar Global Positioning System. By the end of 1994, ERL planned to install six GPS precipitable water systems at WPDN sites for operational NWS analysis.

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 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.

NSSL's research provides a sound scientific foundation on which NOAA weather services can build. The Laboratory:

- Processes radar signals and develops advanced hardware/analysis techniques, including polarization diversity
- Develops operational radar applications, assessing and improving algorithms used with the NWS NEXRAD Doppler radars
- Predicts severe weather systems through numerical forecast models.

NSSL occasionally takes part in multiagency field programs, typically in mid-latitudes. In the spring of 1994 and 1995, NSSL is hosting the Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX) in the central and southern Plains. The NWS and several universities and research institutions also are involved. This experiment addresses questions on the origins of tornadoes (tornadogenesis) and tornado dynamics. Knowledge from VORTEX should help solve operational forecast problems, such as differentiating between mesocyclones that produce tornadoes and those that do not. Additionally, forecasters will have the opportunity to critique new techniques and technology. VORTEX should help reduce false alarms and improve use of systems within the modernized NWS.

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.

Atlantic Oceanographic and Meteorological Laboratory

ERL's Atlantic Oceanographic and Meteorological Laboratory (AOML) houses NOAA's primary focus for research on hurricanes and conducts basic and applied research in oceanography and tropical meteorology. Scientists at AOML's Hurricane Research Division (HRD) take part in field programs that support the operational mission of NHC. These programs rely on the NOAA WP-3D research aircraft as the major source of data. Research teams analyze observations from the field programs, develop numerical hurricane models, conduct theoretical studies of hurricanes, and study the tropical climate.

To improve existing hurricane prediction models, HRD is developing complex models using high-resolution movable grids. HRD is also responsible for conducting experiments using

Omega dropwindsondes (ODWs), expendable instruments dropped from the WP-3D aircraft that profile temperature, humidity, and wind speed and direction in the environment of hurricanes as they fall to the surface of the ocean. ODW data have significantly improved track predictions in a variety of numerical models. The high regard for ODW data was demonstrated in August 1993 when Hurricane Emily approached the North Carolina coastline. Faced with operational models that did not agree on the future track of the storm, NHC requested a special WP-3D dropwindsonde flight. The resulting data pinpointed the location of mid-tropospheric steering currents and allowed forecasters to issue accurate forecasts that Emily would recurve and not threaten the heavily populated northeast U.S., saving several million dollars in preparedness costs for coastal communities not included in the warning area. In addition, AOML continues to support hurricane forecasting services through studies examining precipitation features in mature hurricanes, hurricane air-sea interaction and mesoscale structure of land-falling hurricanes.

Environmental Technology Laboratory

The mission of the Environmental Technology Laboratory (ETL), formerly the Wave Propagation Laboratory, is to improve the Nation's geophysical research and services by developing, demonstrating, and transferring to industry cost-effective remote measurement systems. To achieve this goal, one of ETL's functions is to improve the Nation's atmospheric and oceanic research, as well as forecasting and warning services, through transfer of remote sensing technology. ETL's remote-sensing program includes contributions on all scales and supports NWS operations and the modernization. For example, 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
- Wind profiling and thermodynamic technology, which will lead to remote, automated profiling of the atmosphere.

In the past year, ETL researchers investigated errors in 915 MHz and 404 MHz wind profiler measurements caused by songbirds. The scientists have developed an automated technique for rejecting contaminated data in historical datasets shown to be effective. ETL also has developed techniques, designed to be implemented on future wind profiler data acquisition systems, capable of rejecting bird echoes while retrieving the true wind velocity in many instances.

In addition, ETL researches over-the-horizon radar applications, such as mapping ocean surface conditions. Other areas of interest include surface wind measurements, small-scale turbulence, microbursts and severe wind gusts.

Geophysical Fluid Dynamics Laboratory

The Geophysical Fluid Dynamics Laboratory (GFDL) develops, tests, and evaluates mesoscale and synoptic scale atmospheric models to improve the skill and utility of forecasts ranging from one week to a season. Research to develop mathematical models for improved weather

prediction contributes to the understanding of such fundamental meteorological phenomena as fronts, hurricanes, severe storms and persistent weather regimes.

Improved data sets provided by the NWS modernization are being used to gain a better understanding of mesoscale phenomena and their predictability through the use of a newly designed mesoscale prediction model. Also, work continues on GFDL's Hurricane Forecast System, now at the mature stage of development, which involves a vortex-following nested model and an initialization system that physically and mathematically defines the detailed hurricane vortex. This model, which has shown very promising results, is being incorporated for parallel operational testing at NMC for the 1994 hurricane season.

4.2 NWS Research Programs

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

Office of Hydrology

Hydrologic Research Lab (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 and 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

Techniques Development Lab (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 thunder-storms, 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.

Alaska Region

Forecasters as well as regional staff in the Alaska Region have participated in the COMET cooperative and partners science program since the first call for proposals in the spring of 1991. Since that time, the Region has initiated three cooperative and nine partners proposals. The role of the COMET projects is to enhance science and professional development and to infuse research findings and new technologies into the operational environment.

There are five participating universities involved with Alaska Region COMET projects. Cooperative projects include a joint effort involving Michigan Tech, the Elmendorf Air Force Weather Support Unit and the Anchorage Forecast Office. The goal of this effort is to develop techniques to characterize and predict airborne volcanic ash using polar orbiting satellite imagery, NEXRAD radar data and conventional weather data.

A second project between the University of California at San Diego, and the Anchorage Forecast Office seeks to use SSM/I data in operational forecasting.

The third cooperative project is a study of the arctic front over Alaska. It is a joint effort between the University of Alaska at Fairbanks and the Fairbanks Forecast Office.

Partners projects are listed below.

- University of Washington/WSFO Juneau: Prediction of Taku winds and arctic outbreaks
- Michigan Tech/NWSFO Anchorage: Monitoring and forecasting volcanic ash movement
- University of Alaska/NWSFO Fairbanks: Expert System for lightning prediction in interior Alaska
- UCLA/WSO Nome: Storm surge/wave forecasting in the Bering Sea
- University of Alaska/NWSFO Anchorage: Use of Synthetic Aperture Radar satellite data to forecast ocean waves
- University of Washington/WSFO Juneau: Prediction of surface winds in the eastern Gulf of Alaska
- University of Alaska/NWSFO Fairbanks: Hybrid neural network/expert systems for mesoscale weather forecasting
- University of Alaska/NWSFO Anchorage: High resolution tracking model of volcanic plumes

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, wind and stability products; improved detection of nighttime fog over oceans and land; 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. Recently, a new digital satellite data stream (RAMSDIS) has been provided to select NWS sites as a prototype service. Forecasters and NESDIS scientists are developing advanced techniques for satellite data utilization in local forecast and warning responsibilities.

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. Planning, in cooperation with NWS, is also underway for future spacecraft. NESDIS scientists are involved with sensor development and improved data sensing to meet observational requirements of planned high temporal requirements of NMC models.

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 National Implementation Staff (NIS) supports 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 Acquisition Office (SAO) reporting to the Deputy Under Secretary for Oceans and Atmosphere. The SAO 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 4 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 Deputy Assistant Administrator for Modernization and the NIS maintain the MTS and use 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 are conducted for 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 are conducted for the Assistant Administrator, Deputy Assistant Administrators for Modernization and Operations, and the Office/Regional Directors
- Quarterly NWS Modernization Staffing Status reports submitted to Congress
- 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 Deputy Assistant Administrator for Modernization oversees the process and 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.
- Document and communicate the results of all change requests, and report status of change requests while they are being evaluated or implemented.

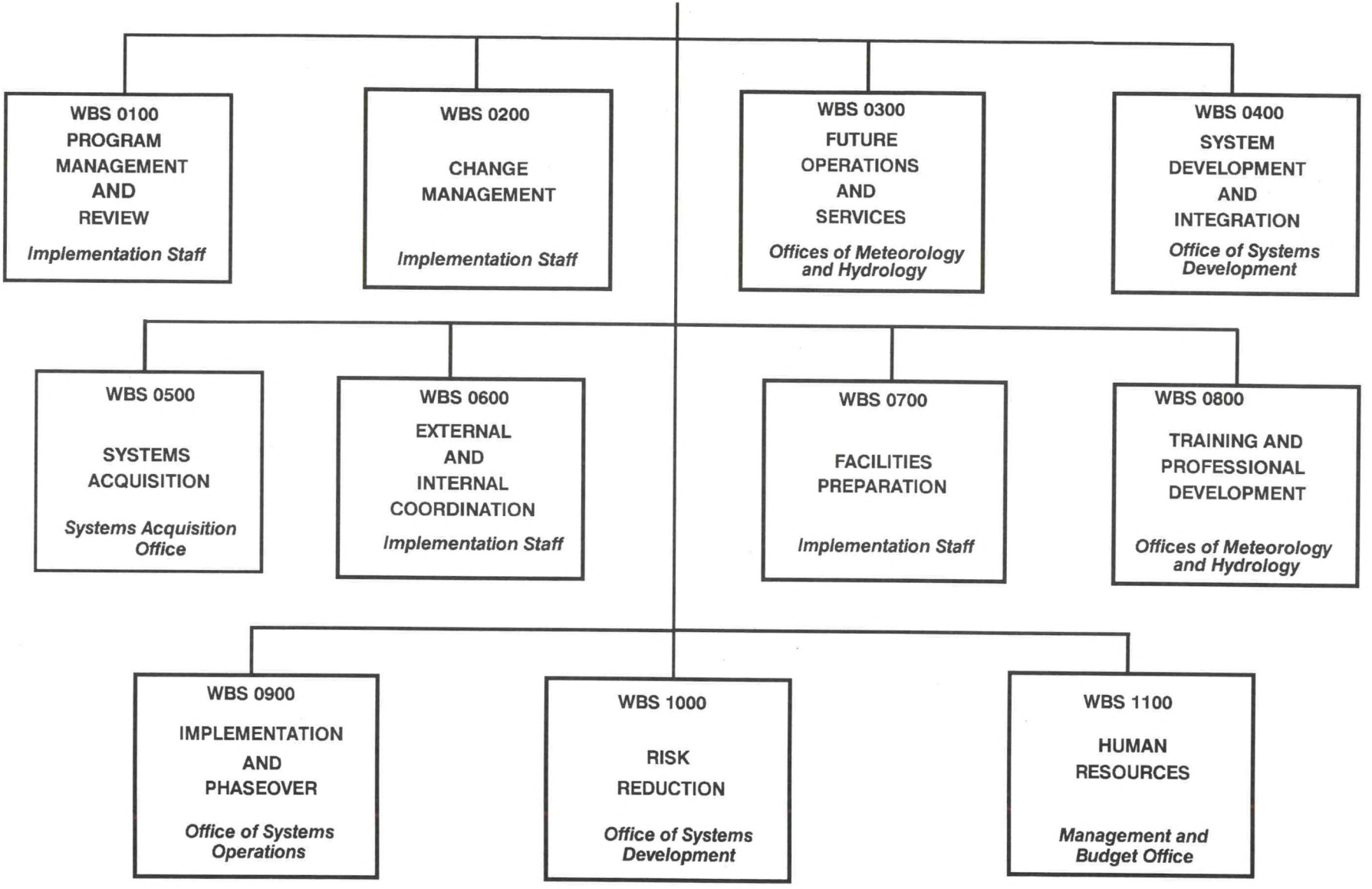
5.6 Transition Management Meetings

Transition Management Meetings are 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 4

TRANSITION WORK BREAKDOWN SCHEDULE



6.0 Transition Program Status and Outlook

The section reviews fiscal year 1994 progress and plans for fiscal years 1995-1997. Table 5 at the end of this section provides detailed budgets for fiscal years 1995 and 1996. It also shows budgetary planning ceilings for fiscal year 1997 for each of the major program components. Table 5 is not intended to portray the total cost of the transition program. Figures 6-16 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 and 12 NEXRAD systems.

Funding

Congress has funded the modernization primarily through cumulative appropriations for technology. Through fiscal year 1994, Congress has appropriated $629.0 million for NEXRAD, $105.5 million for ASOS, and $164.9 million for AWIPS/NOAAPORT. The NWS transition program budget funds all other elements of modernization and associated restructuring; to date Congress has appropriated $120.7 million.

Transition Program Management

NIS manages program efforts and 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, NIS staff briefed Regional Directors and transition planners on the impacts of the law on office transition planning. The briefing also established a program for NIS 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 March 1994, the NRC released *Toward a New National Weather Service—National Weather Service Employee Feedback.* The report was the result of a survey conducted by the Council to measure the perception of acceptance of the modernization by field site personnel. In addition, NRC also released *Toward a New National Weather Service—Weather for Those Who Fly.* Both NRC reports were sent to members of Congress; Governors; NWS National, Regional and field managers; NWS field offices; offices in NOAA and DOC; other Federal Agencies, and external audiences.

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. Four meetings were held in fiscal year 1994. On January 12-13, 1994, the Committee consulted on the fiscal year 1995 NIP and proposed modernization criteria for commissioning of ASOS and NEXRAD; decommissioning of an existing radar; evaluation of staffing needs for Stage 1 of the modernization; and consolidation and relocation certifications.

On March 16-17, 1994 the Committee toured the WSFO San Francisco office in Redwood City and the proposed relocation site in Monterey, California. The Committee entertained discussion both for and against the proposed relocation and concluded there was *not* "a significant possibility of a degradation of service." The proposed relocation certification was then published in the *Federal Register* for a 60 day comment period. On June 22-23, 1994, the Committee met in Boulder, Colorado, to consult on the Relocation Certification. They also toured the Forecast Systems Laboratory (FSL) to gain understanding of future NWS products and integration of data using AWIPS. After a review of the public comments, submitted as a result of publishing the proposed certification in the *Federal Register*, the Committee recommended acceptance of the relocation certification. The Secretary of Commerce signed the certification on July 21, 1994. The San Francisco office relocated to Monterey on August 16, 1994.

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 1994, NWS approved the following plans/packages:

- NEXRAD Information Dissemination Service (NIDS) Implementation Plan
- Stage 1 Operations Concept
- Site Component Decommissioning Plan for NWS-Sponsored Surface Observing Systems Replaced by the NWS Surface Observing Modernization Program

In addition, the following plans were updated:

- Appendix A of the Radar Site Component Decommissioning Plan
- Service Transition Plan—Public Warnings and Forecasts
- Implementation and Phaseover Plan.

Future Operations and Services

The Public Warning and Forecast, Aviation, Marine and Fire Weather Programs have completed and approved Future Operations and Services Plans. The NWS Office of Hydrology is updating the Hydrometeorological Service Operations for the 1990s Plan. The Agricultural Services Plan was completed and submitted for agency approval.

National Meteorological Center

In January 1994, NMC installed an advanced supercomputer—the C90. This is a Cray vector processor with 16 CPUs and 128 megawords of 64-bit memory.

In March 1994, NMC completed Phase 1 of the electrical upgrade for the NOAA Central Computer Facility (NCCF). Phase 1 consists of a rotary power filter for the disk subsystems of the Hitachi Data Systems. NMC installed a supporting computer system, an EX65 from Hitachi Data Systems, at the NCCF in April 1994.

The National Centers have acquired and distributed a variety of scientific workstations. All of these workstations are UNIX RISC machines that have been incorporated into existing TCP/IP ethernet networks. The workstations represent various models from Hewlett-Packard, Silicon Graphics and Sun Microsystems.

NMC also installed a second terabyte storage system at the NCCF. Both tape silos were upgraded in fiscal year 1994, doubling the allowable density for data storage. The two silos now have a total capacity of 4 terabytes.

System Development and Integration

In fiscal year 1994, the NEXRAD Program delivered 48 WSR-88D units and commissioned 12 sites. Retrofit of VME/MicroFive equipment continued on schedule. Preliminary discussions were held to explore the potential for logistics cost savings and processing capacity gains associated with replacing the current NEXRAD computer platforms with Open Systems hardware and software.

ASOS units were delivered, installed and contractually accepted at approximately 150 NWS, FAA, and DOD sites during fiscal year 1994. ASOS units were commissioned at 18 NWS locations in fiscal year 1994. Through fiscal year 1994, 484 ASOSs have been installed, 462 accepted, and 42 commissioned. Quality control and maintenance support mechanisms are in place for all commissioned systems.

The NWS continued the AWIPS Program Development Phase in fiscal year 1994. Recently the AWIPS Program began a contract restructuring effort with the following objectives and goals: to ensure development of a system that supports the life-cycle AWIPS requirements; to establish a system development process that facilitates rapid, incremental development, test, and deployment; to redefine initial deployment baseline and planned product improvements as necessary to preserve current schedule for KDP IV (calendar year 1996) and minimize impact to the NWS Modernization; and to minimize the necessary contract modifications.

The NWS use of lightning data, acquired under contract to Atmospheric Research Systems, Inc. (ARSI), became fully operational with the transfer of contract responsibilities to OSO in fiscal year 1994. Dynatech, parent of GeoMet Data Services (GDS), has purchased ARSI. The ARSI and GDS national networks are being merged into a single network thereby creating a sole source for national lightning data. A new application has evolved and been demonstrated at NSSFC which addresses the use of the long-range detection capabilities of the ARSI network, out up to 2000 km over the oceans, for maritime and aviation warnings and forecasts. Revisions and plans for incorporating lightning data into the AWIPS data stream have evolved to enhance a timely transfer from ARSI through the NCF to NWS users.

The NWS Wind Profiler Demonstration Network (WPDN) Assessment Report was completed during fiscal year 1994. The assessment describes the utility of the WPDN data in NWS operations and viability of transferring Profiler technology from demonstration to operations. The Report also recommends that Profilers be incorporated in a future North American Upper-air Observing System (NAUOS) to supply high resolution wind profiles, critical for numerical and subjective forecasts and warnings, which can not be obtained from other systems. Radio frequency management activities completed include tests of profiler interference with fixed military radars to establish a coordination zone and implementation of fail-safe procedures to protect COSPAS/SARSAT life and safety operations from potential interference from the WPDN radars.

Internal and External Coordination

The NWS continued its rigorous internal and external communication coordination activities during fiscal year 1994. The pace of deployment of Doppler weather surveillance radars and automated surface observing systems required intensive internal and external awareness and technical coordination efforts. Specifically, the agency:

- Finalized the *Internal and External Communication and Coordination Plan for the Modernization and Associated Restructuring of the NWS* for technical coordination and service confirmation. This plan also specifies how NWS employees should communicate the MAR to external communities

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

- Developed and distributed MAR brochures, fact sheets and other awareness and technical coordination materials

- 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 state government groups on MAR and the transition process

- Conducted MAR briefings to major aviation industry groups and associations

- Supported a National Fire Weather User Forum

- Supported MAR awareness at professional meetings and trade shows

- Produced 10 exhibits for use by NWS field offices to promote modernization activities at public events

- Developed a calendar of opportunities to target and track outreach activities

- Coordinated an NWS modernization series for the *Bulletin of the American Meteorological Society*

- Initiated a workforce transition advocacy process to interface with NWS employees confronted with significant changes resulting from 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. Contractors completed all remaining new build designs in fiscal year 1994. NWS awarded the final new build construction projects in the first quarter of fiscal year 1995. Four new lease acquisition projects are underway for Burlington, VT, San Angelo, TX, Duluth, MN, and Billings, MT. Three University-led projects for WFOs at Albany, NY, Tucson, AZ, and Fairbanks, AK, are in the design stage. Only four WFO sites remain to be initiated: Juneau, AK, Tallahassee, FL, Guam, and Jackson, KY.

During fiscal year 1994 the final 24 new build designs were completed, 66 facilities were under construction and 34 facilities were completed, bringing the program total to 70 completed WFOs through the end of fiscal year 1994.

Training and Professional Development

COMET held two eight-week Mesoscale Analysis and Prediction Courses (COMAP). The classes trained 36 SOOs at the COMET facility in Boulder, Colorado, in the latest understandings in mesoscale meteorology using the new NWS technologies. COMET also held three two-week

hydrometeorology courses, training 54 hydrologists (service hydrologists, HAS forecasters, hydrologic forecasters) on new forecasting techniques and tools available at modernized RFCs. COMET also trained 30 NWS managers in a new one-week managers course and nine NWS Regional and national center meteorologists in a three-week mesoscale course.

During fiscal year 1994, COMET produced four Computer-Based Learning (CBL) Modules:

- Marine Meteorology I: Waves
- Marine Meteorology II: Wind
- Numerical Weather Prediction
- Extratropical Cyclones Vol. 1: Cyclogenesis.

COMET also funded 13 Cooperative projects and 22 Partner projects for applied research and training between NWS offices and universities.

The WSR-88D Operational Support Facility (OSF) in Norman trains NWS meteorologists and hydrologists to use and interpret the new radar and its products. The OSF taught 27 classes in fiscal year 1994, training 520 students. The OSF also taught two Unit Control Position (UCP) classes for 40 students and hosted a Mesoscale Workshop for more than 30 SOOs. The workshop focused on knowledge gained of mesoscale thunderstorm structure by using the WSR-88Ds. Because a majority of the NWS offices have completed their training requirements, the number and size of classes at the OSF started shrinking at the end of fiscal year 1994.

The NWSTC continued its new courses for the modernization, while phasing out old courses. The modernization courses included the MAR Management course, SOO and DOH Instructional Techniques, Basic Operational Hydrology, WSR-88D Maintenance and the Hydrometeorological Technician course. New courses initiated in FY 1994 are summarized below:

- Warning Coordination Meteorologist (WCM): Provides WCM with the skills and knowledge to effectively interact with a wide variety of users, including emergency management personnel.

- ASOS Systems Managers: Provides a one-week summary of the ASOS system and characteristics of the ASOS sensors to regional and national headquarters personnel.

- Cooperative Program Manager: Provides DAPMs and HMTs the information they need to effectively initiate and manage a local cooperative observer program within their area of responsibility.

- Electronic Systems Analyst (ESA): Provides the ESA with a review of NWS personnel and equipment management policies and WSR-88D radar system software structure, troubleshooting and backup procedures.

The OM managed the national SOO program. The program developed a national SOO cc:mail directory to encourage scientific networking and a workshop for SOOs with Science Application

Computers (SACs). OM procured the SACs and provides funds to support the SOO's local office training and education activities and Internet connections for SOOs with collaborative activities with universities. OM is also managing the National WCM program and is developing an integrated training program involving much more than the WCM course. A series of courses taught by FEMA, WCM Bulletin Boards, a WCM Job Aid guide, and a mentor program are some of the enhancements proposed for the WCM program.

Implementation and Phaseover

The NWS commissioned 18 NWS ASOS sites in fiscal year 1994. NWS accepted and/or installed an additional 63 NWS systems. The ASOS Operations and Monitoring Center is monitoring 100 ASOS locations. The surface equipment decommissioning plan was approved in June 1994, and the decommissioning of surface equipment is scheduled to begin by the end of fiscal year 1994. The telecommunications responsibility was assumed for 100 ASOS sites in fiscal year 1994. NWS currently support telecommunications for 424 ASOS sites.

The Government accepted 35 NEXRAD systems in fiscal year 1994. Of the 63 systems accepted at NWS sites since the beginning of the program, 12 were commissioned in fiscal year 1994. The MicroFive/VME retrofit implementation task neared completion with 20 sites successfully retrofitted. The delivery of the NEXRAD system at Reno, Nevada, in July 1994 marked the first NWS mountaintop site to receive redundant equipment. Appendix A to the Radar Decommissioning Plan, that lists those NEXRADs which must be commissioned before a current radar can be decommissioned, was updated in August 1994; NWS conducted the first decommissionings (Oklahoma City, Phoenix and Garden City) at the end of fiscal year 1994.

The NEXRAD Information Dissemination Service (NIDS) Implementation Plan was finalized and distributed to the NWS, FAA, U.S. Air Force, and NIDS providers. It describes the NIDS program and its related policies and procedures. Telecommunications were provided for 45 additional NEXRAD sites during fiscal year 1994, including two sites in Alaska and two sites in Hawaii. A total of 101 sites are currently supported. A total of 13 T1 circuits were installed for NEXRAD communications between RDAs and RPGs for fiscal year 1994. A total of 26 T1 circuits are now supported. The Phase II (Installation) portion of the Sprint contract was implemented for NEXRAD narrowband communications throughout the CONUS.

The NWS received five experimental prototype radiosonde upper air systems from the National Center for Atmospheric Research in December 1993 following a four month acceptance evaluation. NWS conducted a four-season field evaluation at 16 NWS sites in severe climatic conditions to assess components, such as the NAVAID wind determining system, pressure-temperature-humidity processors and the inflation-launch shelters. Results of the field evaluation have been promising.

NWS completed and approved the policy for aligning MAR station and communication identifiers to prepare for the eventual transition from AFOS to AWIPS.

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 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.

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.

Within the past year, risk reduction evaluations with the Norman Project reached a peak and began to decrease. All 13 committees were involved with evaluation efforts during the year. NWS distributed final reports for two risk reduction projects and completed data collection for six additional evaluations. Most efforts will be completed next year.

Risk reduction activities completed in 1994 include the use of the Interactive Computer Worded Forecast (ICWF) and a central data feed.

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, Ft. Worth, Minneapolis, 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, Fort Worth, Minneapolis and Portland RFCs.

Arkansas-Red Basin RFC (Tulsa Risk Reduction Project): Scheduled for completion in 1995, this project, which parallels the Norman Risk Reduction Project, is to investigate and demonstrate future RFC hydrometeorological service operations before they are implemented nationwide. These operations are conducted on a suite of UNIX-based scientific workstations, UNIX-based microcomputers, and Windows/DOS microcomputers connected by a LAN to each other, AFOS and Internet. The collocated NWSO is also a part of this network. During fiscal year 1994, the ABRFC began official extended operations and services including formal HAS operations. Formal HAS operations includes ABRFC's participation in the Southern Region Operational QPF efforts. ABRFC continued to be the only NWS office using an AWIPS-like equipment configuration for all operations.

Ohio RFC: The Eastern Region is carrying out a Risk Reduction exercise to establish the Hydrometeorological Analysis and Support (HAS) Function at the Ohio RFC (OHRFC). Currently, the HAS function at the OHRFC is performed by the HAS forecaster or meteorology qualified hydrologist. One of the primary functions of the HAS forecaster is to prepare a daily mosaic of the Quantitative Precipitation Forecasts (QPF) for their service area. The QPF mosaic is derived using AWIPS prototype software developed by the OHRFC. All WSFOs in the Ohio River Basin provide the OHRFC with QPF for their forecast areas. WSFOS provide 24-hour QPF daily and issue updates as needed. The HAS modified QPF is then used as input to the RFC river forecast models. Besides issuing QPF, forecasters performing the HAS function conduct daily hydrometeorological situation briefings to the OHRFC and NWSO staffs at the OHRFC and provide guidance to other offices by disseminating a daily Hydrometeorological Discussion (HMD) statement over AFOS.

The OHRFC has hired its full complement of three HAS forecasters. In fiscal year 1994, the RFC completed a software program that allows it to issue gridded QPFs from the WSFOs to the RFC over the HAS RR system. This change allows for a more accurate mosaic QPF composite to be produced by the HAS forecasters. In the last year, the RFC archived the QPFs from the WSFOs and the HAS-produced products, along with observed mean areal precipitation for river basin areas. The RFC also has supported a COMET work assignment by the University of Virginia to derive a methodology for using probablistic QPFs to produce probablistic River Stage forecasts.

Sterling: The NWS Eastern Region's other national risk-reduction exercise is being conducted at the Baltimore, MD/Washington, DC, NWSFO in Sterling, VA. The focus of this work is to integrate information from remote sensor technologies to produce comprehensive, state-of-the-atmosphere reports that improve aviation safety. The NWS has developed and evaluated a technique to identify aviation-oriented hazardous weather near several airports based on data from conventional radar, a national lightning detection network, and collateral observations from ASOS. An article, which documents this important work, was accepted for publication in the December 1994 issue of the *Bulletin of the American Meteorological Society*. Data from the Doppler radar at Sterling has been archived and processed to develop a more advanced hazardous weather product to complement the reports provided by ASOS.

Fire Weather Risk Reduction Project

During the MAR, new technology will provide a huge increase in the amount and type of meteorological data available to Fire Weather (FW) forecasters. To ensure a high quality FW service, NWS must evaluate and integrate into operations high resolution data resulting from the new technology; core forecasters must be prepared to assume their role in the FW program of the future. To this end, NWS has initiated a National FW Risk Reduction project at NWSFO Boise, ID.

The principal objectives of the FW Risk Reduction Exercise are to:

- Develop procedures and techniques to take advantage of MAR technology and related scientific advances to satisfy NWS FW user requirements and enhance services

- Develop procedures to mitigate effects on users resulting from restructuring of NWS office responsibilities, changes in forecast district/zone boundaries, and/or fragmenting land management administrative boundaries

- Involve users and assess product quality and consistency resulting from the preparation of FW forecasts by core forecasters

- Determine core forecaster training requirements to ensure timely, accurate, and useful routine and non-routine products.

During fiscal year 1994, a risk reduction meteorologist joined the staff at NWSFO Boise to support the risk reduction program. The office also procured an HP-715 along with Internet service. Other accomplishments in fiscal year 1994 include the formation of an interagency user assessment team and proposals for new forecast formats.

FSL Modernization Division NWS Support Activities

Risk Reduction Branch

Work in the Risk Reduction Branch (RRB) is directed toward helping the NWS prepare for operations in the AWIPS era. The three focus areas are operating the DARE and Pre-AWIPS systems at the Denver and Norman Weather Service Forecast Offices (WSFOs); evaluating those operations, both locally and via the Norman Evaluation Committees; and developing the next AWIPS precursor, WFO-Advanced (formally called the FSL X-based AWIPS-Like Prototype for Hydrometeorological Applications (FX-ALPHA)).

Support for the Pre-AWIPS and DARE systems continued in fiscal year 1994 on a limited basis, as new development work is concentrated on FX-ALPHA. An improved VME interface to the WSR-88D, using a new interface board that off-loads much of the communications burden from the CPU, has been developed and tested, and installed on the line to the Frederick WSR-88D (KFDR). FSL has discussed with OH how limited data might be supplied to the experimental

hydro workstation at Norman. Work has also been done to accommodate the transition from GOES-7 to GOES-8 on the ISPAN data feed.

The evaluation team continues to support the National Risk Reduction Project by membership on Norman Evaluation Committees (NECs), review of all NECs' reports, and providing data to some of the committees. In addition, evaluations of DARE- and Pre-AWIPS-supported operations continue, examining cool- and warm-season patterns of product usage.

WFO-Advanced development is sponsored by the NWS, the Federal Aviation Administration, FSL, and the Central Weather Bureau of Taiwan. While each of these organizations has its own agenda for WFO-Advanced, the vast majority of requirements overlap.

WFO-Advanced completed an important milestone by demonstrating user interface concepts at the AMS conference in late January. The demonstration provided a look at user interface issues in a multiple window environment and some potential solutions. A basic set of display capabilities was incorporated, and data from the 1993 "Storm of the Century" and a Colorado blizzard case were included. This system was then demonstrated to members of the AWIPS Field User Interface Team and others at NWS Headquarters. FSL's choice of an object-oriented approach was confirmed by the development of this demonstration system in less than three months.

The recent significant changes in AWIPS program have had an impact on FX-ALPHA. Some members of the staff have been asked to help the NWS with its expanded responsibilities for AWIPS design and development. Nevertheless, the emphasis of FX-ALPHA work in the latter half of the fiscal year was on high-level design. The system has been decomposed into six modules: front-end communications, data exchange (encoding/decoding), data management, user interface, interactive graphics, and general support (interprocess communication, logging, etc.). Some communications work has been done, including testing a line to the NWS Telecommunications Gateway, initial GOES-8 image reception from NESDIS, and setting up the WSR-88D interface.

Enhanced Forecaster Tools Branch

The focus of the Enhanced Forecaster Tools (EFT) Branch is the AWIPS Forecast Preparation System (AFPS). Working with the TDL, in consultation with the AFPS Forecaster Working Group (AFWG), comprised of representatives of the NWS Regions, NWS Headquarters and the AWIPS Acquisition Office, EFT staff are designing and building a graphical forecast support system for AWIPS. Beginning in the late 1990s, forecasters will use AFPS to visualize and edit forecast weather elements, and to generate text and graphics for dissemination to users.

During this fiscal year, EFT has been working on prototypes of the graphical depiction and editing portions of AFPS. In October, the AFWG reviewed and critiqued the Level 1a prototype. Level 1a included contour depiction of continuous weather elements (e.g., temperature), and several editing tools. AFWG members expressed strong interest in a proposed image-type display and also made many excellent suggestions for editing capabilities. In June, EFT completed Level

1b, which included many of these ideas, plus a time-series editor. Currently, EFT is working on design and early development for Level 1c, which will complete the visualization and editing suite, and improve user controls and data selection methods.

Advanced Development Branch

The Advanced Development Branch (ADF) provides technical guidance to parties designing and implementing AWIPS, particularly with regard to WFO operations. The intent of ADF is to ensure that this process proceeds smoothly, starting with a clear understanding of system requirements and continuing to make effective use of technology. ADF works with the NWS and AAO, and provides guidance to groups using AWIPS Government Development Platforms (GDPs) to generate government-developed software for AWIPS.

In order to support these activities, ADF maintains a GDP and associated software development environment at FSL. This facility provides a means to become intimately familiar with AWIPS as it is designed and implemented. The GDP also serves as a test bed for government-developed AWIPS software.

Chief among this fiscal year's ADF activities was supporting the EFT Branch in its move from Sun to HP workstations. System administration of both MD networks (one used by EFT and ADF, the other by RRB) is the responsibility of ADF; considerable effort was placed on configuring and carefully documenting the HP development environment.

ADF staff have begun to develop plans for AWIPS enhancement investigations. ADF staff is examining the NWS Shared Window Server prototype. Given the changes taking place in AWIPS development plans, ADF eagerly awaits news from the NWS regarding modifications to AWIPS software design or workstation configuration.

Human Resources

The NWS concluded negotiations with the National Weather Service Employees Organization on the major human resources actions to be taken during the modernization. As the last step in the process, at the end of the first quarter of fiscal year 1994 NWS published and distributed to all its employees the Human Resources and Position Management Plan. NWS implemented position actions taken in fiscal year 1994 in accordance with the Plan.

6.2 Outlook for Fiscal Year 1995

Major objectives for fiscal year 1995 are to:

- Commission additional NEXRADs, including remaining MARD sites
- Install and commission more ASOS units across the country
- Continue systems training and scientific education
- Continue the Office Transition and Evaluation (OT&E) program.

Funding Requirements for Fiscal Year 1995

NWS and/or SAO need sufficient fiscal year 1995 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 1995 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.

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. The NWS Office of Hydrology will complete and approve the updated Hydrometeorological Service Operations for the 1990s Plan. The Agricultural Services Plan also will be approved and distributed. As it commissions NEXRAD radars, NWS will realign County Warning Areas. In some instances, NWS will transfer County Warning Areas before commissioning NEXRAD systems. Such transfers could be made at fully staffed sites that have trained personnel who 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.

National Meteorological Center

In early fiscal year 1995, NCCF will initiate Phase 2 of the electrical upgrade, installing an uninterruptible power supply (UPS) to accommodate the most critical Cray components. These components include the disk drives, network routers and controlling workstations.

In early fiscal year 1995, a new contract will be awarded to ensure NMC has the expertise needed to effectively and efficiently use the C90 supercomputer. By early fiscal year 1995, a portion of the HDS EX65 system will host the UNIX operating system.

The National Hurricane Center will move to a new facility on the campus of Florida International University in Miami, Florida, in May 1995.

NWS will complete the first phase of the reorganization of the NMC into the National Centers for Environmental Prediction in early fiscal year 1995.

Phase 3 of the NCCF electrical upgrade should be near completion by the end of fiscal year 1996. When complete, the entire NCCF will be supported by a comprehensive UPS system.

In 1996, the NCEP will undertake a comprehensive conversion of software from the IBM/MVS environment to UNIX and develop specifications and benchmarks for an advanced supercomputer to be procured and installed in 1998.

NCEP will continue with its restructuring at NOAA Science Center near Washington, DC, in fiscal year 1996. Associated with this restructuring is the establishment of the Aviation Weather Center (AWC) and the Storm Prediction Center (SPC). As the aviation forecast staff draws down in Washington, the AWC in Kansas City must assume its new role. Similarly, the SPC in

Norman, Oklahoma, must be ready to receive the transfer of severe storm forecaster personnel from Kansas City.

System Development and Integration

The NEXRAD Program's Full Scale Production Phase will continue to deliver three to four units per month in fiscal year 1995 with WSR-88D unit deliveries to the following locations: Pueblo, Portland (OR), Eureka, Quad Cities, Springfield, Paducah, Tallahassee, Jacksonville, Las Vegas, Beale AFB, Brownsville, San Joaquin Valley, Greer, Midland/Odessa, Molokai (FAA), NWSTC-2, Edwards AFB, San Juan, Shreveport, Central Illinois, Tucson, Anchorage (FAA), Grand Rapids, Pocatello, Marquette, King Salmon, Duluth, Fairbanks, Caribou, Buffalo, Elko, Cedar City, Grand Junction, Flagstaff, Riverton, Medford, Billings, Camp Humphries, Bethel and Rapid City. Retrofit of VME/MicroFive equipment should be complete early in fiscal year 1995. Hardware and software architecture designs for an Open System RPG will be under design and development in fiscal year 1995.

ASOS installations are scheduled at 105 locations during fiscal year 1995.

In fiscal year 1995, the AWIPS program will initiate operations to support and validate key engineering decisions via the "Pathfinder" development step, which was recently added to the AWIPS Development Phase activities. The objectives of the Pathfinder are to demonstrate at a few future WFOs and collocated RFCs selected system architecture features (such as Satellite Broadcast Network, Network Control Facility Functions, and Local Communications Processing Design); functional capabilities of Modernization-era datasets in operational settings and system operations and maintenance. Another objective of the Pathfinder is to provide feedback to the AWIPS system design and to AWIPS operation and maintenance plans.

The acquisition and use of lightning data in NWS operations will continue in fiscal year 1995 under the current contract with ARSI. Development and risk-reduction activities for long-range capabilities and for the data transfer through the AWIPS NCF will be implemented. Acquisition activities will be initiated for a follow-on contract to be awarded during fiscal year 1996, the last option year of the current contract.

Operation of the WPDN and continued exploitation of the WPDN data for NWS forecasts and warnings operations and meteorological research and development will continue with support from NOAA. NWS will also continue to plan for the future deployment of operational wind profilers to support NWS operations. Plans will be developed for the development, testing, and deployment of operational wind profilers for Alaska, to support current operations and provide for bridge to future large-scale deployment as part of NAUOS. Continuing frequency management activities include WPDN protection of COSPAS/SARSAT, tests for potential interference with the operational profilers from other systems, and planning for coordination with the amateur radio community.

Internal and External Coordination

To promote communication NWS will:

- Develop brochures, maps, and fact sheets and a modernization video to increase external awareness and technical coordination activities
- Publish the *Critical Path* to enhance internal communication
- Conduct 50 state delegation briefings on the status of the MAR
- Conduct a National Emergency Managers Forum to report on the progress of the MAR
- Support MAR awareness at professional meetings and trade shows
- Conduct a NWS Field Managers Meeting, to be attended by all NWS field managers, focused on Stage 2 MAR operations and beyond.

Facilities Preparation

NWS will continue to construct its remaining facilities in fiscal year 1995. NWS is scheduled to have nine designs underway, nine designs completed, 43 facilities under construction and 37 more facilities completed in fiscal year 1995.

Training and Professional Development

At COMET a series of courses will be offered which includes two COMAP courses that will educate 36 SOOs, three HYDROMET courses which will educate 54 hydrologists, two Managers courses which will educate 36 MICs and two GOES-I workshops which will educate 36 SOOs and satellite focal points. In addition COMET will sponsor a Tropical Workshop and a 3-week Mesoscale Meteorology Workshop. COMET will also produce four Computer-Based Learning(CBLs) on Extratropical Cyclones II, Marine Meteorology III, Hydrology for Meteorologists, and Convection I. COMET will also fund 15 Cooperative and 20 Partners projects between universities and NWS offices.

The NWSTC course load will peak in fiscal year 1995 with courses on WSR-88D Maintenance, ASOS System Management, ASOS Maintenance, Basic Operational Hydrology, MAR Management, Forecaster Development Courses and courses for WCMs, ESAs, SOOs, HMTs, SOOs, DOHs and CPMs. The NWSTC will also administer an increasing amount of correspondence and remote training material on management, UNIX programming and many other topics.

Training at the OSF Training Branch (OTB) in WSR-88D Operations Training Course will continue with 480 students being trained. The OTB will train four Unit Control Position classes

training 96 radar focal points and SOOs. The OTB will also host a National Users Workshop and six scientific Mesoscale Workshops.

The OM will host a national scientific SOO workshop for all NWS SOOs, and two workshops for SOOs with Internet access and Science Applications Computers (SACs).

The OM will continue to manage the national SOO program which includes the generation of a national SOO cc:mail directory to encourage scientific networking, a SOO workshop for SOOs with Science Application Computers (SACs), procurement of SACs, and provide funds to support the SOO's local office training and education activities and Internet connections for SOOs with collaborative activities with universities.

Implementation and Phaseover

NWS expects to complete the following actions in fiscal year 1995:

- Commission up to 10 additional NWS ASOS systems
- Commission up to 30 additional NWS NEXRAD systems
- Accept 31 more NWS NEXRAD systems
- Complete the MicroFive/VME retrofit project
- The WSR-88D Operational Support Facility will deliver its first software build, version 8.0, to the field
- Complete and approve the Support Function Demonstration (SFD) plans for ASOS and NEXRAD
- Complete and approve the Surface Disposal Plan
- Develop specifications for hardware and begin the acquisition process for an upper air radiosonde replacement system
- Initiate the process for awarding cost-free NEXRAD product access through NIDS for state emergency management organization
- Award the Phase I Development contract for the Console Replacement System (CRS) in October 1995
- Develop an implementation/transition plan that addresses the conversion of product header entries in the NWSTG switching directory to conform with the newly approved NWS communications header policy for AWIPS.

NWS Risk Reduction Activities

Norman: Risk-reduction efforts scheduled to be completed in the fiscal year 1995:

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

- Operational testing of the UNIX based "wet" hydrometeorological subsystem developed by OH
- Evaluation of level of service
- New airport warning product
- Evaluation of a new electronics position.

PROTEUS: NWS will continue to expand the operational demonstrations at the Missouri River Basin and Middle Atlantic RFCs.

Arkansas-Red Basin RFC (Tulsa Risk Reduction Project): In fiscal year 1995, ABRFC will:

- Conduct a full service demonstration of operations and services planned for Initial Stage 2
- Continue local application software development and testing
- Participate in the testing with NWSFO Norman of the UNIX-based WFO-"Wet" Hydrometeorological subsystem developed by OH
- Continue to participate in the Southern Region Operational QPF efforts.
- Explore ways to enhance its LAN to perfect the connectivity between the various components of its AWIPS-like operational system.

Ohio RFC: During fiscal year 1995, the HAS RR activities will focus on the development of a QPF verification methodology and compiling of QPF verification statistics. Verification will be evaluated as to operational improvements in the timeliness and accuracy of river forecasts. 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. Collaborative efforts with the University of Virginia, WSFO Pittsburgh, and the OHRFC will continue in the development of a system to incorporate probabilistic QPFs in the river forecast operations. This major effort will provide users with enhanced opportunities to activate emergency mitigation efforts during flood events. Another effort of the HAS RR will be to begin to focus on ways of incorporating observed precipitation data from NEXRADs in deriving a more accurate Mean Areal Precipitation (MAP) for comparison with forecast MAPs.

Sterling: During fiscal year 1995, the risk-reduction project staff at the Baltimore, MD/Washington DC NWSFO in cooperation with personnel from TDL will integrate information from base products generated by the Sterling NEXRAD with lightning network data to provide a capability for the enhanced identification of convective activity within the vicinity of several airports. A comprehensive, user-oriented evaluation of this new product is planned for the summer of 1995. The NWS will then determine the viability of this approach to produce products that will routinely supplement the information provided by ASOS on either a national or local basis.

FSL Modernization Division NWS Support Activities

Risk Reduction Branch

In fiscal year 1995, operational support for DARE and Pre-AWIPS will continue, as those systems will be used operationally until replaced by WFO-advanced or AWIPS. The WFO-Advanced staff first plans to develop a narrow system, with enough functions to constitute an

end-to-end capability. For example, it may ingest, process, store, and display only one kind of satellite image. However, the system infrastructure to add other datasets and capabilities will be in place, allowing for rapid expansion of the system.

The WFO-Advanced system will include capabilities developed by several groups within FSL. The Local Analysis and Prediction System (LAPS), AFPS (see below), 3D visualization, and an experimental dissemination system will constitute a complete end-to-end capability needed for modernized operations from ingest of data to preparation and dissemination of products. FSL plans to run real-time exercises in August and October-November 1995 using WFO-Advanced. These experiments will test the forecaster's ability to use AFPS graphical techniques to create a gridded representation of the forecast, a key concept for modernized NWS operations. In addition to its current Denver and Norman responsibilities, the evaluation team will plan the exercises and evaluate the performance of WFO-Advanced components.

Following successful completion of the real-time experiments, WFO-Advanced will be installed at selected sites during fiscal year 1996. The first installation will likely be in Denver by the end of the second quarter. Another installation is planned for the Denver Center Weather Service Unit (at the Air Route Traffic Control Center in Longmont, CO). By late fiscal year 1996, WFO-Advanced should be ready to be installed in Norman, Oklahoma and other locations.

Enhanced Forecaster Tools Branch

In fiscal year 1995, EFT staff will complete work on the Level 1 prototype, with the Level 1c milestone expected to be reached during the second quarter. Along with refining and enhancing the visualization and editing tools, EFT will design and build the AFPS worksheet, the key feature of Level 1c. This worksheet is the user's conduit to the database, providing access to the data and information on its state (e.g., initialized/unedited, modified, interpolated, locked by other user).

This Level 1 prototype embodies the middle of a three-step process. The other steps are initialization and product generation, which are being worked on by TDL. EFT staff will develop interfaces between the AFPS database and TDL's text generation and Model Output Statistics (MOS)-based initialization schemes, producing an end-to-end forecast generation system. While limited in scope (initially supporting only a few forecast products), this Level 2 prototype will allow AFPS to be tested as noted above.

AFPS capabilities will be expanded to support full WFO operations in fiscal year 1996. Aviation terminal forecast will be added in the first quarter for the WFO-Advanced exercise. Prior to WFO-Advanced installation in Denver, a stand-alone version of AFPS may be placed at the WSFO. This would provide general familiarization, and allow the text generation component to be evaluated by the WSFO staff and refined before operational implementation.

Advanced Development Branch

The ADF project will dedicate resources to activities in two areas in fiscal year 1995: system administration and AWIPS enhancement research (AER). System administration support includes

both the MD subnet and GDP system, covering AFPS, AWIPS Enhancement, and WFO-Advanced development. Installation of a new division HP server will free the current GDP server from software development support responsibilities, allowing it to be configured in a standard AWIPS configuration used to directly support AER activities.

AER activities will initially focus on analyses intended to alert the AWIPS program to a number of risks associated with the current AWIPS design, and to provide design alternatives that eliminate or substantially reduce these risks. Attention will then shift to identifying a strategy for eliminating dependence upon PRC's proprietary DWB product. ADF will evaluate various alternatives and demonstrate critical portions of a recommended solution.

The DWB replacement will emphasize an open approach to providing AWIPS system services that more fully utilizes standards-based COTS products. These services will initially be combined with legacy interfaces that are designed to mimic DWB interfaces. This will simplify the logistics of actual DWB replacement. Better efficiency and a cleaner software architecture eventually will be possible through migration of applications and other AWIPS software to new service interfaces that are not limited by the DWB architecture. Appropriate migration paths will be indicated.

AER activities will gradually change emphasis from DWB replacement research to high-level AWIPS application framework research. The application development environment currently being planned for AWIPS is likely to be focused on providing adequate but minimal capabilities. These will likely be difficult for forecasters to use effectively in the field. The framework in mind will likely support a very high-level meteorology-oriented scripting capability and application development that is very simple for forecasters to use.

Fiscal year 1996 activities will likely extend the software architecture and application framework researched in fiscal year 1995 to include 3D visualization and other advanced capabilities in interest to AWIPS.

Human Resources

The NWS will continue to place employees, especially Meteorological Technicians, using the methods outlined in the Human Resources and Position Management Plan in this fiscal year. Because of the urgent need to fill all Hydrometeorological Technician positions by the end of fiscal year 1995, the NWS and NWS union will jointly formulate alternative means for filling HMT positions beyond fiscal year 1995. NWS will develop and implement a centralized application process to facilitate the competition for spin-up office journeyman level forecaster positions.

6.3 Outlook for Fiscal Year 1996

The transition program's major objectives are to:

- Commission additional NEXRADs

- Install and test AWIPS MARD systems
- Continue ASOS deliveries
- Continue systems training and scientific education
- Continue the OT&E activities at MARD area offices and begin the stable operations period in preparation for the MARD

Funding Requirements for Fiscal Year 1996

NWS and/or SAO need fiscal year 1996 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 and ASOS 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 1996 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 1997

In fiscal year 1997, the transition program's major objectives are to:

- Commission remaining ASOS and NEXRAD systems
- Continue systems training and scientific education.

Funding Requirements for Fiscal Year 1997

NWS and/or SAO need fiscal year 1997 funding to pay for:

- Operations and maintenance support of NEXRAD and ASOS installations
- Full-scale production contract for ASOS to cover the NWS share of the central depot maintenance support operations and logistics
- NWS expects a decision on full production of AWIPS.

The NWS Transition program will require funds in fiscal year 1997 to continue to:

- Continue to fund staff at NEXRAD WFOs to keep commissionings on schedule
- Support an increase in the number of office and personnel moves at several locations. 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, which 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 74, provides notification of actions, anticipated to occur during fiscal years 1995 through 1997, that change operations at or certify field offices. To provide a more complete picture of the transition, the table also:

- Identifies actions completed prior to the publication of this fiscal year's NIP
- 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

Additionally, the modernization of the Nation's weather services includes the use of FAA-sponsored ASOSs and DOD- and FAA-owned NEXRADs. See Appendix D for a listing of these installations.

Table 5
MODERNIZATION BUDGETS (Fiscal Year 1995-1997)

	FY95	FY96	Planning Level FY97
MODERNIZATION INITIATIVES ($M)			
NEXRAD	83.1	55.3	49.7
ASOS	17.5	17.0	10.6
AWIPS/NOAAPORT	35.0	52.1	85.8
SATELLITE UPGRADE (GOES)	132.2	121.9	93.9
CENTRAL COMPUTER FACILITY UPGRADE	10.0	12.7	17.4
NWS TRANSITION (MARDI)	115.9	84.8	85.3
WFO FACILITIES	20.3	16.4	2.8
WFO MAINTENANCE		3.0	3.0
HUMAN RESOURCES (FTE)*			
NWS BASE	4,226	4,191	4,198
STAFFING AUGMENTATION (MARDI)	1,073	837	660
	5,299	5,028	4,858
RESEARCH ($M)			
ERL	17.1	16.3	15.7
NWS	11.1	11.6	11.6
NESDIS	8.0	8.0	8.0

*Excludes Systems FTE

Figure 5
FACILITIES PREPARATION SCHEDULE

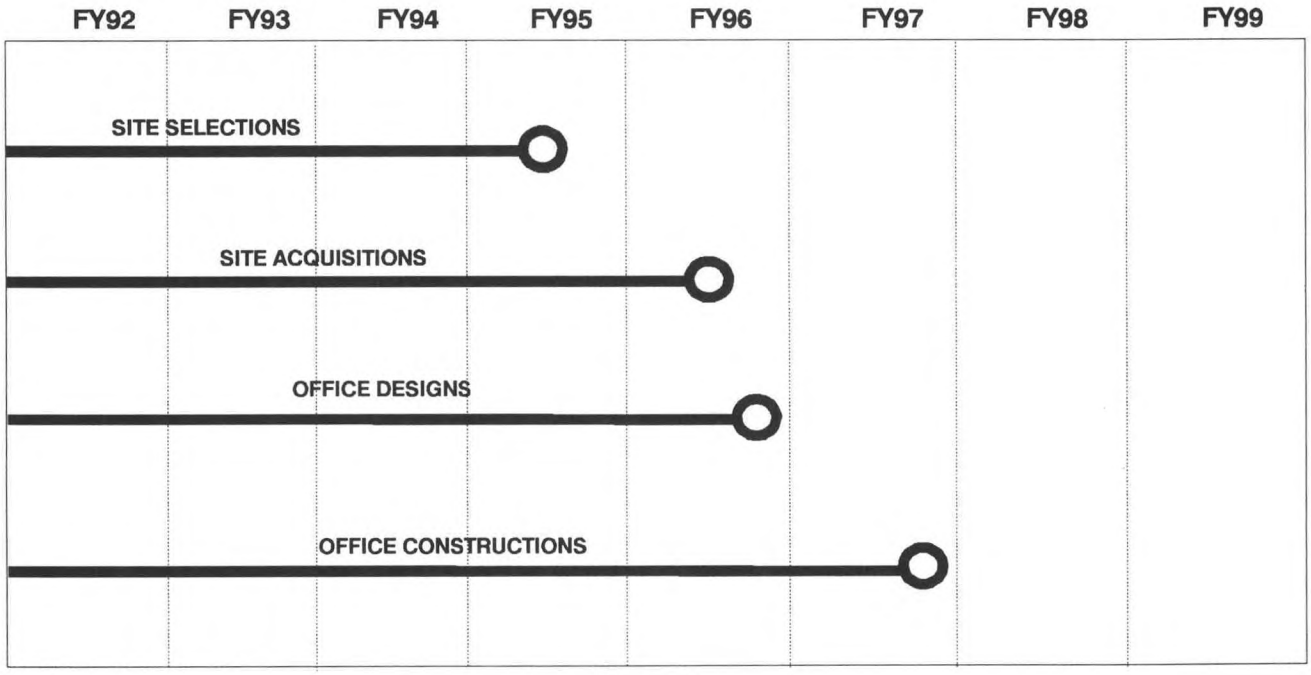


Figure 6
NEXRAD SCHEDULE

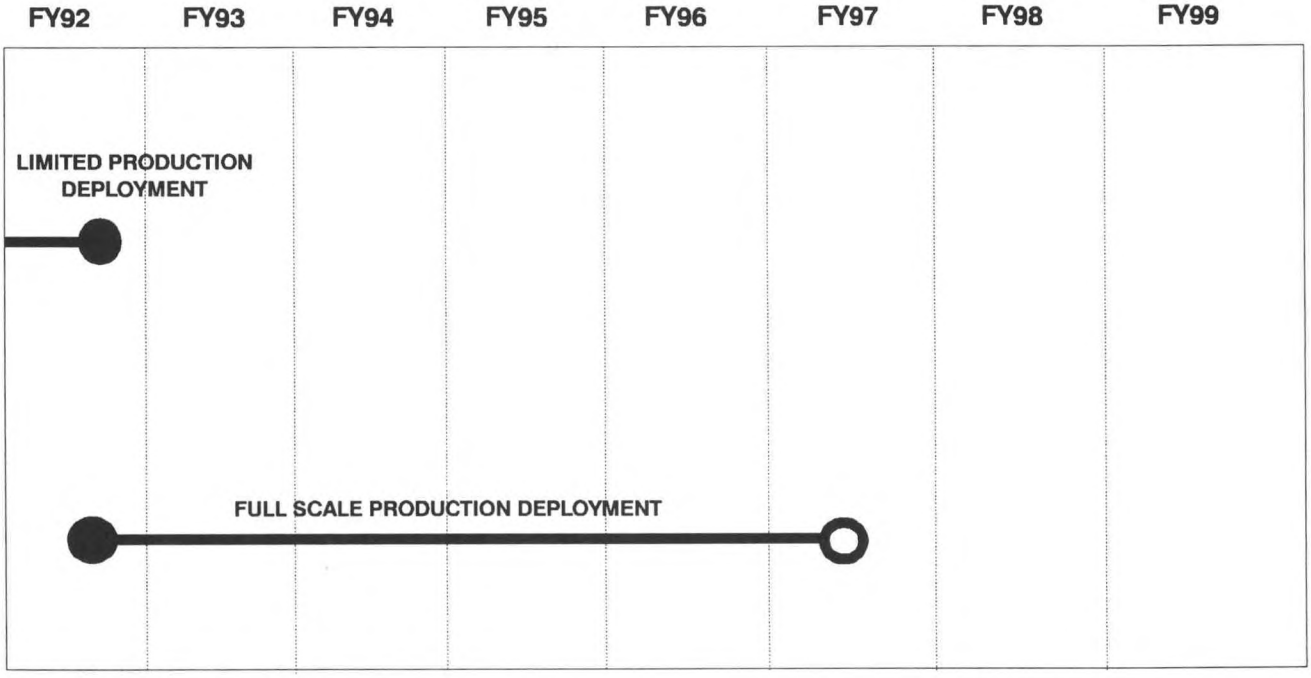


Figure 7
ASOS SCHEDULE

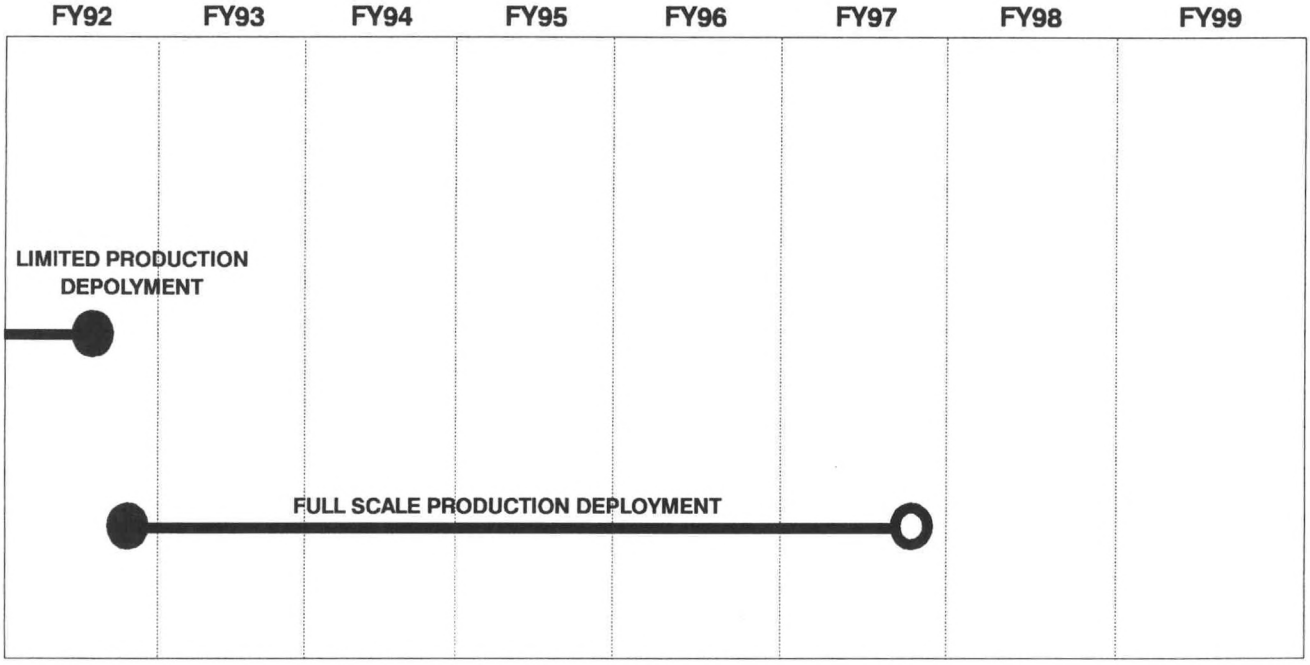


Figure 8
AWIPS/NOAAPORT SCHEDULE

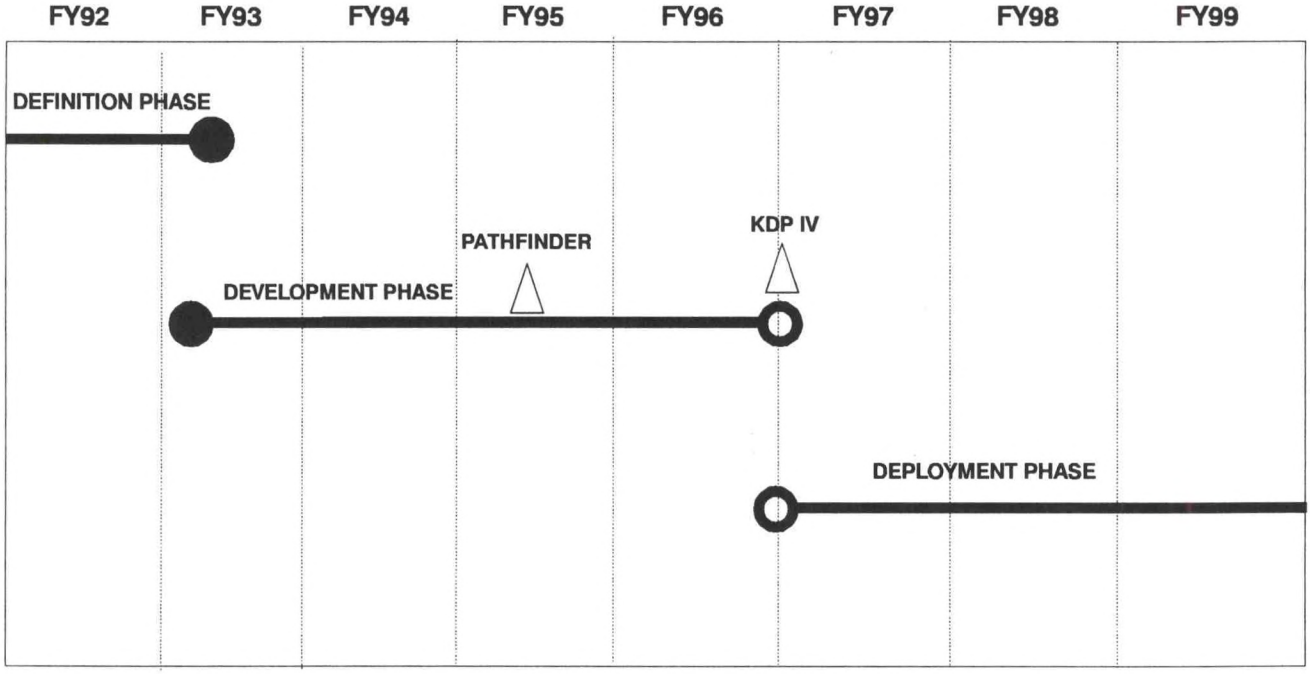


Figure 9
SATELLITE UPGRADE SCHEDULE

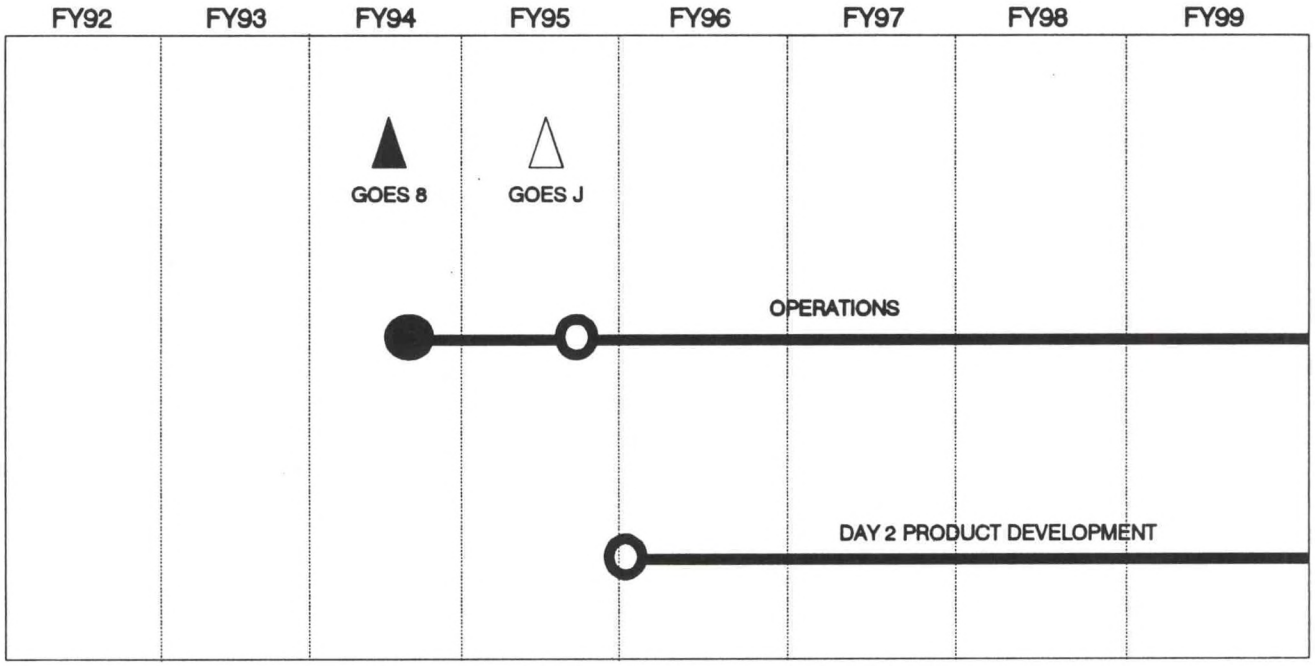


Figure 10
NATIONAL CENTER COMPUTER UPGRADE SCHEDULE

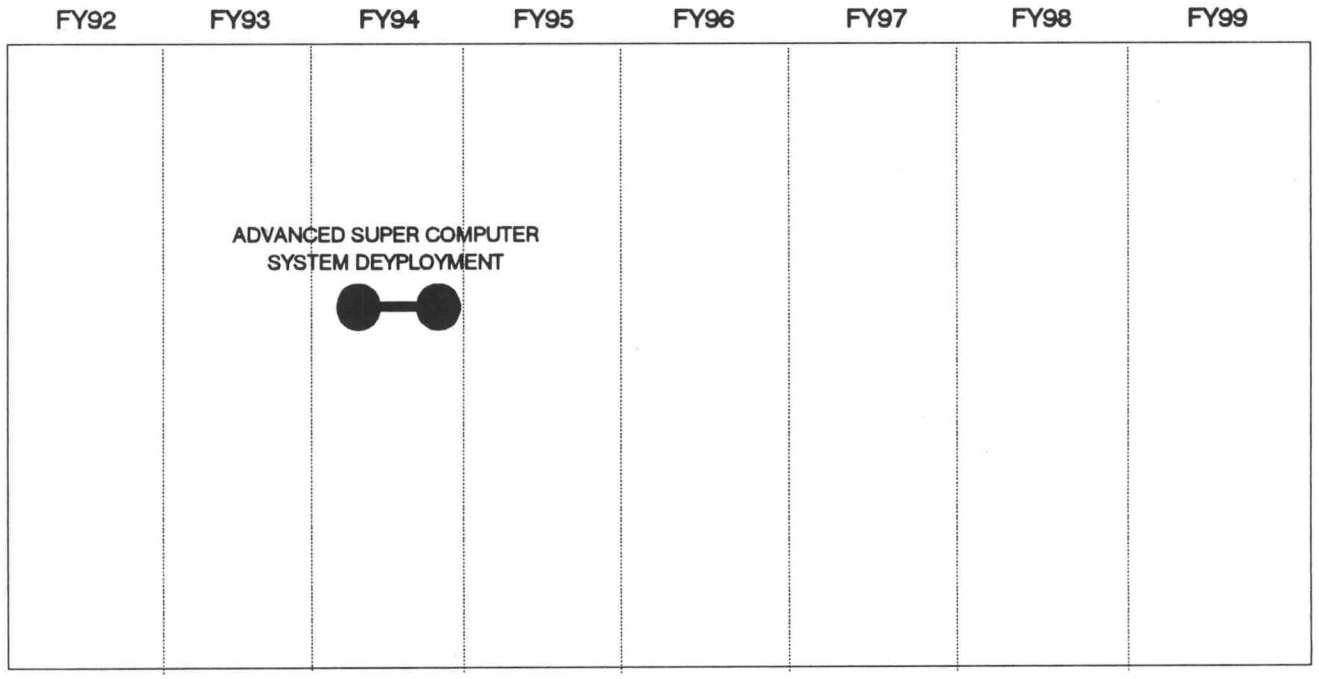


Figure 11
SCIENTIFIC EDUCATION AND PROFESSIONAL DEVELOPMENT SCHEDULE

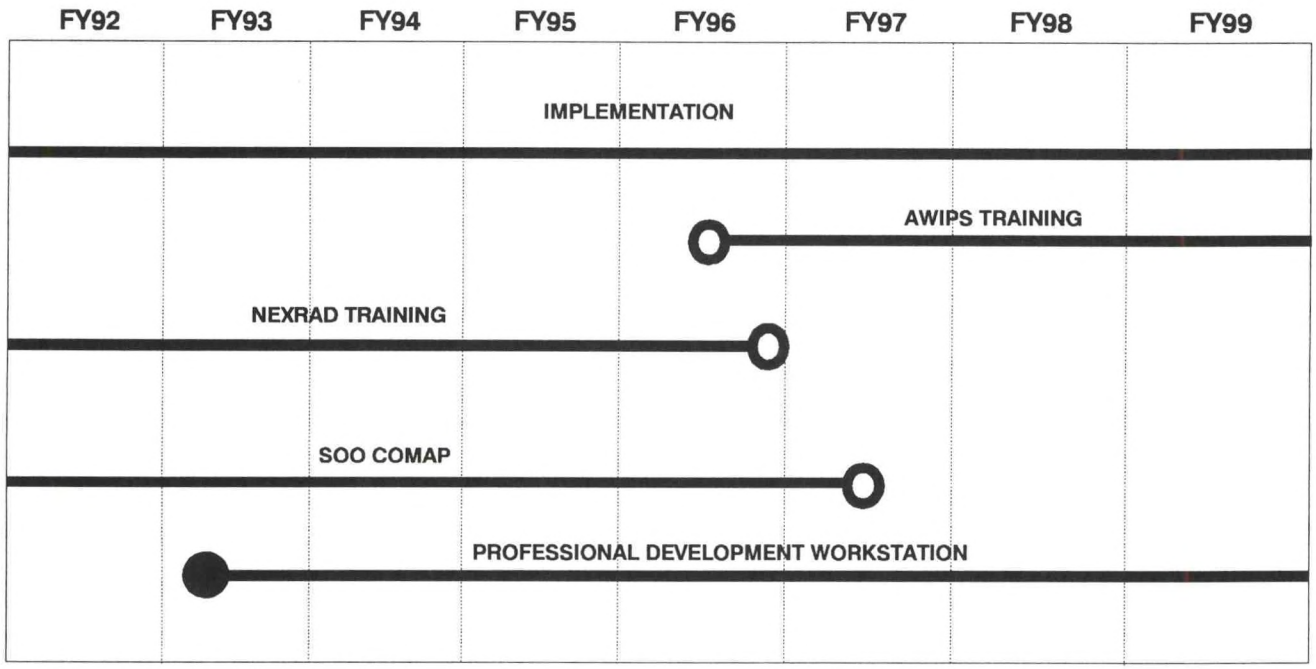


Figure 12
MARD SCHEDULE

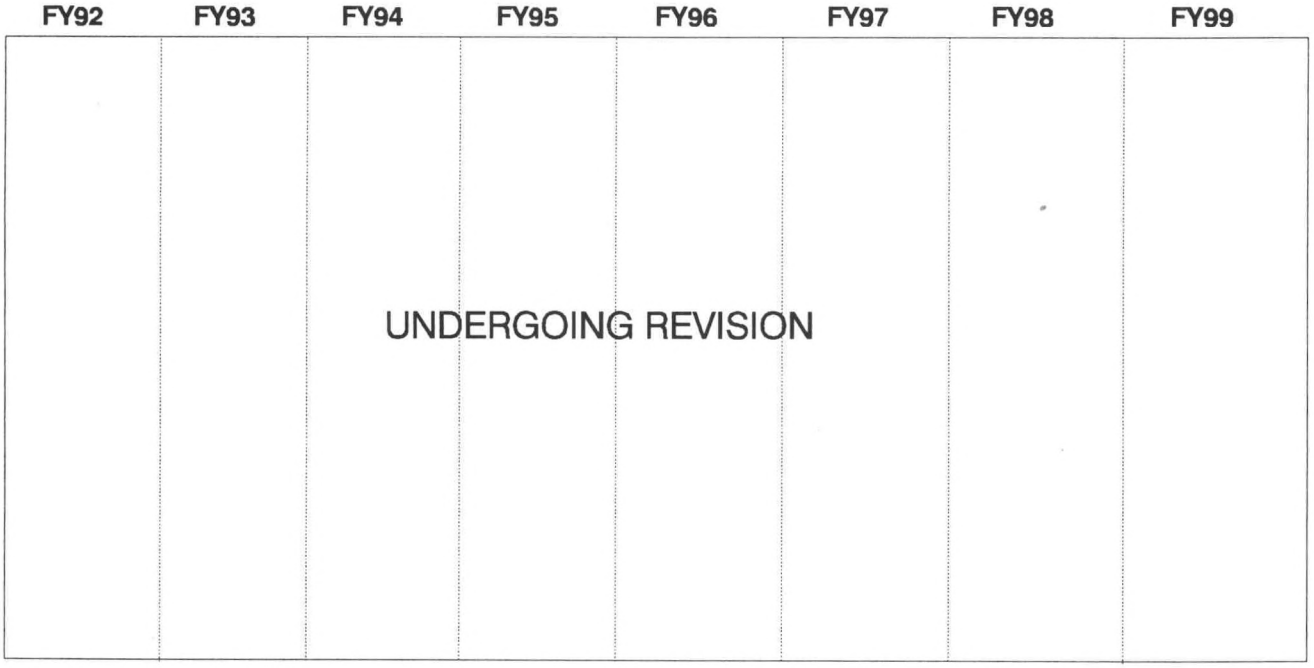


Figure 13
ERL RESEARCH PROGRAM SCHEDULE

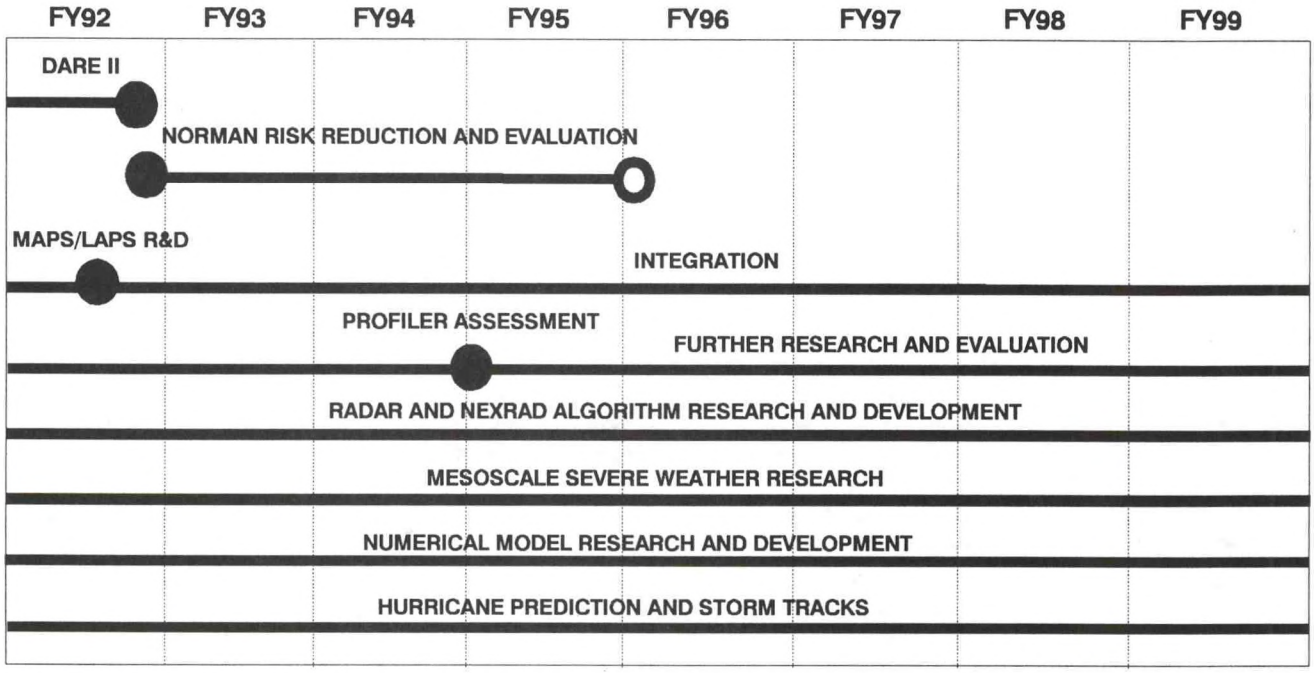


Figure 14
NWS RESEARCH PROGRAM SCHEDULE

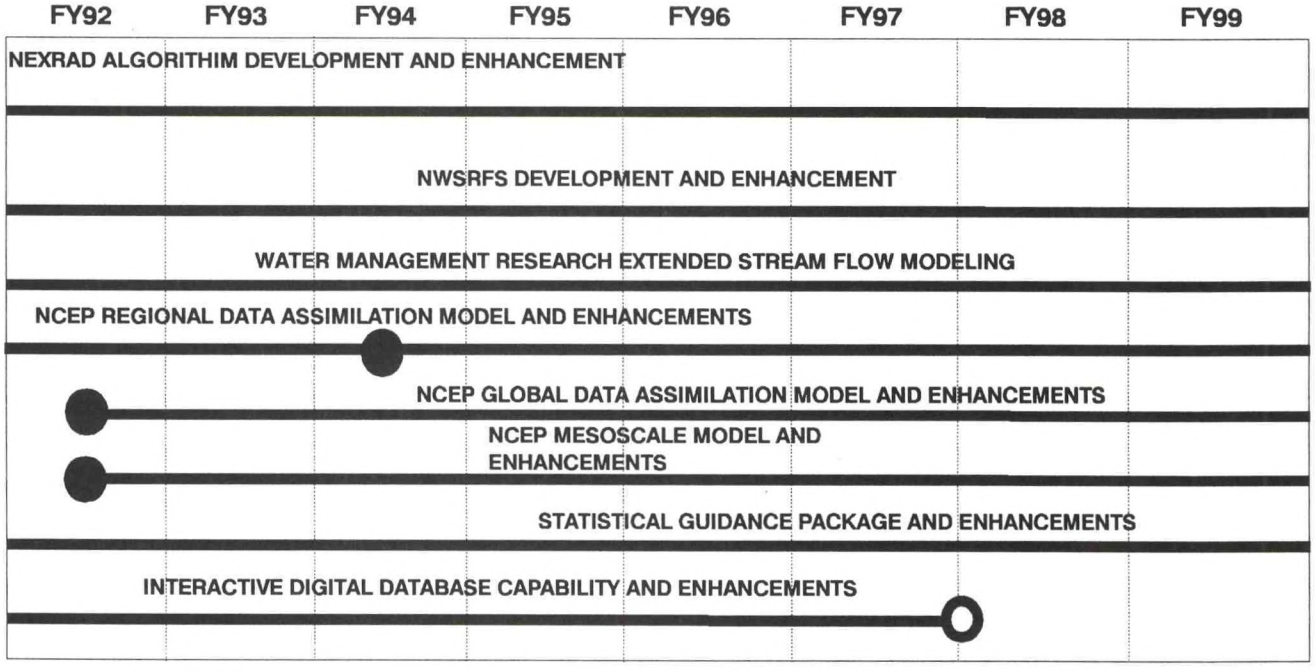


Figure 15:
NESDIS RESEARCH PROGRAM SCHEDULE

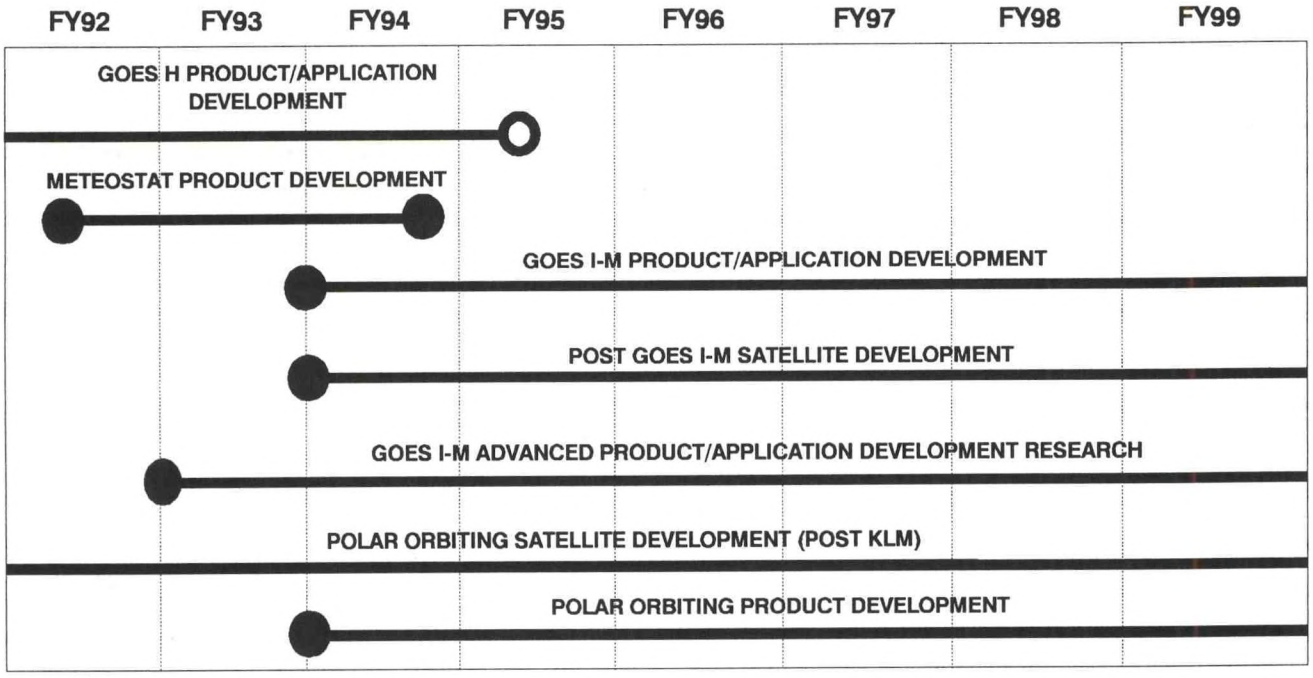


Table 6

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 NWS modernization transition actions, anticipated to occur during fiscal years 1995 through 1997, that change operations at or 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 National Implementation Plan (NIP), (b) 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, and (c) provides clarifying information through the use of footnotes.

Notifications are organized by state and within each state by the WFOs 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 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, on an as required basis to maintain radar and/or surface observation functions at locations at which the administrative and other service operations of a WSFO or WSO 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 commissioning 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 (NPUP), 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:

A. **Notifications Within Current Reporting Period.** Notifications of actions anticipated to occur during the current reporting period are indicated by the month and year in which they are anticipated to occur (e.g., 06/95) 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 07/95).

These dates should be interpreted as the earliest date for the action or certification. The actual date, however, is dependent upon many factors, e.g., completion of technical coordination with external users, system and office readiness and severe weather season consideration. 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/certification. The specific date for an action/certification will be provided by the MIC to external users and affected NWS employees at least 60 days in advance of the action.

B. **Notifications Beyond Current Reporting Period.** Notifications of actions anticipated to occur after fiscal year 1997 are indicated by asterisks.

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

D. **Completed Actions.** Actions completed as of publication of the current National Implementation Plan are indicated in bold italic, i.e., ***06/94***.

E. **Additional/Clarifying Information.** Footnotes are used to (a) provide notifications of relocation certifications, (b) clarify actions, and (c) 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 month and 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 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 month and year in which:

- The commissioning of an ASOS, NEXRAD or AWIPS at a given office is anticipated to take place. (Note that "88D" is used to indicate a NEXRAD commissioning).
- The commissionings are to take place of (a) NWS-owned associated PUPs (APUP) and (b) NWS-owned non-associated PUPs (NPUP) at RFCs. (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).

■ **System Decommissionings.** Notifications are of the month and year in which:

- **Replaced NWS Radars** are anticipated to be decommissioned as a result of the commissioning of one or more NEXRADs.
- **Replaced Automation of Field Operations and Services (AFOS)** installations are anticipated to be decommissioned as a result of the commissioning of an AWIPS installation.

- **Service Transfers.** Notifications are of the month and year in which the transfer of the following services are anticipated to occur:

  - In Stage 1, the warning or warning and forecast responsibilities of a non-WFO WSO to a future WFO(s). (In several instances the CWA of the non-WFO WSO is distributed among two or more future WFOs with transfers to each occurring at different times).
  - In Stage 1, warning and forecast responsibilities from WSFOs and NEXRAD WSOs (NWSO) to the facilities of their future WFOs.
  - In Stage 2, warning and forecast responsibilities from NEXRAD WSFOs (NWSFO) to NWSOs.
  - In Stage 2, the remaining service responsibilities from non-NEXRAD WSOs to appropriate WFOs.

- **Significant Staff Change.** Notifications are of the month and year in which the following significant staff changes are anticipated to occur.

  - The initiation of an increase in staff associated with the delivery of NEXRADs in Stage 1 and AWIPS in Stage 2 at WFOs and the delivery of NPUPs at RFCs, and when completed, the date of the completion.
  - 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 and/or forecast responsibilities in Stage 1. 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 in Stage 2. Such decreases require prior certification for closure.

These notifications are of planned decreases in staff. Unplanned decreases, such as employees transferring positions in response to opportunities presented by the modernization or employee retirements, are treated as temporary reductions and are therefore not addressed.

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 month and year in which the publication, in the *Federal Register*, is anticipated to take place of the final certification to replace weather service personnel at a given field office with automated weather service equipment and/or non-weather service personnel.

- **Consolidation Certification.** Notifications are of the month and year in which the publication, in the *Federal Register*, is anticipated to take place 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.

- **Closure Certification.** Notifications are of the month and year in which the publication, in the *Federal Register*, is anticipated to take place of the final certification to close a field office by transferring or reassigning all of its weather services. By law, no closures can occur prior to January 1, 1996.

- **Relocation Certification.** The notification is of the month and year in which the publication, in the *Federal Register*, took place 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 Notifications. 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 month and year provided. For actions that require the advancement to an earlier date 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 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BIRMINGHAM, AL (WSFO to WFO)	**11/93**[1]	**88D 12/94, APUP 01/95**[2] AWIPS *		03/95	**12/93**				
•WSO Columbus, GA		**ASOS 05/94**	08/95	03/95		11/95	*	11/95	*
•WSO Huntsville, AL		**ASOS 08/94**	05/96	03/95		08/96	*	08/96	*
•WSO Meridian, MS		ASOS 06/95	06/95	03/95		10/95	*	10/95	*
•WSO Montgomery, AL		ASOS 03/95	11/95	03/95		02/96	*	02/96	*
•WSMO Centreville, AL			03/95			03/95			

1. Upper air function was transferred from WSMO Centreville to the site of WFO Birmingham in August 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 Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MOBILE, AL (WSO to WFO)	**02/94**	88D 04/95 ASOS 03/95 AWIPS *	06/95[3]	03/95	**06/94**				
•WSO Meridian, MS		ASOS 06/95	06/95	03/95		10/95	*	10/95	*
•WSO Montgomery, AL		ASOS 03/95	11/95	04/95		02/96	*	02/96	*
•WSO Pensacola, FL			07/95	03/95		11/95		11/95	*
WFOs Out of State:									
TALLAHASSEE, FL (WSO to WFO)	07/97	88D 06/95 APUP 06/95 AWIPS *		07/97 05/95	**02/94**	07/97			
•WSO Montgomery, AL		ASOS 03/95	11/95	05/95		02/96	*	02/96	*

3. The old 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 ALASKA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ANCHORAGE, AK (WSFO to WFO)	06/95[1,7]	APUP 05/95[2] AWIPS *		01/96	**06/94**				
•WSO Bethel, AK (WSO to DCO)[3,4]		ASOS 08/95		08/96					
•WSO Cold Bay, AK (WSO to DCO)[4]		ASOS 03/95		*[5]		*[6]		*	
•WSO Homer, AK		ASOS 04/95		01/96		*[6]	*	*	*
•WSO King Salmon, AK (WSO to DCO)[3,4]		ASOS 03/95		06/96					
•WSO Kodiak, AK (WSO to DCO)[4]		ASOS 03/95		*[5]		*[6]		*	
•WSO McGrath, AK (WSO to DCO)[4]		ASOS 04/95		*[5]		*[6]		*	
•WSO St. Paul Island, AK (WSO to DCO)[4]		ASOS 06/95		*[5]		*[6]		*	
•WSO Valdez, AK				*[5]		*[6]		*	*
•WSCMO Anchorage, AK[7]		ASOS 03/95							
•WSCMO Talkeetna, AK		ASOS 08/95							

1. The entire WSFO will move to the facility of the future WFO located in the WSFO's current commuting and service areas.
2. There will be one associated PUP (APUP) at Anchorage connected to the FAA WSR-88D at Anchorage.
3. No change in staffing will occur at this office.
4. Upper air function will remain with this office.
5. Service transfer will take place upon the commissioning of the AWIPS at WFO Anchorage.
6. No change in staffing will occur at these offices until the commissioning of an AWIPS at the Anchorage WFO.
7. Upper air function will move to the site of WFO Anchorage in October 1995.

STATE OF ALASKA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ANCHORAGE, AK Alaska RFC	06/95	NPUP 12/95 AWIPS *			**10/94**				
FAIRBANKS, AK [8] (WSFO to WFO)	12/96[9]	APUP 05/95[10] AWIPS *		10/95	**09/94**				
•WSO Barrow, AK (WSO to DCO)[11]		ASOS 05/95		*[13]		*[14]		*	
•WSO Fairbanks, AK[11]		ASOS 03/95		10/95[13]		*[14]	*	*	*
•WSO Kotzebue, AK (WSO to DCO)[11,13]		ASOS 07/95		*[13]					
•WSO Nome, AK (WSO to DCO)[11]		ASOS 06/95		10/95[13]		*[14]		*	
•WSO Unalakleet, AK				*[13]		*[14]		*	*
JUNEAU, AK (WSFO to WFO)	06/97[15]	APUP 06/95[16] AWIPS *		*[17]	07/95				
•WSO Annette, AK (WSO to DCO)[11]		ASOS 07/95		*[17]					
•WSO Yakutat, AK (WSO to DCO)[11]		ASOS 08/95		*[17]		*[18]		*	

8. 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 May 1995.
9. 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.
10. There will be one associated PUP (APUP) at Fairbanks connected to the FAA WSR-88D at Fairbanks.
11. Upper air function will remain with this office.
13. No change in staffing will occur at this office.
14. There will be no change in staffing until the commissioning of an AWIPS at the Fairbanks WFO.
15. The entire WSFO will move to the facility of the future WFO located in the WSFO's current commuting and service areas.
16. There will be one associated PUP (APUP) at Juneau connected to an FAA WSR-88D in Sitka.
17. Service transfer will take place upon the commissioning of the AWIPS at WFO Juneau.
18. There will be no change in staffing until the commissioning of an AWIPS at the Juneau WFO.

STATE OF ARIZONA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
FLAGSTAFF, AZ [1,2] (WSO to WFO)	03/95[3]	88D 03/96 AWIPS *		04/95	03/95				
•WSO Winslow, AZ[3]		ASOS 03/95[4]		04/95		10/96	*		*
PHOENIX, AZ (WSFO to WFO)	05/91[6]	88D 04/94, 88D 08/96[7] AWIPS *		05/91[6] 10/94 03/95	09/92[5]	05/91[6]			
•Res WSO Phoenix, AZ[6]		ASOS 03/94	08/94			10/95	*	10/95	*
•WSO Riverside(AG & FW), CA				*[8]		*		*	*
•WSO Yuma, AZ				03/95		*			*

1. An ASOS also will be commissioned at an unstaffed site at Page Municipal Airport, Page, Arizona in December 1995; and an ASOS was commissioned at an unstaffed site at at Flagstaff, Arizona in the administrative area of WFO Flagstaff.
2. WSO Flagstaff vacated its facility on the airport in July 1994 at the request of the airport manager and is currently occupying temporary facilities at the site of the future WFO Flagstaff.
3. Upper air function will transfer from WSO Winslow to the site of WFO Flagstaff in April 1995.
4. This ASOS will replace a currently automated system, AUTOB, at this site.
5. Meteorologist positions for operation of WSR-88D filled.
6. 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.
7. A second WSR-88D, located in the vicinity of Yuma, AZ, will be operated out of the Phoenix WFO.
8. Service will be transferred upon the commissioning of an AWIPS at WFO Phoenix.

STATE OF ARIZONA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TUCSON, AZ (WSO to WFO)	06/96[10]	88D 12/95 AWIPS *		06/96[10] 10/95	12/94[9]	06/96[10]			
•Res WSO Tucson, AZ[10,11]		ASOS 03/95	02/96			06/96	*	06/96	*
WFOs Out of State:									
LAS VEGAS, NV (WSO to WFO)	12/94	88D 09/95 AWIPS *		12/94	10/94	12/94			

9. Meteorologist positions for operation of the WSR-88D filled.
10. 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.
11. Upper air function will remain at WSO Tucson until rooftop launch capability is available at site of WFO Tucson.

STATE OF ARKANSAS (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
LITTLE ROCK, AR (WSFO to WFO)	**02/93**[1]	**88D 06/94** AWIPS *	05/95	**07/94**	**01/93**				
•WSO Fort Smith, AR		**ASOS 08/94**	11/95	**07/94**		02/96	*	02/96	*
WFOs Out of State:									
JACKSON, MS (WSFO to WFO)	**04/93**	**88D 02/95** **ASOS 07/93** AWIPS *	04/95[2]	03/95	**01/93**				
MEMPHIS, TN (WSFO to WFO)	**08/93**	**88D 01/95** **APUP 12/94** AWIPS *	04/95	03/95	**08/93**				
SHREVEPORT, LA (WSO to WFO)	**02/95**	88D 09/95 ASOS 06/95 AWIPS *	11/95	05/95	**09/94**				

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 the 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 Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TULSA, OK (WSO to WFO)	**03/92**	**88D 05/94** AWIPS *		**03/92** **07/94**	**02/93**	**03/92**			
•WSO Fort Smith, AR		**ASOS 08/94**	11/95	**07/94**		02/96	*	02/96	*

STATE OF CALIFORNIA (Page 1 of 4)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 Las Vegas, Nevada; Medford, Oregon; Phoenix, Arizona; and Reno, Nevada. WFO Las Vegas will serve two counties in California; WFO Medford, two counties; WFO Phoenix, two counties; and WFO Reno, nine counties.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
EUREKA, CA (WSO to WFO)	**10/94**	88D 07/95 AWIPS *		08/95	**11/94**				
•WSO Redding, CA		ASOS 05/95		08/95		*	*		*
LOS ANGELES, CA [1] (WSFO to WFO)	**10/93**[3]	**88D 12/94, APUP 01/95**[4] AWIPS *		**10/93**[3] 04/95	**03/94**[2]	**10/93**[3]			
•Res WSO Los Angeles, CA[3]			03/95			10/95		10/95	*
•WSO Los Angeles (AV), CA		ASOS 12/95				*	*		*
•WSO Riverside(AG & FW), CA				*[5]		*		*	*
•WSO Santa Maria, CA[6]		ASOS 03/95		04/95		*	*		*
•WSCMO Long Beach, CA		ASOS 06/95							

1. An ASOS will also be commissioned at an unstaffed, non-airport site at Sandburg, California, in the administrative area of WFO Los Angeles. This commissioning is anticipated to occur in March 1995.
2. Meteorologist positions for operation of the WSR-88D filled.
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 the commissioning of an AWIPS at WFO Los Angeles.
6. Consolidation certification requirement has been dropped as the agricultural weather function at WSO Santa Maria is under the supervision of WSO Riverside. Consolidation certification at WSO Riverside will therefore include WSO Santa Maria.

STATE OF CALIFORNIA (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SACRAMENTO, CA [7] (WSO to WFO)	03/95	**88D 12/94**[8] APUP 08/96 AWIPS *		03/95[9] 08/96	**05/94**	03/95			
•Res WSO Sacramento, CA			03/95			10/95		10/95	*
•WSO Redding, CA		ASOS 05/95		08/96		*	*		*
•WSO Stockton, CA		ASOS 04/95							*
•WSCMO Blue Canyon, CA		**ASOS 01/93**							
SACRAMENTO, CA California-Nevada RFC	03/95	NPUP 04/95 AWIPS *			**01/94**				
SAN DIEGO, CA [10] (WSO to WFO)	09/95	88D 07/96 AWIPS *			07/95				
•Res WSO San Diego, CA		ASOS 03/95				*	*		*
•WSO Riverside(AG & FW), CA				*[11]		*		*	*
•WSCMO San Diego, CA[12]									

7. 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 in May 1995.
8. WFO Sacramento also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Beale AFB.
9. Short fuse warning responsibility will transfer from WSO Redding to WFO Sacramento upon DOD commissioning of its WSR-88D at Beale AFB.
10. An ASOS also will be commissioned at an unstaffed site at Brown Municipal Airport, San Diego, California, in the administrative area of WFO San Diego. This commissioning is anticipated to occur in July 1995.
11. Service will be transferred upon the commissioning of an AWIPS at WFO San Diego.
12. Upper air function will remain at WSCMO San Diego.

STATE OF CALIFORNIA (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SAN FRANCISCO BAY AREA, CA (WSFO to WFO)	**08/94**[13]	88D 05/95 AWIPS *		04/95	**03/94**				
•WSO Riverside(AG & FW), CA				*[14]		*		*	*
•WSO San Francisco (AV), CA		ASOS 08/95				*	*		*
•WSO Santa Maria, CA[15]		ASOS 03/95		04/95		*	*		*
•WSCMO Oakland, CA[16]									
SAN JOAQUIN VALLEY, CA (WSO to WFO)	**01/95**	88D 09/95 AWIPS *		**10/94**	**01/95**				
•Res WSO Fresno, CA		ASOS 08/95				*	*		*
•WSO Bakersfield, CA		ASOS 11/95		**10/94**		04/96	*	04/96	*
•WSO Riverside(AG & FW), CA				*[17]		*		*	*
WFOs Out of State:									
LAS VEGAS, NV (WSO to WFO)	**12/94**	88D 09/95 AWIPS *		**12/94**	**10/94**	**12/94**			
•WSO Riverside(AG & FW), CA				*[18]		*		*	*

13. Occupancy of the facility of the future WFO San Francisco Bay Area took place on August 19,1994 after its Relocation Certification was approved by the Secretary of Commerce.
14. Service will be transferred upon commissioning of an AWIPS at WFO San Francisco.
15. Consolidation certification requirement has been dropped as the agricultural weather function at WSO Santa Maria is under the supervision of WSO Riverside. Consolidation certification at WSO Riverside will therefore include WSO Santa Maria.
16. Upper air function will remain at WSCMO Oakland.
17. Agricultural forecast service will be transferred upon the commissioning of an AWIPS at WFO San Joaquin Valley.
18. Service transfer will take place upon the commissioning of an AWIPS at WFO Las Vegas.

STATE OF CALIFORNIA (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MEDFORD, OR (WSO to WFO)	06/95	88D 04/96 ASOS 09/95 AWIPS *	06/96[19]	07/95	03/95	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Redding, CA	[redacted]	ASOS 05/95	[redacted]	06/96	[redacted]	*	*	[redacted]	*
PHOENIX, AZ (WSFO to WFO)	**05/91**	**88D 04/94** 88D 08/96 AWIPS *	[redacted]	**05/91** **10/94** 03/95	**09/92**	**05/91**	[redacted]	[redacted]	[redacted]
•WSO Riverside(AG & FW), CA	[redacted]	[redacted]	[redacted]	*[20]	[redacted]	*	[redacted]	*	*
RENO, NV (WSFO to WFO)	**07/94**	88D 06/95 AWIPS *	[redacted]	**07/94** 05/95	**05/94**	**07/94**	[redacted]	[redacted]	[redacted]
•WSO Redding, CA	[redacted]	ASOS 05/95	[redacted]	05/95	[redacted]	*	*	[redacted]	*

19. 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.
20. 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 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DENVER/BOULDER, CO (WSFO to WFO)	*[1,2]	**88D 07/94** AWIPS *		**10/94**	**03/93**				
•WSO Colorado Springs, CO		**ASOS 11/92**		**10/94**		03/96	*	03/96	*
•WSMO Limon, CO		ASOS 05/95	10/95			10/95			
•WSCMO Denver, CO[3]		**ASOS 02/94**							
GRAND JUNCTION, CO (WSO to WFO)	07/95[4]	88D 01/96 ASOS 05/95 AWIPS *		06/95	03/95				
•WSO Alamosa, CO		**ASOS 09/92**		06/95		08/96	*	08/96	*

1. The entire WSFO will move to the facility of the future WFO in the WSFO's current commuting and service area.
2. The upper air function at WSFO Denver will transfer with the WSFO to the site of WFO Denver/Boulder if a rooftop launch site is available at that time.
3. This WSCMO was established in October 1993 at the new Denver International (Front Range) Airport.
4. Upper air function will transfer with WSO Grand Junction to the site of WFO Grand Junction.

STATE OF COLORADO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PUEBLO, CO (WSO to WFO)	**09/94**	88D 08/95 **ASOS 10/92** AWIPS *		04/95	**06/94**				
•WSO Alamosa, CO		**ASOS 09/92**		04/95		08/96	*	08/96	*
•WSO Colorado Springs, CO		**ASOS 11/92**		04/95		03/96	*	03/96	*
•WSMO Limon, CO		ASOS 05/95	10/95			10/95			
WFOs Out of State:									
GOODLAND, KS (WSO to WFO)	**03/90**	88D 04/95 **ASOS 09/92** AWIPS *	08/95	**03/94**	**08/92**				
•WSO Colorado Springs, CO		**ASOS 11/92**		**03/94**		03/96	*	03/96	*

STATE OF CONNECTICUT (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
WFOs Out of State:									
ALBANY, NY (WSFO to WFO)	02/97	88D 04/95 AWIPS *	[redacted]	02/97 **09/94**	**09/93**	02/97	[redacted]	[redacted]	[redacted]
•WSO Hartford, CT	[redacted]	ASOS 04/95	07/95	**09/94**	[redacted]	11/95	*	11/95	*
BOSTON, MA (WSFO to WFO)	**11/93**	**88D 12/94** AWIPS *	[redacted]	**11/93 11/94**	**09/93**	**11/93**	[redacted]	[redacted]	[redacted]
•WSO Hartford, CT	[redacted]	ASOS 04/95	07/95	**06/94**	[redacted]	11/95	*	11/95	*
NEW YORK CITY, NY (WSFO to WFO)	**10/93**	**88D 01/95** AWIPS *	[redacted]	**10/93 09/94**	**07/93**	**10/93**	[redacted]	[redacted]	[redacted]
•WSO Bridgeport, CT	[redacted]	ASOS 07/95	[redacted]	**09/94**	[redacted]	10/95	*	10/95	*
•WSO Hartford, CT	[redacted]	ASOS 04/95	07/95	**09/94**	[redacted]	11/95	*	11/95	*

STATE OF DELAWARE (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Delaware will be provided by WFO Philadelphia.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
PHILADELPHIA, PA (WSFO to WFO)	**08/93**	**88D 02/95** AWIPS *		**10/94**	**07/93**				
•WSO Wilmington, DE		**ASOS 10/94**		**10/94**		10/95	*	10/95	*

DISTRICT OF COLUMBIA (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs outside of the District of Columbia:									
BALTIMORE, MD/WASHINGTON, DC (WSFO to WFO)	**04/90**	**88D 06/94** AWIPS *		**04/94**	**07/91**				

STATE OF FLORIDA (Page 1 of 4)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
JACKSONVILLE, FL (WSO to WFO)	**01/95**	88D 06/95 ASOS 03/95 AWIPS *		05/95	**09/94**				
•WSO Daytona Beach, FL		ASOS 03/95	08/95	05/95		11/95	*	11/95	*
•WSO Savannah, GA		ASOS 03/95	09/95	05/95		01/96	*	01/96	*
•WSMO Waycross, GA[1]			09/95			09/95			
MELBOURNE, FL (New WFO)	**08/89**	**88D 03/94** AWIPS *		**04/94**	**04/93**				
•WSO Daytona Beach, FL		ASOS 03/95	08/95	**04/94**		11/95	*	11/95	*
•WSO Orlando, FL				**10/89**					*
•WSO West Palm Beach, FL[2]		**ASOS 04/93**	06/95	**04/94**		10/95	*	10/95	*
•WSCMO Orlando, FL		ASOS 04/95							

1. Upper air function will transfer from WSMO Waycross to the site of WFO Jacksonville in January 1995.
2. Upper air function will transfer from WSO West Palm Beach to the site of WFO Miami in June 1995.

STATE OF FLORIDA (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MIAMI, FL (WSFO to WFO)	03/95[3,4]	88D 04/95 88D 08/96[6] AWIPS *	**08/92**[5]	03/95	**02/93**				
•WSO Key West, FL[7]		ASOS 06/95	10/96[8]	03/95		12/96	*	12/96	*
•WSO West Palm Beach, FL[4]		**ASOS 04/93**	06/95	03/95		10/95	*	10/95	*
•WSCMO Miami, FL		ASOS 12/95							

3. The entire WSFO will move to the facility of the future WFO located in the WSFO's current commuting and service areas.
4. The upper air function will transfer from WSO West Palm Beach to the site of WFO Miami in June 1995.
5. Radar was blown down during Hurricane Andrew, August 1992.
6. This radar, located at Key West, FL, will be operated out of WFO Miami.
7. Upper air function at WSO Key West is to be contracted out in March 1995.
8. 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 FLORIDA (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TALLAHASSEE, FL (WSO to WFO)	07/97[10,11]	88D 06/95 APUP 06/95[12] AWIPS *		07/97[10] 05/95	02/94[9]	07/97[10]			
•Res WSO Tallahassee, FL[10,11]		ASOS 03/95				*	*		*
•WSO Apalachicola, FL			09/95	05/95		01/96		01/96	*
•WSO Columbus, GA		ASOS 05/94	08/95	05/95		11/95	*	11/95	*
•WSO Macon, GA		ASOS 05/94	08/95	05/95		12/95	*	12/95	*
•WSO Montgomery, AL		ASOS 03/95	11/95	05/95		02/96	*	02/96	*
•WSO Pensacola, FL			07/95	05/95		11/95		11/95	*
•WSO Savannah, GA		ASOS 03/95	09/95	05/95		01/96	*	01/96	*
•WSMO Waycross, GA[13]			09/95			09/95			
TAMPA BAY AREA, FL (WSO to WFO)	02/95[14]	88D 04/95 AWIPS *	06/95[15]	04/95	04/94				
•WSO Fort Myers, FL[16]				04/95		*			*
•WSCMO Tampa, FL		ASOS 12/95							

9. Meteorologist positions for WSR-88D filled.
10. Forecast and warning services of transitioning WSO will be transferred to facility of future WFO. Surface observation function will be retained at original WSO location and office redesignated a residual WSO.
11. Upper air function will remain at WSO Tallahassee until availability of roof launch capability at WFO Tallahassee.
12. WFO Tallahasse also will use data, by means of an associated PUP (APUP), from the DOD WSR-88D at Eglin AFB.
13. Upper air function will be transferred from WSMO Waycross to the site of WFO Jacksonville in January 1995.
14. Upper air function will remain and be collocated with WFO Tampa Bay Area.
15. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.
16. WSO Fort Myers, which is collocated with the Lee County Emergency Manager, is staffed with personnel from WSO/WFO Tampa Bay, only in response to predicitions of severe weather (e.g. hurricanes).

STATE OF FLORIDA (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
MOBILE, AL (WSO to WFO)	**02/94**	88D 04/95 ASOS 03/95 AWIPS *	06/95[17]	03/95	**06/94**				
•WSO Pensacola, FL			07/95	03/95		11/95		11/95	*

17. The old 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 GEORGIA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ATLANTA, GA (WSFO to WFO)	**04/94**[2,3]	**88D 02/95**, **APUP 01/95**[4] AWIPS *	[redacted]	**04/94**[2] 03/95	**05/94**[1]	**04/94**[2]	[redacted]	[redacted]	[redacted]
•Res WSO Atlanta, GA[2]	[redacted]	ASOS 05/95	05/95	[redacted]	[redacted]	10/95	*	10/95	*
•WSO Athens, GA[3]	[redacted]	ASOS 04/95	11/95	03/95	[redacted]	02/96	*	02/96	*
•WSO Augusta, GA	[redacted]	**ASOS 05/94**	08/95	03/95	[redacted]	11/95	*	11/95	*
•WSO Chattanooga, TN	[redacted]	ASOS 12/95	11/95	**02/95**	[redacted]	02/96	*	02/96	*
•WSO Columbus, GA	[redacted]	**ASOS 05/94**	08/95	03/95	[redacted]	11/95	*	11/95	*
•WSO Macon, GA	[redacted]	**ASOS 05/94**	08/95	03/95	[redacted]	12/95	*	12/95	*
•WSO Savannah, GA	[redacted]	ASOS 03/95	09/95	03/95	[redacted]	01/96	*	01/96	*

1. Meteorologist positions for WSR-88D operation filled; training begun.
2. Forecast and warning service of the 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. Upper air function was transferred from WSO Athens to the site of WFO Atlanta in August 1994.
4. WFO Atlanta also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Robbins AFB.

STATE OF GEORGIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ATLANTA, GA Southeast RFC	**04/94**	**NPUP 12/94** AWIPS *			**01/94**				
WFOs Out of State:									
BIRMINGHAM, AL (WSFO to WFO)	**11/93**	**88D 12/94** **APUP 01/95** AWIPS *		03/95	**12/93**				
•WSO Columbus, GA		**ASOS 05/94**	08/95	03/95		11/95	*	11/95	*
CHARLESTON, SC (WSO to WFO)	**11/94**	88D 06/95 **APUP 02/95** ASOS 07/95 AWIPS *	09/95	05/95	**05/94**				
•WSO Augusta, GA		**ASOS 05/94**	08/95	05/95		11/95	*	11/95	*
•WSO Savannah, GA		ASOS 03/95	09/95	05/95		01/96	*	01/96	*
•WSMO Waycross, GA[5]			09/95			09/95			
COLUMBIA, SC (WSFO to WFO)	**09/93**	88D 06/95 ASOS 03/95 AWIPS *	08/95	**12/94**	**11/93**				
•WSO Augusta, GA		**ASOS 05/94**	08/95	**12/94**		11/95	*	11/95	*

5. Upper air function will be transferred from WSMO Waycross to the site of WFO Jacksonville in January 1995.

STATE OF GEORGIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	05/95	88D 08/95 ASOS 12/95 AWIPS *		10/95	**09/94**				
•WSO Athens, GA[6]		ASOS 04/95	11/95	10/95		02/96	*	02/96	*
JACKSONVILLE, FL (WSO to WFO)	**01/95**	88D 06/95 ASOS 03/95 AWIPS *		05/95	**09/94**				
•WSO Savannah, GA		ASOS 03/95	09/95	05/95		01/96	*	01/96	*
•WSMO Waycross, GA[7]			09/95			09/95			
TALLAHASSEE, FL (WSO to WFO)	07/97	88D 06/95 APUP 06/95 AWIPS *		07/97 05/95	**02/94**	07/97			
•WSO Columbus, GA		**ASOS 05/94**	08/95	05/95		11/95	*	11/95	*
•WSO Macon, GA		**ASOS 05/94**	08/95	05/95		12/95	*	12/95	*
•WSO Savannah, GA		ASOS 03/95	09/95	05/95		01/96	*	01/96	*
•WSMO Waycross, GA[7]			09/95			09/95			

6. Upper air function was transferred from WSO Athens to the site of WFO Atlanta in August 1994.
7. Upper air function will transfer from WSMO Waycross to the site of WFO Jacksonville in January 1995.

TERRITORY OF GUAM (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services will be provided to Guam and to Micronesia by WFO Guam.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GUAM, GU (WSO to WFO)[1,2]	06/95	APUP TBD[3] ASOS TBD[3]			01/95				

1. WSMO Guam and WSO (AV) Guam are both to be assumed by the establishement of WFO Guam.
2. NWS will make no changes to the following Pacific Region offices: WSO Chuuk; WSO Koror; WSO Majuro; WSO Pago Pago, American Samoa; WSO Pohnpei; WSO Wake Island; WSO Yap.
3. Discussions are under way with the Navy to establish dates for the transfer of the Navy's APUP and ASOS to the NWS.

STATE OF HAWAII (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Hawaii will be provided by one in-state WFO--Honolulu.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
HONOLULU, HI (WSFO to WFO)	04/95[2]	APUP 04/95[3] APUP 04/95[3] AWIPS *	[redacted]	04/95[2] *	**11/93**[1]	04/95[2]	[redacted]	[redacted]	[redacted]
•Res WSO Honolulu, HI[2]	[redacted]	ASOS 05/95	[redacted]	[redacted]	[redacted]	*	*	[redacted]	*
•WSO Hilo, HI (WSO to DCO)[4]	[redacted]	ASOS 03/95	[redacted]	*[5]	[redacted]	*[6]	[redacted]	*	[redacted]
•WSO Kahului, HI	[redacted]	ASOS 03/95	[redacted]	*[5]	[redacted]	*[6]	*	*	*
•WSO Lihue, Kauai, HI (WSO to DCO)[4]	[redacted]	ASOS 03/95	[redacted]	*[5]	[redacted]	*[6]	[redacted]	*	[redacted]

1. Meteorologist positions for WSR-88D operation filled.
2. Forecast and warning services 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. There will be two associated PUPs (APUPs) 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 FY 1995/early FY 1996.
4. Upper air function will remain with this office.
5. Service transfer will take place upon the commissioning of the AWIPS at WFO Honolulu.
6. 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 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BOISE, ID (WSFO to WFO)	**07/93**[1]	**88D 01/95** ASOS 05/95 AWIPS *		**07/94**	**07/93**				
•WSO Twin Falls (AG), ID				*[2]		*			*
•WSMO Burns, OR		ASOS 03/95				03/95			
POCATELLO/IDAHO FALLS, ID (WSO to WFO)	03/95	88D 01/96 ASOS 06/95 AWIPS *		10/95	**01/95**				
WFOs Out of State:									
MISSOULA, MT (WSO to WFO)	**07/94**	88D 03/95 ASOS 04/95 AWIPS *	05/95[3]	03/95	**08/94**				
•WSO Lewiston, ID		ASOS 03/95		03/95		02/97	*	02/97	*

1. Upper air function remains in place and is collocated with WFO Boise.
2. Service will be transferred upon commissioning of the Boise WFO's AWIPS.
3. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF IDAHO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SALT LAKE CITY, UT (WSFO to WFO)	**07/94**	88D 05/95 88D 03/96 ASOS 12/95 AWIPS *	[redacted]	05/95	**05/94** 04/95	[redacted]	[redacted]	[redacted]	[redacted]
SPOKANE, WA (WSO to WFO)	05/95	88D 07/96 AWIPS *	[redacted]	05/95 03/95	**12/94**	05/95	[redacted]	[redacted]	[redacted]
•WSO Lewiston, ID	[redacted]	ASOS 03/95	[redacted]	03/95	[redacted]	02/97	*	02/97	*

STATE OF ILLINOIS (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Illinois will be provided by two in-state WFOs--Central Illinois and Chicago--and by WFOs Paducah, Kentucky; Quad Cities, Iowa; and St. Louis, Missouri. WFO Paducah will serve 19 counties in Illinois; WFO Quad Cities, 13 counties; and WFO St. Louis, 17 counties. WFO Chicago will serve 14 counties in Indiana.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CENTRAL ILLINOIS, IL (New WFO)	09/95[1]	88D 10/95 AWIPS *		09/95	**12/94**				
•WSO Evansville, IN		ASOS 03/95	11/95	09/95		03/96	*	03/96	*
•WSO Peoria, IL[2]		ASOS 06/95		09/95		05/96	*	05/96	*
•WSO Springfield, IL		ASOS 06/95	12/95	09/95		04/96	*	04/96	*
CHICAGO, IL (WSFO to WFO)	**12/91**	**88D 12/94** AWIPS *		**10/94**	**03/93**				
•WSO Chicago-O'Hare (AV), IL		ASOS 10/95				*	*		*
•WSO Rockford, IL		ASOS 03/95		**10/94**		04/96	*	04/96	*
•WSO South Bend, IN		ASOS 07/95	12/95	**10/94**		04/96	*	04/96	*
•WSMO Marseilles, IL			03/95			03/95			

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

STATE OF ILLINOIS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
PADUCAH, KY (WSO to WFO)	**02/95**	88D 09/95 ASOS 03/95 AWIPS *	11/95	09/95	**11/94**	[redacted]	[redacted]	[redacted]	[redacted]
QUAD CITIES, IA (WSO to WFO)	**02/95**	88D 09/95 AWIPS *	[redacted]	**02/95** 03/95	**07/94**	**02/95**	[redacted]	[redacted]	[redacted]
•Res WSO Moline, IL	[redacted]	ASOS 03/95	11/95	[redacted]	[redacted]	03/96	*	03/96	*
•WSO Peoria, IL[3]	[redacted]	ASOS 06/95	[redacted]	03/95	[redacted]	05/96	*	05/96	*
•WSO Rockford, IL	[redacted]	ASOS 03/95	[redacted]	**10/94**	[redacted]	04/96	*	04/96	*
ST. LOUIS, MO (WSFO to WFO)	**09/90**	**88D 07/94** AWIPS *	[redacted]	**09/90** **09/94**	**12/91**	**09/90**	[redacted]	[redacted]	[redacted]
•WSO Springfield, IL	[redacted]	ASOS 06/95	12/95	**09/94**	[redacted]	04/96	*	04/96	*

3. Upper air function will transfer from WSO Peoria, Illinois to the site of WFO Quad CIties, Iowa in April 1995.

STATE OF INDIANA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
INDIANAPOLIS, IN (WSFO to WFO)	**08/93**[2]	88D 05/95 AWIPS *	[redacted]	**08/93**[2] 06/95	**02/93**[1]	**08/93**[2]	[redacted]	[redacted]	[redacted]
•Res WSO Indianapolis, IN[2]	[redacted]	ASOS 07/95	07/95	[redacted]	[redacted]	11/95	*	11/95	*
•WSO Evansville, IN	[redacted]	ASOS 03/95	11/95	06/95	[redacted]	03/96	*	03/96	*
•WSO Fort Wayne, IN	[redacted]	ASOS 08/95	12/95	06/95	[redacted]	04/96	*	04/96	*
WFOs Out of State:									
CHICAGO, IL (WSFO to WFO)	**12/91**	**88D 12/94** AWIPS *	[redacted]	**10/94**	**03/93**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO South Bend, IN	[redacted]	ASOS 07/95	12/95	**10/94**	[redacted]	04/96	*	04/96	*
CINCINNATI, OH (New WFO)	**06/94**	88D 06/95 AWIPS *	[redacted]	**10/94**	**05/94**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Fort Wayne, IN	[redacted]	ASOS 08/95	12/95	**10/94**	[redacted]	04/96	*	04/96	*

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

STATE OF INDIANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GRAND RAPIDS, MI (WSO to WFO)	03/95	88D 10/95 ASOS 03/95 AWIPS *	[redacted]	10/95	**12/94**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Fort Wayne, IN	[redacted]	ASOS 08/95	12/95	02/96	[redacted]	04/96	*	04/96	*
•WSO South Bend, IN	[redacted]	ASOS 07/95	12/95	02/96	[redacted]	04/96	*	04/96	*
LOUISVILLE, KY (WSFO to WFO)	**02/93**	**88D 11/94** AWIPS *	[redacted]	**02/93** **10/94**	**04/93**	**02/93**	[redacted]	[redacted]	[redacted]
•WSO Evansville, IN	[redacted]	ASOS 03/95	11/95	**10/94**	[redacted]	03/96	*	03/96	*
PADUCAH, KY (WSO to WFO)	**02/95**	88D 09/95 ASOS 03/95 AWIPS *	11/95	09/95	**11/94**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Evansville, IN	[redacted]	ASOS 03/95	11/95	09/95	[redacted]	03/96	*	03/96	*

STATE OF IOWA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DES MOINES, IA (WSFO to WFO)	**08/93**[2]	88D 06/95 AWIPS *	[redacted]	**08/93**[2] 03/95	**06/93**[1]	**08/93**[2]	[redacted]	[redacted]	[redacted]
•Res WSO Des Moines, IA[2]	[redacted]	ASOS 09/95	08/95	[redacted]	[redacted]	12/95	*	12/95	*
•WSO Waterloo, IA	[redacted]	ASOS 08/95	11/95	03/95	[redacted]	03/96	*	03/96	*

1. Meteorologist positions for operation of the WSR-88D filled.
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 Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
QUAD CITIES, IA (WSO to WFO)	**02/95**[4]	88D 09/95 AWIPS *	[redacted]	**02/95**[4] 03/95	**07/94**[3]	**02/95**[4]	[redacted]	[redacted]	[redacted]
•Res WSO Moline, IL	[redacted]	ASOS 03/95	11/95	[redacted]	[redacted]	03/96	*	03/96	*
•WSO Dubuque, IA	[redacted]	ASOS 03/95	[redacted]	03/95	[redacted]	01/97	*	01/97	*
•WSO Peoria, IL[5]	[redacted]	ASOS 06/95	[redacted]	03/95	[redacted]	05/96	*	05/96	*
•WSO Rockford, IL	[redacted]	ASOS 03/95	[redacted]	**10/94**	[redacted]	04/96	*	04/96	*
•WSO Waterloo, IA	[redacted]	ASOS 08/95	11/95	03/95	[redacted]	03/96	*	03/96	*
WFOs Out of State:									
LA CROSSE, WI (WSO to WFO)	06/95	88D 06/96 AWIPS *	[redacted]	02/96	07/95	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Dubuque, IA	[redacted]	ASOS 03/95	[redacted]	02/96	[redacted]	01/97	*	01/97	*
•WSO Waterloo, IA	[redacted]	ASOS 08/95	11/95	02/96	[redacted]	03/96	*	03/96	*
OMAHA, NE (WSFO to WFO)	**04/94**	88D 07/95 AWIPS *	[redacted]	**04/94** 03/95	**01/94**	**04/94**	[redacted]	[redacted]	[redacted]
•WSO Sioux City, IA	[redacted]	ASOS 03/95	[redacted]	03/95	[redacted]	01/96	*	01/96	*

3. Meteorologist positions for operation of the WSR-88D filled.
4. 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.
5. Upper air function will transfer from WSO Peoria, Illinois to the site of WFO Quad Cities, Iowa in April 1995.

STATE OF IOWA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SIOUX FALLS, SD (WSFO to WFO)	**09/93**	88D 06/95 ASOS 09/95 AWIPS *	08/95	03/95	**06/93**				
•WSO Sioux City, IA		ASOS 03/95		03/95		01/96	*	01/96	*

STATE OF KANSAS (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DODGE CITY, KS (WSO to WFO)	10/90[1]	88D 04/94 ASOS 09/92 AWIPS *		04/94	12/91				
•WSMO Garden City, KS			09/94			09/94			
GOODLAND, KS (WSO to WFO)	03/90	88D 04/95 ASOS 09/92 AWIPS *	08/95	03/94	08/92				
•WSO Colorado Springs, CO		ASOS 11/92		03/94		03/96	*	03/96	*
TOPEKA, KS (WSFO to WFO)	06/90[2]	88D 01/95 ASOS 12/92 AWIPS *	04/95	09/94	12/92				
•WSO Concordia, KS		ASOS 09/92	04/95	09/94		10/95	*	10/95	*

1. Upper air function was transferred with WSO Dodge City to the site of WFO Dodge City in October 1990.
2. Current office building modified to accomodate WFO Topeka operations. Upper air remains in place.

STATE OF KANSAS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WICHITA, KS (WSO to WFO)	**01/92**	**88D 04/94** **ASOS 11/92** AWIPS *	03/95[3]	**03/94**	**07/92**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Concordia, KS	[redacted]	**ASOS 09/92**	04/95	**03/94**	[redacted]	10/95	*	10/95	*
WFOs Out of State:									
HASTINGS, NE (New WFO)	**11/92**	**88D 12/94** AWIPS *	[redacted]	**09/94**	**05/93**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Concordia, KS	[redacted]	**ASOS 09/92**	04/95	**09/94**	[redacted]	10/95	*	10/95	*
KANSAS CITY/PLEASANT HILL, MO (WSO to WFO)	**12/93**	**88D 02/95** AWIPS *	[redacted]	**12/93** **09/94**	**09/92**	**12/93**	[redacted]	[redacted]	[redacted]
SPRINGFIELD, MO (WSO to WFO)	**11/94**	88D 09/95 ASOS 04/95 AWIPS *	[redacted]	09/95	**07/94**	[redacted]	[redacted]	[redacted]	[redacted]

3. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF KENTUCKY (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Kentucky will be provided by three in-state WFOs--Jackson, Louisville and Paducah--and by WFOs Charleston, West Virginia and Cincinnati, Ohio. WFO Charleston will serve four counties in Kentucky; and WFO Cincinnati, 12 counties. WFO Louisville will serve 10 counties in Indiana; and WFO Paducah, 19 counties in Illinois, six counties in Indiana, and 11 counties in Missouri.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
JACKSON, KY (WSO to WFO)	06/96	88D 09/96 ASOS 03/95	TBD	04/97	TBD	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Huntington, WV	[redacted]	ASOS 07/95	[redacted]	04/97	[redacted]	05/96	*	05/96	*
•WSO Lexington, KY	[redacted]	ASOS 03/95	[redacted]	10/95[2]	[redacted]	01/96	*	01/96	*
LOUISVILLE, KY (WSFO to WFO)	**02/93**[3]	**88D 11/94** AWIPS *	[redacted]	**02/93**[3] **10/94**	**04/93**[1]	**02/93**[3]	[redacted]	[redacted]	[redacted]
•Res WSO Louisville, KY[3]	[redacted]	**ASOS 08/94**	**07/94**[4]	[redacted]	[redacted]	10/95	*	10/95	*
•WSO Evansville, IN	[redacted]	ASOS 03/95	11/95	**10/94**	[redacted]	03/96	*	03/96	*
•WSO Lexington, KY	[redacted]	ASOS 03/95	[redacted]	**10/94**	[redacted]	01/96	*	01/96	*

1. Meteorologist positions for operation of the WSR-88D filled.
2. Seven counties will be transfered to WFO Louisville, KY in October 1995 until final transfer to WFO Jackson, Ky
3. 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.
4. Radar decommissioned and taken down to make room for airport expansion. Backup sites are providing radar observations until the commissioning of the WSR-88D.

STATE OF KENTUCKY (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PADUCAH, KY [5] (WSO to WFO)	**02/95**	88D 09/95 ASOS 03/95 AWIPS *	11/95	09/95	**11/94**				
•WSO Evansville, IN		ASOS 03/95	11/95	09/95		03/96	*	03/96	*
WFOs Out of State:									
CHARLESTON, WV (WSFO to WFO)	03/95	88D 06/95 AWIPS *		03/95 **10/94**	**03/94**	03/95			
CINCINNATI, OH (New WFO)	**06/94**	88D 06/95 AWIPS *		**10/94**	**05/94**				
•WSO Cincinnati, OH		ASOS 12/95	08/95	**10/94**		12/95	*	12/95	*
•WSO Lexington, KY		ASOS 03/95		**10/94**		01/96	*	01/96	*

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

STATE OF LOUISIANA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
LAKE CHARLES, LA (WSO to WFO)	08/95[1]	88D 05/95[3] APUP 04/95[3] ASOS 03/95 AWIPS *	07/95[2]	05/95	**03/94**				
•WSO Baton Rouge, LA		**ASOS 05/93**	11/95	05/95		02/96	*	02/96	*
•WSO Port Arthur, TX		ASOS 03/95		05/95		11/95	*	11/95	*
NEW ORLEANS/BATON ROUGE, LA (WSFO to WFO)	02/94[5,6]	**88D 02/95** AWIPS *		02/94[5] 03/95	03/93[4]	02/94[5]			
•Res WSO New Orleans, LA[5]			05/95			10/95		10/95	*
•WSO Baton Rouge, LA		**ASOS 05/93**	11/95	03/95		02/96	*	02/96	*
•WSCMO New Orleans, LA[6]		ASOS 12/95							

1. WSO Lake Charles becomes WFO Lake Charles at its current location. Upper air function remains in place.
2. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.
3. WFO Lake Charles also will use, by means of an associated PUP (APUP), data from the DOD Ft. Polk WSR-88D.
4. Meteorologist positions for WSR-88D operation filled.
5. 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.
6. Upper air function was relocated in January 1994 on Slidell Airport to be collocated on the site of WFO New Orleans/Baton Rouge.

STATE OF LOUISIANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NEW ORLEANS/BATON ROUGE, LA Lower Mississippi RFC	**02/94**	**NPUP 02/95** AWIPS *			**07/94**				
SHREVEPORT, LA (WSO to WFO)	**02/95**[7]	88D 09/95 ASOS 06/95 AWIPS *	11/95	05/95	**09/94**				
•WSO Port Arthur, TX		ASOS 03/95		05/95		11/95	*	11/95	*
•WSMO Longview, TX			11/95			11/95			
WFOs Out of State:									
JACKSON, MS (WSFO to WFO)	**04/93**	**88D 02/95** **ASOS 07/93** AWIPS *	04/95[8]	03/95	**01/93**				
•WSO Baton Rouge, LA		**ASOS 05/93**	11/95	03/95		02/96	*	02/96	*

7. Upper air function will transfer from WSMO Longview to the site of WFO Shreveport in February 1995.
8. 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 MAINE (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
PORTLAND, ME (WSFO to WFO)	**09/94**[2,3]	88D 03/95, 88D 12/95[4] AWIPS *		**09/94**[2] **11/94**	**11/93**[1]	**09/94**[2]			
•Res WSO Portland, ME[2]		**ASOS 08/94**	05/95			10/95	*	10/95	*
•WSO Caribou, ME[5]		ASOS 12/95		*[6]		07/96	*	07/96[7]	*
•WSO Concord, NH		ASOS 12/95		**11/94**		10/95	*	10/95	*
WFOs Out of State:									
NONE									

1. Meteorologist positions for operation of the WSR-88D filled.
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. Upper air function transferred with WSFO Portland to the site of WFO Portland in September 1994.
4. This WSR-88D, located in the vicinity of Houlton, ME, also will be operated by Portland WFO.
5. Upper air function at WSO Caribou will be contracted upon closure of the WSO.
6. CWA transfer on hold until "WFO CAR" issue resolved.
7. Consolidation dependent upon commissioning of Houlton WSR-88D.

STATE OF MARYLAND (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Maryland will be provided by WFOs Baltimore, MD/Washington, DC; Philadelphia, Pennsylvania; Pittsburgh, Pennsylvania; and Wakefield, Virginia. WFO Baltimore, MD/Washington, DC will serve 13 counties in Maryland; WFO Philadelphia, five counties; WFO Pittsburgh, one county; and WFO Wakefield, four counties.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
BALTIMORE, MD/WASHINGTON, DC (WSFO to WFO)	**04/90**	**88D 06/94** AWIPS *		**04/94**	**07/91**				
•WSO Baltimore, MD		ASOS 03/95		**04/94**		01/96	*	01/96	*
•WSMO Patuxent River, MD			11/95			11/95			
PHILADELPHIA, PA (WSFO to WFO)	**08/93**	**88D 02/95** AWIPS *		**10/94**	**07/93**				
•WSO Baltimore, MD		ASOS 03/95		**10/94**		01/96	*	01/96	*
PITTSBURGH, PA (WSFO to WFO)	**05/93**	**88D 01/95** AWIPS *	04/95	**10/94**	**06/93**				

STATE OF MARYLAND (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WAKEFIELD, VA (New WFO)	**05/94**	88D 06/95 APUP 03/95 AWIPS *		**02/95**	**06/94**				
•WSO Baltimore, MD		ASOS 03/95		**02/95**		01/96	*	01/96	*
•WSMO Patuxent River, MD			11/95			11/95			

STATE OF MASSACHUSETTS (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BOSTON, MA (WSFO to WFO)	**11/93**[2]	**88D 12/94** AWIPS *		**11/93**[2] **11/94**	**09/93**[1]	**11/93**[2]			
•Res WSO Boston, MA[2]		ASOS 03/95				*	*		*
•WSO Concord, NH		ASOS 12/95		**11/94**		10/95	*	10/95	*
•WSO Hartford, CT		ASOS 04/95	07/95	**06/94**		11/95	*	11/95	*
•WSO Providence, RI		ASOS 03/95		**09/94**		10/95	*	10/95	*
•WSO Worcester, MA		ASOS 03/95	03/95	**06/94**		10/95	*	10/95	*
•WSMO Chatham, MA[3]			03/95	**06/94**		03/95			
•WSMO Milton-Blue Hill, MA									
BOSTON, MA Northeast RFC	**07/93**	NPUP 05/95 AWIPS *			**08/94**				

1. Meteorologist positions for WSR-88D operation filled.
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 has been contracted out after decommissioning the WSR-74S at Chatham. Office has been redesignated a WSCMO.

STATE OF MASSACHUSETTS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
ALBANY, NY (WSFO to WFO)	02/97	88D 04/95 AWIPS *		02/97 **09/94**	**09/93**	02/97			

STATE OF MICHIGAN (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DETROIT, MI (WSFO to WFO)	**11/92**[1]	88D 03/95 AWIPS *		**07/94**	**01/93**				
•WSO Detroit, MI		ASOS 10/95	05/95	**07/94**		10/95	*	10/95	*
•WSO Flint, MI[1]		ASOS 03/95		**07/94**		*	*		*
GRAND RAPIDS, MI (WSO to WFO)	03/95	88D 10/95 ASOS 03/95 AWIPS *		10/95	**12/94**				
•WSO Fort Wayne, IN		ASOS 08/95	12/95	02/96		04/96	*	04/96	*
•WSO Houghton Lake, MI		ASOS 03/95	07/96	02/96		11/96	*	11/96	*
•WSO Lansing, MI		ASOS 08/95		10/95		05/96	*	05/96	*
•WSO Muskegon, MI		ASOS 07/95	12/95	02/96		04/96	*	04/96	*
•WSO South Bend, IN		ASOS 07/95	12/95	02/96		04/96	*	04/96	*

1. Upper air function was transferred from WSO Flint to the site of WFO Detroit in September 1994.

STATE OF MICHIGAN (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MARQUETTE, MI (WSO to WFO)	03/95	88D 11/95 AWIPS *	01/96	05/95	**01/95**				
•WSO Sault Ste. Marie, MI[2]				05/95		12/96	*	12/96	*
NORTH CENTRAL LOWER MICHIGAN, MI (New WFO)	07/95[2]	88D 05/96 AWIPS *		05/96	07/95				
•WSO Alpena, MI		ASOS 10/95	07/96	05/96		11/96	*	11/96	*
•WSO Houghton Lake, MI		ASOS 03/95	07/96	05/96		11/96	*	11/96	*
•WSO Muskegon, MI		ASOS 07/95	12/95	05/96		04/96	*	04/96	*
•WSO Sault Ste. Marie, MI[2]				05/96		12/96	*	12/96	*
WFOs Out of State:									
NONE									

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

STATE OF MINNESOTA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
DULUTH, MN (WSO to WFO)	12/95	88D 12/95 ASOS 10/95 AWIPS *	02/96	03/96	05/95				
•WSO International Falls, MN[1]		ASOS 03/95		03/96		11/96	*	11/96	*
MINNEAPOLIS, MN (WSFO to WFO)	03/95[3]	88D 05/95 AWIPS *		03/95[3] 04/95	**07/94**[2]	03/95[3]			
•Res WSO Minneapolis, MN[3]		ASOS 06/95	09/95			01/96	*	01/96	*
•WSO Fargo, ND		ASOS 03/95	06/96	04/95		10/96	*	10/96	*
•WSO Rochester, MN		ASOS 10/95	08/96	04/95		12/96	*	12/96	*
•WSO St. Cloud, MN[4]		ASOS 03/95		04/95		03/96	*	03/96	*

1. Upper air function at WSO International Falls will be contracted out at this location upon closure of the WSO.
2. Meteorologist positions for operation of the WSR-88D filled.
3. 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.
4. Upper air function will transfer from WSO St. Cloud to the site of WFO Minneapolis in March 1995.

STATE OF MINNESOTA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MINNEAPOLIS, MN North Central RFC	**11/94**	**NPUP 02/95** AWIPS *			**02/94**				
WFOs Out of State:									
ABERDEEN, SD (WSO to WFO)	**11/94**	88D 08/95 **ASOS 11/94** AWIPS *		04/95	**02/93**				
•WSO St. Cloud, MN[5]		ASOS 03/95		04/95		03/96	*	03/96	*
EASTERN NORTH DAKOTA, ND (New WFO)	05/95	88D 04/96 AWIPS *		05/96	06/95				
•WSO International Falls, MN[6]		ASOS 03/95		05/96		11/96	*	11/96	*
LA CROSSE, WI (WSO to WFO)	06/95	88D 06/96 AWIPS *		02/96	07/95				
•WSO Rochester, MN		ASOS 10/95	08/96	02/96		12/96	*	12/96	*
SIOUX FALLS, SD (WSFO to WFO)	**09/93**	88D 06/95 ASOS 09/95 AWIPS *	08/95	03/95	**06/93**				

5. Upper air function will transfer from WSO St. Cloud to the site of WFO Minneapolis in March 1995.
6. Upper air function at WSO International Falls will be contracted out at this location upon closure of the WSO.

STATE OF MISSISSIPPI (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
JACKSON, MS (WSFO to WFO)	**04/93**[1]	**88D 02/95** **ASOS 07/93** AWIPS *	04/95[2]	03/95	**01/93**				
•WSO Baton Rouge, LA		**ASOS 05/93**	11/95	03/95		02/96	*	02/96	*
•WSO Meridian, MS		ASOS 06/95	06/95	03/95		10/95	*	10/95	*
•WSO Tupelo, MS		**ASOS 06/93**	04/95	03/95		10/95	*	10/95	*
•WSO Vicksburg, MS[3]						*			*
WFOs Out of State:									
MEMPHIS, TN (WSFO to WFO)	**08/93**	**88D 01/95** **APUP 12/94** AWIPS *	04/95	03/95	**08/93**				
•WSO Tupelo, MS		**ASOS 06/93**	04/95	03/95		10/95	*	10/95	*

1. Upper air function remains at its current location which is located at the site of WFO Jackson.
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.
3. WSO Vicksburg is a one person office collocated at and supporting, on a reimbursable basis, a Corps of Engineers (COE) office. 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 Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MOBILE, AL (WSO to WFO)	**02/94**	88D 04/95 ASOS 03/95 AWIPS *	06/95[4]	03/95	**06/94**				
•WSO Meridian, MS		ASOS 06/95	06/95	03/95		10/95	*	10/95	*
NEW ORLEANS/BATON ROUGE, LA (WSFO to WFO)	**02/94**	**88D 02/95** AWIPS *		**02/94** 03/95	**03/93**	**02/94**			

4. The old 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 MISSOURI (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
KANSAS CITY/PLEASANT HILL, MO (WSO to WFO)	12/93[2]	88D 02/95 AWIPS *		12/93[2] 09/94	09/92[1]	12/93[2]			
•Res WSO Kansas City, MO[2]		ASOS 03/95	05/95			10/95	*	10/95	*
•WSO Columbia, MO		ASOS 03/95	11/95	09/94		03/96	*	03/96	*
KANSAS CITY/PLEASANT HILL, MO Missouri Basin RFC	10/91	NPUP 01/95 AWIPS *			10/93				
SPRINGFIELD, MO (WSO to WFO)	11/94	88D 09/95 ASOS 04/95 AWIPS *		09/95	07/94				
•WSO Columbia, MO		ASOS 03/95	11/95	09/95		03/96	*	03/96	*
•WSMO Monett, MO[3]			11/95			11/95			

1. Meteorologist positions for operation of WSR-88D filled.
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 in April 1995 from WSMO Monett to the site of WFO Springfield.

STATE OF MISSOURI (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ST. LOUIS, MO (WSFO to WFO)	**09/90**[5]	**88D 07/94** AWIPS *		**09/90**[5] **09/94**	**12/91**[4]	**09/90**[5]			
•Res WSO St. Louis, MO[5]			03/95			10/95		10/95	*
•WSO Columbia, MO		ASOS 03/95	11/95	**09/94**		03/96	*	03/96	*
•WSO Springfield, IL		ASOS 06/95	12/95	**09/94**		04/96	*	04/96	*
•WSCMO St. Louis, MO		ASOS 06/96							
WFOs Out of State:									
MEMPHIS, TN (WSFO to WFO)	**08/93**	**88D 01/95** **APUP 12/94** AWIPS *	04/95	03/95	**08/93**				
PADUCAH, KY (WSO to WFO)	**02/95**	88D 09/95 ASOS 03/95 AWIPS *	11/95	09/95	**11/94**				

4. Meteorologist positions for operation of WSR-88D filled.
5. 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 MONTANA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 Wyoming; and WFO Missoula, four counties in Idaho.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BILLINGS, MT (WSO to WFO)	08/95[2]	88D 04/96 AWIPS *		08/95[2] 05/95	03/95[1]	08/95[2]			
•Res WSO Billings, MT[2]		ASOS 03/95	06/96			10/96	*	10/96	*
•WSO Sheridan, WY		ASOS 08/95		05/95		11/96	*	11/96	*
GLASGOW, MT (WSO to WFO)	06/95[3]	88D 06/96 **ASOS 04/94** AWIPS *		10/95	05/95				
GREAT FALLS, MT (WSFO to WFO)	**06/94**[4]	88D 04/95 AWIPS *		04/95	**05/94**				
•WSO Havre, MT		**ASOS 04/94**		04/95		11/95	*	11/95	*
•WSO Helena, MT		**ASOS 11/94**		04/95		11/95	*	11/95	*
•WSCMO Great Falls, MT		**ASOS 08/94**							

1. Meteorologist positions for WSR-88D operation filled.
2. Forecast and warning services of the transitioning WSO will be transferred to facility of future WFO. Surface and radar observation functions will be retained at original WSO location and office redesignated a residual WSO.
3. Upper air function will move locally to be closer to WFO Glasgow. Move date is still to be determined.
4. Upper air function moved to location of WFO Great Falls in September 1994.

STATE OF MONTANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MISSOULA, MT (WSO to WFO)	**07/94**	88D 03/95 ASOS 04/95 AWIPS *	05/95[5]	03/95	**08/94**				
•WSO Helena, MT		**ASOS 11/94**		05/95		11/95	*	11/95	*
•WSO Kalispell, MT		**ASOS 02/94**		05/95		10/95	*	10/95	*
•WSO Lewiston, ID		ASOS 03/95		03/95		02/97	*	02/97	*
WFOs Out of State:									
NONE									

5. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF NEBRASKA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
HASTINGS, NE (New WFO)	11/92	88D 12/94 AWIPS *		09/94	05/93				
•WSO Concordia, KS		ASOS 09/92	04/95	09/94		10/95	*	10/95	*
•WSO Grand Island, NE		ASOS 10/92	03/95	09/94		10/95	*	10/95	*
NORTH PLATTE, NE (WSO to WFO)	04/95[1]	88D 04/96 ASOS 04/95 AWIPS *	06/96	03/95	05/95				
•WSO Norfolk, NE		ASOS 03/95	07/96	01/96		11/96	*	11/96	*
•WSO Scottsbluff, NE		ASOS 03/95		03/95		11/96	*	11/96	*
•WSO Valentine, NE		ASOS 04/95		08/95		*			*
•WSMO Alliance, NE			06/96			06/96			

1. Upper air function at WSO North Platte will remain in place and be collocated with WFO North Platte.

STATE OF NEBRASKA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
OMAHA, NE (WSFO to WFO)	**04/94**[3,4]	88D 07/95 AWIPS *		**04/94**[3] 03/95	**01/94**[2]	**04/94**[3]			
•Res WSO Omaha, NE[3]			09/95			01/96		01/96	*
•WSO Lincoln, NE		**ASOS 11/92**		03/95		02/96	*	02/96	*
•WSO Norfolk, NE		ASOS 03/95	07/96	03/95		11/96	*	11/96	*
•WSO Sioux City, IA		ASOS 03/95		03/95		01/96	*	01/96	*
WFOs Out of State:									
CHEYENNE, WY (WSFO to WFO)	**08/93**	88D 06/95 ASOS 03/95 AWIPS *	08/95	03/95	**04/94**				
•WSO Scottsbluff, NE		ASOS 03/95		03/95		11/96	*	11/96	*
•WSMO Alliance, NE			06/96			06/96			
GOODLAND, KS (WSO to WFO)	**03/90**	88D 04/95 **ASOS 09/92** AWIPS *	08/95	**03/94**	**08/92**				

2. Meteorologist positions for operation of the WSR-88D filled.
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 transferred in May 1994 to site of WFO Omaha.

STATE OF NEVADA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ELKO, NV (WSO to WFO)	04/95[1]	88D 03/96 AWIPS *		06/95	03/95				
•WSO Ely, NV[1]		ASOS 06/94		08/95[2]		10/96	*		*
•WSO Winnemucca, NV[3]		ASOS 10/94		06/95[2]		10/96	*		*
LAS VEGAS, NV [4,5] (WSO to WFO)	12/94[7]	88D 09/95 AWIPS *		12/94[7]	10/94[6]	12/94[7]			
•Res WSO Las Vegas, NV[7]		ASOS 07/95	11/95			03/96	*	03/96	*
•WSO Riverside(AG & FW), CA				*[8]		*		*	*

1. Upper air function will transfer from WSO Ely to the site of WFO Elko in April 1995.
2. Part-time office. County warning function currently performed by a supervising office which is slated to transtion to a WFO (WFO Elko from WSO Ely; WFO Las Vegas from WSO Winnemucca). Consequently, no consolidation certification required at these offices.
3. Upper air function was transferred from WSO Winnemucca to the site of WFO Reno in October 1994.
4. ASOSs will be commissioned at unstaffed sites at Kingman Airport, Kingman, Arizona, and Bishop Airport, Bishop, California, in the administrative area of WFO Las Vegas. Commissioning dates are anticipated to be March 1995.
5. An ASOS will be commissioned in March 1995 at Desert Rock Airport, Mercury, Nevada, in the administrative area of WFO Las Vegas and an upper air function will continue to be maintained at Desert Rock Airport. This site supports DOE's Nuclear Support office.
6. Meteorologist positions for operation of the WSR-88D filled.
7. 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.
8. Service transfer will take place upon the commissioning of an AWIPS at WFO Las Vegas.

STATE OF NEVADA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
RENO, NV (WSFO to WFO)	**07/94**[10,11]	88D 06/95 AWIPS *	[redacted]	**07/94**[10] 05/95	**05/94**[9]	**07/94**[10]	[redacted]	[redacted]	[redacted]
•Res WSO Reno, NV[10]	[redacted]	ASOS 03/95	[redacted]	[redacted]	[redacted]	*	*	[redacted]	*
•WSO Redding, CA	[redacted]	ASOS 05/95	[redacted]	05/95	[redacted]	*	*	[redacted]	*
•WSO Winnemucca, NV[11]	[redacted]	**ASOS 10/94**	[redacted]	05/95	[redacted]	10/96	*	[redacted]	*
WFOs Out of State:									
NONE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

9. Meteorologist positions for operation of the WSR-88D filled.
10. Forecasting and warning service of WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.
11. Upper air function transferred from WSO Winnemucca to the site of WFO Reno in October 1994.

STATE OF NEW HAMPSHIRE (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
BOSTON, MA (WSFO to WFO)	**11/93**	**88D 12/94** AWIPS *		**11/93** **11/94**	**09/93**	**11/93**			
•WSO Concord, NH		ASOS 12/95		**11/94**		10/95	*	10/95	*
PORTLAND, ME (WSFO to WFO)	**09/94**	88D 03/95 88D 12/95 AWIPS *		**09/94** **11/94**	**11/93**	**09/94**			
•WSO Concord, NH		ASOS 12/95		**11/94**		10/95	*	10/95	*

STATE OF NEW JERSEY (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 New Jersey; and WFO Philadelphia, 17 counties.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE									
WFOs Out of State:									
NEW YORK CITY, NY (WSFO to WFO)	10/93[1]	88D 01/95 AWIPS *		10/93 09/94	07/93	10/93			
•WSO Newark, NJ		ASOS 03/96				*	*		*
PHILADELPHIA, PA [2] (WSFO to WFO)	08/93	88D 02/95 AWIPS *		10/94	07/93				
•WSO Atlantic City, NJ[1]		ASOS 03/95	05/95	09/94		10/95	*	10/95	*

1. Upper air function transferred in September 1994 from WSO Atlantic City to the site of WFO New York City.
2. An ASOS will be commissioned at an unstaffed site at Northeast Philadelphia Airport, Philadelphia, Pennsylvania, in the administrative area of WFO Philadelphia. The anticipated commissioning date is April 1995.

STATE OF NEW MEXICO (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ALBUQUERQUE, NM [1] (WSFO to WFO)	03/94[2]	88D 06/95 **APUP 12/94**[3] ASOS 03/95 AWIPS *		05/95	05/94				
•WSO Roswell, NM		ASOS 03/95		05/95					*
WFOs Out of State:									
EL PASO, TX (WSO to WFO)	08/95	88D 07/96 AWIPS *		08/95 03/96	05/95	08/95			
MIDLAND/ODESSA, TX (WSO to WFO)	12/94	88D 08/95 ASOS 07/95 AWIPS *	10/95	12/94	09/94				
•WSO Roswell, NM		ASOS 03/95		12/94					*

1. ASOSs will also be commissioned at unstaffed sites at Clayton Memorial Airpark, Clayton, New Mexico, and Truth or Consequences Airport, Truth or Consequences, New Mexico, in the adminstrative area WFO Albuquerque. These commissionings are anticipated to occur in March 1995.
2. Upper air function at WSFO Albuquerque moved locally in March 1994 to be closer to site of WFO Albuquerque.
3. Albuquerque will also use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Cannon, AFB.

STATE OF NEW YORK (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ALBANY, NY (WSFO to WFO)	02/97[2,3]	88D 04/95 AWIPS *		02/97[2] **09/94**	**09/93**[1]	02/97[2]			
•Res WSO Albany, NY[2,3]		ASOS 03/95	07/95			11/95	*	11/95	*
•WSO Hartford, CT		ASOS 04/95	07/95	**09/94**		11/95	*	11/95	*
BINGHAMTON, NY (WSO to WFO)	**09/93**	88D 03/95 ASOS 03/95 AWIPS *	05/95[4]	**08/94**	**04/94**				
•WSO Allentown, PA		ASOS 04/95		**08/94**		11/95	*	11/95	*
•WSO Rochester, NY		ASOS 07/95		**06/94**		10/95	*	10/95	*
•WSO Syracuse, NY		**ASOS 11/93**		**06/94**		04/97	*	04/97	*
•WSO Wilkes-Barre, PA		ASOS 03/96		**08/94**		11/95	*	11/95	*
•WSO Williamsport, PA		ASOS 03/95		**08/94**		11/95	*	11/95	*

1. Meteorologist positions for operation of the WSR-88D filled.
2. Forecast and warning services of transitioning WSFO will be transferred to facility of future WFO. Surface and radar observation functions will be retained at original WSFO location and office redesignated a residual WSO.
3. Upper air function will transfer locally in November 1996.
4. Current radar was placed on standby to avoid interference with the replacing WSR-88D's operations during 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.

STATE OF NEW YORK (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
BUFFALO, NY (WSFO to WFO)	04/95[5]	88D 01/96 AWIPS *	03/96	**06/94**	**11/94**				
•WSO Rochester, NY		ASOS 07/95		**06/94**		10/95	*	10/95	*
•WSO Syracuse, NY		**ASOS 11/93**		**06/94**		04/97	*	04/97	*
•WSCMO Buffalo, NY[5]		ASOS 12/95							
NEW YORK CITY, NY [6] (WSFO to WFO)	10/93[8,9]	88D 01/95 AWIPS *		10/93[9] 09/94	07/93[7]	10/93[9]			
•Res WSO New York, NY[9]			03/95			10/95		10/95	*
•WSO Bridgeport, CT		ASOS 07/95		**09/94**		10/95	*	10/95	*
•WSO Hartford, CT		ASOS 04/95	07/95	**09/94**		11/95	*	11/95	*
•WSO Newark, NJ		ASOS 03/96				*	*		*
•WSCMO New York/Kennedy, NY		ASOS 07/95							
•WSCMO New York/La Guardia, NY		ASOS 12/95							

5. Upper air function will remain at the site of WSCMO Buffalo which is collocated with the site of WFO Buffalo.
6. An ASOS will be commissioned at an unstaffed site at Teterboro Airport, Teterboro, New Jersey, in the administrative area of WFO New York City. The anticipated commissioning date is January 1996.
7. Meteorologist positions for operation of the WSR-88D filled.
8. Upper air function transferred in September 1994 from WSO Atlantic City to the site of WFO New York City.
9. 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 NEW YORK (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
BURLINGTON, VT (WSO to WFO)	09/95	88D 09/96, **APUP 01/95**[11] ASOS 12/95 AWIPS *	11/96[10]	**06/94**	**04/93**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Syracuse, NY	[redacted]	**ASOS 11/93**	[redacted]	**06/94**	[redacted]	04/97	*	04/97	*

10. 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.
11. WFO Burlington also uses, by means of an associated PUP (APUP), the data from the DOD WSR-88D at Griffiss AFB.

STATE OF NORTH CAROLINA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in North Carolina will be provided by three in-state WFOs--Morehead City, Raleigh/Durham and Wilmington--and by WFOs Greenville/Spartanburg, South Carolina; Knoxville/Tri-cities, Tennessee; Roanoke, Virginia; and Wakefield, Virginia. WFO Greenville/Spartanburg will serve 28 counties in North Carolina; WFO Knoxville/Tri-cities, two counties; WFO Roanoke, nine counties; and WFO Wakefield, nine counties. WFO Wilmington will serve eight counties in South Carolina.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes		Automate	Consolidate	Close
					Increase	Decrease			
WFOs In-State:									
MOREHEAD CITY, NC [1] (New WFO)	**05/94**[2]	88D 05/95 AWIPS *		**12/94**	**02/94**				
•WSO Cape Hatteras, NC[2]			10/95	**12/94**		02/96		02/96	*
•WSMO Patuxent River, MD			11/95			11/95			
RALEIGH/DURHAM, NC (WSFO to WFO)	**01/94**[4]	88D 07/95 AWIPS *		**01/94**[4] **09/94**	**02/94**[3]	**01/94**[4]			
•Res WSO Raleigh, NC[4]		ASOS 04/95	09/95			01/96	*	01/96	*
•WSO Charlotte, NC		ASOS 07/95	09/95	**09/94**		01/96	*	01/96	*
•WSO Greensboro, NC[5]		ASOS 07/95		**09/94**		03/96	*	03/96	*
•WSMO Volens, VA			10/95			10/95			

1. An ASOS 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 anticipated to occur in July 1995.
2. Upper air function transferred from WSO Cape Hatteras to the site of WFO Morehead City in July 1994.
3. Meteorologist positions for WSR-88D operation filled..
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.
5. Upper air function will transfer in January 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.

STATE OF NORTH CAROLINA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WILMINGTON, NC (WSO to WFO)	**07/94**	88D 07/95 ASOS 07/95 AWIPS *	09/95	**12/94**	**08/94**				
WFOs Out of State:									
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	05/95	88D 08/95 ASOS 12/95 AWIPS *		10/95	**09/94**				
•WSO Asheville, NC		ASOS 03/96		10/95		03/96	*	03/96	*
•WSO Charlotte, NC		ASOS 07/95	09/95	10/95		01/96	*	01/96	*
•WSO Greensboro, NC[6]		ASOS 07/95		10/95		03/96	*	03/96	*
KNOXVILLE/TRI-CITIES, TN (New WFO)	**07/94**	88D 06/95 AWIPS *		05/95	**07/94**				
•WSO Asheville, NC		ASOS 03/96		05/95		03/96	*	03/96	*
ROANOKE, VA (New WFO)	**09/94**	88D 08/95 AWIPS *		**02/95**	**08/94**				
•WSO Asheville, NC		ASOS 03/96		03/95		03/96	*	03/96	*
•WSO Greensboro, NC[6]		ASOS 07/95		**02/95**		03/96	*	03/96	*

6. Upper air function will transfer in January 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.

STATE OF NORTH CAROLINA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WAKEFIELD, VA (New WFO)	**05/94**	88D 06/95 APUP 03/95 AWIPS *		**02/95**	**06/94**				
•WSO Cape Hatteras, NC[7]			10/95	**02/95**		02/96		02/96	*

7. Upper air function transferred from WSO Cape Hatteras to the site of WFO Morehead City in July 1994.

STATE OF NORTH DAKOTA (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BISMARCK, ND (WSFO to WFO)	**08/94**[1]	88D 08/95 **APUP 02/95**[2] ASOS 04/95 AWIPS *	10/95	04/95	**05/94**				
•WSO Fargo, ND		ASOS 03/95	06/96	04/95		10/96	*	10/96	*
•WSO Williston, ND		ASOS 10/95	09/96	04/95		01/97	*	01/97	*
EASTERN NORTH DAKOTA, ND (New WFO)	05/95	88D 04/96 AWIPS *		05/96	06/95				
•WSO Fargo, ND		ASOS 03/95	06/96	05/96		10/96	*	10/96	*
•WSO International Falls, MN[3]		ASOS 03/95		05/96		11/96	*	11/96	*
WFOs Out of State:									
NONE									

1. Upper air function remains in place and is collocated with WFO Bismarck.
2. WFO Bismarck will also use, by means of an associated PUP (APUP), data from the DOD WSR-88D located at Minot AFB.
3. Upper air function at WSO International Falls will be contracted out at this location upon closure of the WSO.

STATE OF OHIO (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CINCINNATI, OH (New WFO)	**06/94**	88D 06/95 AWIPS *		**10/94**	**05/94**				
•WSO Cincinnati, OH		ASOS 12/95	08/95	**10/94**		12/95	*	12/95	*
•WSO Columbus, OH		ASOS 12/95	09/95	**10/94**		01/96	*	01/96	*
•WSO Dayton, OH		ASOS 12/95		**10/94**		01/96	*	01/96	*
•WSO Fort Wayne, IN		ASOS 08/95	12/95	**10/94**		04/96	*	04/96	*
•WSO Huntington, WV[1]		ASOS 07/95		**10/94**		05/96	*	05/96	*
•WSO Lexington, KY		ASOS 03/95		**10/94**		01/96	*	01/96	*
•WSO Toledo, OH		ASOS 04/95		**10/94**		01/96	*	01/96	*
•WSCMO Dayton, OH[2]									
CINCINNATI, OH Ohio RFC	**02/94**	NPUP 05/95 AWIPS *			**04/94**				

1. Upper air function will transfer in March 1995 from WSO Huntington to the site of WFO Roanoke.
2. Upper air function will transfer in March 1995 from WSCMO Dayton to the site of WFO Cincinnati.

STATE OF OHIO (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
CLEVELAND, OH (WSFO to WFO)	**04/93**	**88D 02/95** ASOS 03/95 AWIPS *	05/95	**08/94**	**06/93**				
•WSO Akron, OH		ASOS 03/95	05/95	**08/94**		10/95	*	10/95	*
•WSO Columbus, OH		ASOS 12/95	09/95	**08/94**		01/96	*	01/96	*
•WSO Erie, PA		ASOS 03/95	03/96	**08/94**		07/96	*	07/96	*
•WSO Mansfield, OH		ASOS 03/95		**08/94**		10/95	*	10/95	*
•WSO Toledo, OH		ASOS 04/95		**08/94**		01/96	*	01/96	*
•WSO Youngstown, OH		ASOS 03/95		**08/94**		10/95	*	10/95	*
WFOs Out of State:									
CHARLESTON, WV (WSFO to WFO)	03/95	88D 06/95 AWIPS *		03/95 **10/94**	**03/94**	03/95			
•WSO Akron, OH		ASOS 03/95	05/95	**10/94**		10/95	*	10/95	*
•WSO Columbus, OH		ASOS 12/95	09/95	**10/94**		01/96	*	01/96	*
GRAND RAPIDS, MI (WSO to WFO)	03/95	88D 10/95 ASOS 03/95 AWIPS *		10/95	**12/94**				

STATE OF OHIO (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PITTSBURGH, PA (WSFO to WFO)	**05/93**	**88D 01/95** AWIPS *	04/95	**10/94**	**06/93**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Akron, OH	[redacted]	ASOS 03/95	05/95	**10/94**	[redacted]	10/95	*	10/95	*
•WSO Columbus, OH	[redacted]	ASOS 12/95	09/95	**10/94**	[redacted]	01/96	*	01/96	*
•WSO Youngstown, OH	[redacted]	ASOS 03/95	[redacted]	**10/94**	[redacted]	10/95	*	10/95	*

STATE OF OKLAHOMA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 Oklahoma; and WFO Shreveport, one county. WFO Oklahoma City will serve eight counties in Texas; and WFO Tulsa, six counties in Arkansas.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
OKLAHOMA CITY, OK (WSFO to WFO)	05/87[1,3]	88D 02/94, APUP 02/95[4] AWIPS *		05/87[3] 03/93	05/90[2]	05/87[3]			
•Res WSO Oklahoma City, OK[3]		ASOS 10/92	07/94			10/95	*	10/95	*
•WSO Wichita Falls, TX		ASOS 05/93	11/95	03/93		02/96	*	02/96	*
TULSA, OK (WSO to WFO)	03/92[6]	88D 05/94 AWIPS *		03/92[6] 07/94	02/93[5]	03/92[6]			
•Res WSO Tulsa, OK[6]		ASOS 10/92	03/95			10/95	*	10/95	*
•WSO Fort Smith, AR		ASOS 08/94	11/95	07/94		02/96	*	02/96	*

1. Upper air function transferred to the site of WFO Oklahoma City in March 1989.
2. Meteorologist positions for operation of the WSR-88D filled.
3. Forecast and warning services of transitioning WSFO transferred to facility of the future WFO. Surface and radar observation functions retained at original WSFO location and office redesignated a residual WSO.
4. WFO Oklahoma City also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Vance AFB.
5. Meteorologist positions for operation of the WSR-88D filled.
6. 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.

STATE OF OKLAHOMA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
TULSA, OK Arkansas-Red Basin RFC	03/92	NPUP 06/95 AWIPS *			04/92				
WFOs Out of State:									
AMARILLO, TX (WSO to WFO)	03/90	88D 03/94 ASOS 11/92 AWIPS *	09/94	03/94	01/93				
SHREVEPORT, LA (WSO to WFO)	02/95	88D 09/95 ASOS 06/95 AWIPS *	11/95	05/95	09/94				

STATE OF OREGON (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
MEDFORD, OR [1] (WSO to WFO)	06/95[2]	88D 04/96 ASOS 09/95 AWIPS *	06/96[3]	07/95	03/95				
•WSO Eugene, OR		ASOS 09/95		07/95		02/96	*	02/96	*
•WSO Klamath Falls, OR				*		*			*
•WSO Redding, CA		ASOS 05/95		06/96		*	*		*
•WSCMO Sexton Summit, OR		**ASOS 12/92**							
PENDLETON, OR (WSO to WFO)	03/95	88D 06/96 ASOS 03/95 AWIPS *		03/95	06/95				
•WSO Lewiston, ID		ASOS 03/95		03/95		02/97	*	02/97	*
•WSO Wenatchee (AG & FW), WA				*[4]		*			*
•WSO Yakima, WA		ASOS 03/95		06/96		01/97	*	01/97	*

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 March 1995.
2. Upper air function will remain at its current location which is collocated 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.
4. Service will be transferred upon commissioning of an AWIPS at WFO Pendleton.

STATE OF OREGON (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PORTLAND, OR (WSFO to WFO)	**08/94**[6]	88D 07/95 AWIPS *		**08/94**[6] 08/95	**09/94**[5]	**08/94**[6]			
•Res WSO Portland, OR[6]		ASOS 08/95	09/95			01/96	*	01/96	*
•WSO Astoria, OR		**ASOS 03/93**		08/95		02/96	*	02/96	*
•WSO Eugene, OR		ASOS 09/95		08/95		02/96	*	02/96	*
•WSO Olympia (FW), WA				*[7]		*		*	*
•WSO Olympia, WA		ASOS 03/95		06/95		10/95	*	10/95	*
•WSO Salem (FW), OR						*			*
•WSO Salem, OR[8]		ASOS 05/95		08/95		02/96	*	02/96	*
PORTLAND, OR Northwest RFC	**08/94**	NPUP 03/95 AWIPS *			**06/93**				
WFOs Out of State:									
BOISE, ID (WSFO to WFO)	**07/93**	**88D 01/95** ASOS 05/95 AWIPS *		**07/94**	**07/93**				
•WSMO Burns, OR		ASOS 03/95				03/95			

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

STATE OF PENNSYLVANIA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Pennsylvania will be provided by three in-state WFOs--Central Pennsylvania, Philadelphia and Pittsburgh--and by WFOs Binghamton, New York and Cleveland, Ohio. WFO Binghamton will serve seven counties in Pennsylvania; and WFO Cleveland, two counties. WFO Philadelphia will serve three counties in Delaware, 17 counties in New Jersey, and five counties in Maryland; and WFO Pittsburgh, nine counties in West Virginia, 11 counties in Ohio, and one county in Maryland.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CENTRAL PENNSYLVANIA, PA (New WFO)	**09/93**	88D 04/95 AWIPS *		**08/94**	**03/94**				
•WSO Allentown, PA		ASOS 04/95		**08/94**		11/95	*	11/95	*
•WSO Erie, PA		ASOS 03/95	03/96	**08/94**		07/96	*	07/96	*
•WSO Harrisburg, PA			06/95	**08/94**		10/95		10/95	*
•WSO Wilkes-Barre, PA		ASOS 03/96		**08/94**		11/95	*	11/95	*
•WSO Williamsport, PA		ASOS 03/95		**08/94**		11/95	*	11/95	*
CENTRAL PENNSYLVANIA, PA Middle Atlantic RFC	**01/93**	NPUP 03/95 AWIPS *			**08/94**				

STATE OF PENNSYLVANIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PHILADELPHIA, PA [1] (WSFO to WFO)	**08/93**	**88D 02/95** AWIPS *		**10/94**	**07/93**				
•WSO Allentown, PA		ASOS 04/95		**08/94**		11/95	*	11/95	*
•WSO Atlantic City, NJ[2]		ASOS 03/95	05/95	**09/94**		10/95	*	10/95	*
•WSO Baltimore, MD		ASOS 03/95		**10/94**		01/96	*	01/96	*
•WSO Reading, PA						*			*
•WSO Wilmington, DE		**ASOS 10/94**		**10/94**		10/95	*	10/95	*
•WSCMO Philadelphia, PA		ASOS 07/95							
PITTSBURGH, PA (WSFO to WFO)	**05/93**[3]	**88D 01/95** AWIPS *	04/95[4]	**10/94**	**06/93**				
•WSO Akron, OH		ASOS 03/95	05/95	**10/94**		10/95	*	10/95	*
•WSO Columbus, OH		ASOS 12/95	09/95	**10/94**		01/96	*	01/96	*
•WSO Elkins, WV		ASOS 07/95		**09/94**		05/96	*	05/96	*
•WSO Erie, PA		ASOS 03/95	03/96	**08/94**		07/96	*	07/96	*
•WSO Youngstown, OH		ASOS 03/95		**10/94**		10/95	*	10/95	*
•WSCMO Pittsburgh, PA		ASOS 03/96							

1. An ASOS will be commissioned at an unstaffed site at Northeast Philadelphia Airport, Philadelphia, Pennsylvania, in the administrative area of WFO Philadelphia. The anticipated commissioning date is April 1995.
2. Upper air function transferred in September 1994 from WSO Atlantic City to the site of WFO New York City.
3. Upper air function remains and is collocated with WFO Pittsburgh.
4. Current radar was placed in standby to avoid interference with the replacing WSR-88D's operations during 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.

STATE OF PENNSYLVANIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
BINGHAMTON, NY (WSO to WFO)	09/93	88D 03/95 ASOS 03/95 AWIPS *	05/95[5]	08/94	04/94				
•WSO Allentown, PA		ASOS 04/95		08/94		11/95	*	11/95	*
•WSO Wilkes-Barre, PA		ASOS 03/96		08/94		11/95	*	11/95	*
•WSO Williamsport, PA		ASOS 03/95		08/94		11/95	*	11/95	*
CLEVELAND, OH (WSFO to WFO)	04/93	88D 02/95 ASOS 03/95 AWIPS *	05/95	08/94	06/93				
•WSO Erie, PA		ASOS 03/95	03/96	08/94		07/96	*	07/96	*

5. Current radar was placed on standby to avoid interference with the replacing WSR-88D's operations during 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 1995-1997

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 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs in the Territory of Puerto Rico:									
SAN JUAN, PR (WSFO to WFO)	**04/94**[1]	APUP 10/95[2] ASOS 05/95 AWIPS *	09/95		**02/94**				

1. Upper air function remains at its current location, which is collocated 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 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
NONE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
WFOs Out of State:									
BOSTON, MA (WSFO to WFO)	**11/93**	**88D 12/94** AWIPS *	[redacted]	**11/93** **11/94**	**09/93**	**11/93**	[redacted]	[redacted]	[redacted]
•WSO Providence, RI	[redacted]	ASOS 03/95	[redacted]	**09/94**	[redacted]	10/95	*	10/95	*

STATE OF SOUTH CAROLINA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CHARLESTON, SC (WSO to WFO)	**11/94**[1]	88D 06/95 **APUP 02/95**[2] ASOS 07/95 AWIPS *	09/95	05/95	**05/94**				
•WSO Augusta, GA		**ASOS 05/94**	08/95	05/95		11/95	*	11/95	*
•WSO Savannah, GA		ASOS 03/95	09/95	05/95		01/96	*	01/96	*
•WSMO Waycross, GA[3]			09/95			09/95			
COLUMBIA, SC (WSFO to WFO)	**09/93**	88D 06/95 ASOS 03/95 AWIPS *	08/95	**12/94**	**11/93**				
•WSO Augusta, GA		**ASOS 05/94**	08/95	**12/94**		11/95	*	11/95	*

1. Upper air function remains at its current location.
2. WFO Charleston also will use, by means of an associated PUP (APUP), data from the Columbia WFO WSR-88D.
3. Upper air function will be transferred from WSMO Waycross to the site of WFO Jacksonville in January 1995.

STATE OF SOUTH CAROLINA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	05/95	88D 08/95 ASOS 12/95 AWIPS *		10/95	**09/94**				
•WSO Asheville, NC		ASOS 03/96		10/95		03/96	*	03/96	*
•WSO Athens, GA[4]		ASOS 04/95	11/95	10/95		02/96	*	02/96	*
•WSO Charlotte, NC		ASOS 07/95	09/95	10/95		01/96	*	01/96	*
•WSO Greensboro, NC[5]		ASOS 07/95		10/95		03/96	*	03/96	*
WFOs Out of State:									
WILMINGTON, NC (WSO to WFO)	**07/94**	88D 07/95 ASOS 07/95 AWIPS *	09/95	**12/94**	**08/94**				

4. Upper air function was transferred from WSO Athens to the site of WFO Atlanta in August 1994.
5. Upper air function will transfer in January 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.

STATE OF SOUTH DAKOTA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
ABERDEEN, SD (WSO to WFO)	**11/94**	88D 08/95 **ASOS 11/94** AWIPS *		04/95	**02/93**				
•WSO Fargo, ND		ASOS 03/95	06/96	09/95		10/96	*	10/96	*
•WSO Huron, SD[1]		ASOS 07/95	10/95	09/95		02/96	*	02/96	*
•WSO St. Cloud, MN		ASOS 03/95		04/95		03/96	*	03/96	*
RAPID CITY, SD (WSO to WFO)	06/95[3,4]	88D 03/96 AWIPS *		06/95[3] 05/96	05/95[2]	06/95[3]			
•Res WSO Rapid City, SD[3,4]		ASOS 08/95	05/96			09/96	*	09/96	*
•WSO Casper, WY		ASOS 03/95		05/96		10/96	*	10/96	*
•WSMO Alliance, NE			06/96			06/96			

1. Upper air function transferred in November 1994 from WSO Huron to the site of WFO Aberdeen.
2. Meteorologist positions for operation of the WSR-88D filled.
3. 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.
4. Upper air function will transfer locally in September 1995 to be collocated with WFO Rapid City.

STATE OF SOUTH DAKOTA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SIOUX FALLS, SD (WSFO to WFO)	**09/93**	88D 06/95 ASOS 09/95 AWIPS *	08/95	03/95	**06/93**				
•WSO Huron, SD[5]		ASOS 07/95	10/95	08/95		02/96	*	02/96	*
•WSO Sioux City, IA		ASOS 03/95		03/95		01/96	*	01/96	*
WFOs Out of State:									
NONE									

5. Upper air function transferred in November 1994 from WSO Huron to the site of WFO Aberdeen.

STATE OF TENNESSEE (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
KNOXVILLE/TRI-CITIES, TN (New WFO)	**07/94**	88D 06/95 AWIPS *	[redacted]	05/95	**07/94**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Asheville, NC	[redacted]	ASOS 03/96	[redacted]	05/95	[redacted]	03/96	*	03/96	*
•WSO Bristol, TN	[redacted]	ASOS 03/95	09/95	05/95	[redacted]	12/95	*	12/95	*
•WSO Chattanooga, TN	[redacted]	ASOS 12/95	11/95	03/95	[redacted]	02/96	*	02/96	*
•WSO Knoxville, TN	[redacted]	ASOS 03/95	[redacted]	05/95	[redacted]	11/95	*	11/95	*
MEMPHIS, TN (WSFO to WFO)	**08/93**	**88D 01/95, APUP 12/94**[1] AWIPS *	04/95	03/95	**08/93**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Tupelo, MS	[redacted]	**ASOS 06/93**	04/95	03/95	[redacted]	10/95	*	10/95	*

1. WFO Memphis also uses, by means of an associated PUP (APUP), data from the DOD WSR-88D at Columbus AFB.

STATE OF TENNESSEE (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
NASHVILLE, TN (WSO to WFO)	**10/94**[2]	88D 07/95 AWIPS *	09/95[3]	05/95	**09/94**				
•WSO Chattanooga, TN		ASOS 12/95	11/95	05/95		02/96	*	02/96	*
•WSO Knoxville, TN		ASOS 03/95		05/95		11/95	*	11/95	*
•WSCMO Nashville, TN		ASOS 12/95							
WFOs Out of State:									
NONE									

2. Upper air function remains at its current location, which is collocated with the site of WFO Nashville.
3. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF TEXAS (Page 1 of 5)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 Texas; WFO Oklahoma City, eight counties; and WFO Shreveport, 21 counties. WFO Amarillo will serve three counties in Oklahoma; WFO El Paso, six counties in New Mexico; and WFO Midland/Odessa, two counties in New Mexico.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
AMARILLO, TX (WSO to WFO)	**03/90**[1]	**88D 03/94** **ASOS 11/92** AWIPS *	**09/94**[2]	**03/94**	**01/93**				
AUSTIN/SAN ANTONIO, TX (WSFO to WFO)	**04/94**[4]	**88D 01/95**[5] **APUP 02/95**[5] AWIPS *		**04/94**[4] 03/95	**04/94**[3]	**04/94**[4]			
•Res WSO San Antonio, TX[4]		ASOS 03/95				*	*		*
•WSO Austin, TX		ASOS 03/95	04/95	03/95		10/95	*	10/95	*
•WSO Del Rio, TX[6]		ASOS 04/96		03/95		12/95	*	12/95	*
•WSO Victoria, TX		ASOS 03/95	11/96	03/95		03/97	*	03/97	*
•WSMO Hondo, TX			04/95			04/95			

1. Upper air function remains at its current site, which is collocated with WFO Amarillo.
2. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.
3. Meteorologist positions for WSR-88D operation filled.
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.
5. WFO Austin/San Antonio also will use, by means of an associated PUP (APUP), data from the DOD Laughlin AFB WSR-88D.
6. Upper air function will be contracted out at its current location in March 1995.

STATE OF TEXAS (Page 2 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
BROWNSVILLE, TX (WSO to WFO)	03/95[7]	88D 07/95 **ASOS 05/94** AWIPS *	09/95		**10/94**				
CORPUS CHRISTI, TX (WSO to WFO)	08/95[8]	88D 09/96 ASOS 03/95 AWIPS *	11/96	03/96	04/95				
•WSO Victoria, TX		ASOS 03/95	11/96	03/96		03/97	*	03/97	*
DALLAS/FORT WORTH, TX (WSFO to WFO)	**11/93**[9,10]	**88D 12/94** **APUP 12/94**[11] **APUP 12/94**[12] AWIPS *		**01/95**	**11/93**				
•WSO Abilene, TX		ASOS 04/95	10/96	**01/95**		02/97	*	02/97	*
•WSO Austin, TX		ASOS 03/95	04/95	**01/95**		10/95	*	10/95	*
•WSO Waco, TX		**ASOS 07/93**	03/95	**01/95**		10/95	*	10/95	*
•WSO Wichita Falls, TX		**ASOS 05/93**	11/95	**03/93**		02/96	*	02/96	*
•WSMO Longview, TX[13]			11/95			11/95			
•WSMO Stephenville, TX[10]			04/95			04/95			
•WSCMO Dallas/Fort Worth, TX		ASOS 05/95							

7. Upper air function will transfer to the site of WFO Brownsville in March 1995.
8. Upper air function will transfer to the site of WFO Corpus Christi in August 1995.
9. The entire WSFO moved to the facility of the future WFO located within the WSFO's current commuting and service areas.
10. Upper air function transferred from WSO Stephenville to the site of WFO Dallas/Fort Worth in July 1994.
11. WFO Dallas/Fort Worth also will use, by means of an associated PUP (APUP), the data from the DOD Central Texas WSR-88D.
12. WFO Dallas/Fort Worth also will use, by means of an APUP, the data from the DOD WSR-88D at Dyess AFB.
13. Upper air function will transfer from WSMO Longview to the site of WFO Shreveport in February 1995.

STATE OF TEXAS (Page 3 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
DALLAS/FORT WORTH, TX West Gulf RFC	**11/93**	**NPUP 01/95** AWIPS *			**01/94**				
EL PASO, TX (WSO to WFO)	08/95[15,16]	88D 07/96 AWIPS *		08/95[15] 03/96	05/95[14]	08/95[15]			
•Res WSO El Paso, TX[15,16]		ASOS 03/95				*	*		*
HOUSTON/GALVESTON, TX (WSO to WFO)	**10/90**	**88D 03/94** AWIPS *		**04/94**	**12/93**				
•WSO Austin, TX		ASOS 03/95	04/95	**04/94**		10/95	*	10/95	*
•WSO Galveston, TX			05/95	**04/94**		10/95		10/95	*
•WSO Victoria, TX		ASOS 03/95	11/96	**04/94**		03/97	*	03/97	*
•WSO Waco, TX		**ASOS 07/93**	03/95	**04/94**		10/95	*	10/95	*
•WSCMO Houston, TX		ASOS 05/95							
LUBBOCK, TX (WSFO to WFO)	**12/93[18]**	88D 05/95 AWIPS *		**12/93[18]** 05/95	**01/94[17]**	**12/93[18]**			
•Res WSO Lubbock, TX[18]		ASOS 04/95	07/95			11/95	*	11/95	*
•WSO Abilene, TX		ASOS 04/95	10/96	05/95		02/97	*	02/97	*

14. Meteorologist positions for WSR-88D operation filled.
15. Forecast and warning service of the transitioning WSO will be transferred to facility of future WFO. Surface observation function will be retained at original WSO location and office redesignated a residual WSO.
16. Upper air function will transfer from WSO El Paso to the site of WFO El Paso in August 1995.
17. Meteorologist positions for WSR-88D operation filled.
18. Forecast and warning service of the 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 TEXAS (Page 4 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MIDLAND/ODESSA, TX (WSO to WFO)	**12/94**[19]	88D 08/95 ASOS 07/95 AWIPS *	10/95[20]	**12/94**	**09/94**				
•WSO Roswell, NM		ASOS 03/95		**12/94**					*
SAN ANGELO, TX (WSO to WFO)	10/95	88D 07/96 ASOS 04/95 AWIPS *	09/96	03/95	05/95				
•WSO Abilene, TX		ASOS 04/95	10/96	07/96		02/97	*	02/97	*
•WSO Austin, TX		ASOS 03/95	04/95	03/95		10/95	*	10/95	*
WFOs Out of State:									
LAKE CHARLES, LA (WSO to WFO)	08/95	88D 05/95 APUP 04/95 ASOS 03/95 AWIPS *	07/95[21]	05/95	**03/94**				
•WSO Port Arthur, TX		ASOS 03/95		05/95		11/95	*	11/95	*
OKLAHOMA CITY, OK (WSFO to WFO)	**05/87**	**88D 02/94** **APUP 02/95** AWIPS *		**05/87** **03/93**	**05/90**	**05/87**			
•WSO Wichita Falls, TX		**ASOS 05/93**	11/95	**03/93**		02/96	*	02/96	*

19. Upper air function remains at its current location, which is collocated with the site of WFO Midland/Odessa.
20. 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.
21. The old radar was dismantled to clear the area for the WSR-88D's construction. Radar observation responsibility was transferred to appropriate backup sites until the commissioning of the WSR-88D.

STATE OF TEXAS (Page 5 of 5)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SHREVEPORT, LA (WSO to WFO)	**02/95**[22]	88D 09/95 ASOS 06/95 AWIPS *	11/95	05/95	**09/94**				
•WSO Port Arthur, TX		ASOS 03/95		05/95		11/95	*	11/95	*
•WSMO Longview, TX[22]			11/95			11/95			

22. Upper air function will transfer from WSMO Longview to the site of WFO Shreveport in February 1995.

STATE OF UTAH (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Utah will be provided by one in-state WFO--Salt Lake City--and by WFO Grand Junction, Colorado. WFO Grand Junction will serve three counties in Utah. WFO Salt Lake City will serve three counties in Idaho and one county in Wyoming.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
SALT LAKE CITY, UT [1] (WSFO to WFO)	**07/94**[2]	88D 05/95 88D 03/96[3] ASOS 12/95 AWIPS *		05/95	**05/94** 04/95[4]				
SALT LAKE CITY, UT Colorado Basin RFC	**07/94**	NPUP 04/95 AWIPS *			**03/93**				
WFOs Out of State:									
GRAND JUNCTION, CO (WSO to WFO)	07/95	88D 01/96 ASOS 05/95 AWIPS *		06/95	03/95				

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 July 1995.
2. Upper air function remains at its current site which is collocated with WFO Salt Lake City.
3. A second WSR-88D, located at Cedar City, UT, is to be controlled and used by the Salt Lake City WFO.
4. Additional staff will be added to operate the Cedar City WSR-88D.

STATE OF VERMONT (Page 1 of 1)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

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 Vermont. WFO Burlington will serve four counties in New York.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BURLINGTON, VT (WSO to WFO)	09/95	88D 09/96 **APUP 01/95**[2] ASOS 12/95 AWIPS *	11/96[1]	**06/94**	**04/93**				
•WSO Syracuse, NY		**ASOS 11/93**		**06/94**		04/97	*	04/97	*
WFOs Out of State:									
ALBANY, NY (WSFO to WFO)	02/97	88D 04/95 AWIPS *		02/97 **09/94**	**09/93**	02/97			

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.
2. WFO Burlington also uses, by means of an associated PUP (APUP), the data from the DOD WSR-88D at Griffiss AFB.

STATE OF VIRGINIA (Page 1 of 3)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Virginia will be provided by three in-state WFOs--Baltimore, MD/Washington, DC, Roanoke and Wakefield--and by WFOs Charleston, West Virginia and Knoxville/Tri-cities, Tennessee. WFO Charleston will serve two counties in Virginia; and WFO Knoxville/Tri-cities, five counties. WFO Baltimore, MD/Washington, DC will serve eight counties in West Virginia, one county in District of Columbia, and 13 counties in Maryland; WFO Roanoke, four counties in West Virginia and nine counties in North Carolina; and WFO Wakefield, four counties in Maryland and nine counties in North Carolina.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
BALTIMORE, MD/WASHINGTON, DC (WSFO to WFO)	**04/90**[1]	**88D 06/94** AWIPS *		**04/94**	**07/91**				
•WSO Baltimore, MD		ASOS 03/95		**04/94**		01/96	*	01/96	*
•WSO Elkins, WV		ASOS 07/95		**03/94**		05/96	*	05/96	*
•WSO Richmond, VA		ASOS 07/95		**03/94**		03/96	*	03/96	*
•WSMO Patuxent River, MD			11/95			11/95			
•WSMO Volens, VA			10/95			10/95			
•WSCMO Washington-Dulles, DC[1]		ASOS 07/95							
•WSCMO Washington-National, DC		ASOS 07/95							

1. Upper Air Function at WSCMO Washington - Dulles moved to the location of WFO Baltimore MD/Washington DC in July 1992.

STATE OF VIRGINIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
ROANOKE, VA (New WFO)	**09/94**[2]	88D 08/95 AWIPS *		**02/95**	**08/94**				
•WSO Asheville, NC		ASOS 03/96		03/95		03/96	*	03/96	*
•WSO Beckley, WV		ASOS 07/95	12/95	**02/95**		04/96	*	04/96	*
•WSO Bristol, TN		ASOS 03/95	09/95	**02/95**		12/95	*	12/95	*
•WSO Greensboro, NC[3]		ASOS 07/95		**02/95**		03/96	*	03/96	*
•WSO Lynchburg, VA		ASOS 07/95		**02/95**		03/96	*	03/96	*
•WSO Richmond, VA		ASOS 07/95		**02/95**		03/96	*	03/96	*
•WSO Roanoke, VA		ASOS 07/95		**02/95**		03/96	*	03/96	*
•WSMO Volens, VA			10/95			10/95			
WAKEFIELD, VA (New WFO)	**05/94**	88D 06/95 APUP 03/95[4] AWIPS *		**02/95**	**06/94**				
•WSO Baltimore, MD		ASOS 03/95		**02/95**		01/96	*	01/96	*
•WSO Cape Hatteras, NC			10/95	**02/95**		02/96		02/96	*
•WSO Norfolk, VA		ASOS 03/95		**02/95**		03/96	*	03/96	*
•WSO Richmond, VA		ASOS 07/95		**02/95**		03/96	*	03/96	*
•WSMO Patuxent River, MD			11/95			11/95			
•WSCMO Wallops Island, VA[5]		ASOS 12/95							

2. Upper air function will transfer from WSO Huntington in March 1995, to the site of WFO Roanoke.
3. Upper air function will transfer in January 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.
4. WFO Wakefield also will use, by means of an associated PUP (APUP), data from the DOD Dover AFB WSR-88D.
5. 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 Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
CHARLESTON, WV (WSFO to WFO)	03/95	88D 06/95 AWIPS *	[redacted]	03/95 **10/94**	**03/94**	03/95	[redacted]	[redacted]	[redacted]
KNOXVILLE/TRI-CITIES, TN (New WFO)	**07/94**	88D 06/95 AWIPS *	[redacted]	05/95	**07/94**	[redacted]	[redacted]	[redacted]	[redacted]

STATE OF WASHINGTON (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Washington will be provided by two in-state WFOs--Seattle/Tacoma and Spokane--and by WFOs Pendleton, Oregon and Portland, Oregon. WFO Pendleton will serve eight counties in Washington; and WFO Portland, six counties. WFO Spokane will serve seven counties in Idaho.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
SEATTLE/TACOMA, WA (WSFO to WFO)	**10/93**	**88D 02/95** AWIPS *		03/95	**04/93**				
•WSO Olympia (FW), WA				*[1]		*		*	*
•WSO Olympia, WA		ASOS 03/95		03/95		10/95	*	10/95	*
•WSCMO Quillayute, WA[2]		ASOS 07/95							
•WSCMO Seattle/Tacoma, WA		ASOS 10/95							
•WSCMO Stampede Pass, WA		**ASOS 02/94**							

1. Service will be transferred upon commissioning of an AWIPS at WFO Seattle/Tacoma.
2. Upper air function will remain at WSCMO Quillayute.

STATE OF WASHINGTON (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
SPOKANE, WA (WSO to WFO)	05/95[4,5]	88D 07/96 AWIPS *		05/95[4] 03/95	12/94[3]	05/95[4]			
•Res WSO Spokane, WA[4]		ASOS 03/95					*		*
•WSO Lewiston, ID		ASOS 03/95		03/95		02/97	*	02/97	*
•WSO Wenatchee (AG & FW), WA				*[6]		*			*
WFOs Out of State:									
PENDLETON, OR (WSO to WFO)	03/95	88D 06/96 ASOS 03/95 AWIPS *		03/95	06/95				
•WSO Wenatchee (AG & FW), WA				*[7]		*			*
•WSO Yakima, WA		ASOS 03/95		06/95		01/97	*	01/97	*
PORTLAND, OR (WSFO to WFO)	08/94	88D 07/95 AWIPS *		08/94 08/95	09/94	08/94			
•WSO Olympia (FW), WA				*[8]		*		*	*
•WSO Olympia, WA		ASOS 03/95		06/95		10/95	*	10/95	*

3. Meteorologist positions for operation of the WSR-88D filled.
4. Forecast and warning services of transitioning WSO will be transferred to facility of future WFO. Surface observation functions will be retained at original WSO location and office redesignated a residual WSO.
5. Upper air function will transfer locally. Transfer date to be determind.
6. Service will be transferred upon commissioning of an AWIPS at WFO Spokane.
7. Service will be transferred upon commissioning of an AWIPS at WFO Pendleton.
8. Service will be transferred upon commissioning of an AWIPS at WFO Portland.

STATE OF WEST VIRGINIA (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in West Virginia will be provided by one in-state WFO--Charleston--and by WFOs Baltimore, MD/Washington, DC; Pittsburgh, Pennsylvania; and Roanoke, Virginia. WFO Baltimore, MD/Washington, DC will serve eight counties in West Virginia; WFO Pittsburgh, nine counties; and WFO Roanoke, four counties. WFO Charleston will serve two counties in Virginia, nine counties in Ohio, and four counties in Kentucky.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CHARLESTON, WV (WSFO to WFO)	03/95[2]	88D 06/95 AWIPS *		03/95[2] **10/94**	**03/94**[1]	03/95[2]			
•Res WSO Charleston, WV[2]		**ASOS 10/94**	10/95			02/96	*	02/96	*
•WSO Akron, OH		ASOS 03/95	05/95	**10/94**		10/95	*	10/95	*
•WSO Beckley, WV		ASOS 07/95	12/95	**10/94**		04/96	*	04/96	*
•WSO Bristol, TN		ASOS 03/95	09/95	**10/94**		12/95	*	12/95	*
•WSO Columbus, OH		ASOS 12/95	09/95	**10/94**		01/96	*	01/96	*
•WSO Elkins, WV		ASOS 07/95		**10/94**		05/96	*	05/96	*
•WSO Huntington, WV[3]		ASOS 07/95		**10/94**		05/96	*	05/96	*
WFOs Out of State:									
BALTIMORE, MD/WASHINGTON, DC (WSFO to WFO)	**04/90**	**88D 06/94** AWIPS *		**04/94**	**07/91**				
•WSO Elkins, WV		ASOS 07/95		**03/94**		05/96	*	05/96	*

1. Meteorologist positions for operation of the WSR-88D filled.
2. Forecast and warning services of transitioning WSFO will be transferred to facility of future WFO. Surface and radar observation functions will be retained at original WSFO location and office redesignated a residual WSO.
3. Upper air function will transfer in March 1995 from WSO Huntington to the site of WFO Roanoke.

STATE OF WEST VIRGINIA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
PITTSBURGH, PA (WSFO to WFO)	**05/93**	**88D 01/95** AWIPS *	04/95	**10/94**	**06/93**				
•WSO Elkins, WV		ASOS 07/95		**09/94**		05/96	*	05/96	*
ROANOKE, VA (New WFO)	**09/94**	88D 08/95 AWIPS *		**02/95**	**08/94**				
•WSO Beckley, WV		ASOS 07/95	12/95	**02/95**		04/96	*	04/96	*

STATE OF WISCONSIN (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Wisconsin will be provided by three in-state WFOs--Green Bay, La Crosse and Milwaukee--and by WFOs Duluth, Minnesota and Minneapolis, Minnesota. WFO Duluth will serve eight counties in Wisconsin; and WFO Minneapolis, nine counties. WFO La Crosse will serve seven counties in Minnesota and eight counties in Iowa.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
GREEN BAY, WI (WSO to WFO)	**04/94**[1]	88D 07/95 ASOS 04/95 AWIPS *		**12/94**	**04/94**				
•WSO Madison, WI		ASOS 05/95	08/96	**12/94**		12/96	*	12/96	*
•WSMO Neenah, WI			09/95			09/95			
LA CROSSE, WI (WSO to WFO)	06/95	88D 06/96 AWIPS *		02/96	07/95				
•WSO Dubuque, IA		ASOS 03/95		02/96		01/97	*	01/97	*
•WSO Madison, WI		ASOS 05/95	08/96	02/96		12/96	*	12/96	*
•WSO Rochester, MN		ASOS 10/95	08/96	02/96		12/96	*	12/96	*
•WSO Waterloo, IA		ASOS 08/95	11/95	02/96		03/96	*	03/96	*

1. Upper air function remains at current location and is collocated with WFO Green Bay.

STATE OF WISCONSIN (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
MILWAUKEE, WI (WSFO to WFO)	**10/89**[3]	88D 05/95 AWIPS *		**10/89**[3] **12/94**	**04/93**[2]	**10/89**[3]			
•Res WSO Milwaukee, WI[3]		ASOS 04/95				*	*		*
•WSO Dubuque, IA		ASOS 03/95		**12/94**		01/97	*	01/97	*
•WSO Madison, WI		ASOS 05/95	08/96	**12/94**		12/96	*	12/96	*
WFOs Out of State:									
DULUTH, MN (WSO to WFO)	12/95	88D 12/95 ASOS 10/95 AWIPS *	02/96	03/96	05/95				
MINNEAPOLIS, MN (WSFO to WFO)	03/95	88D 05/95 AWIPS *		03/95 04/95	**07/94**	03/95			

2. Meteorologist positions for operation of the WSR-88D filled.
3. Forecast and warning services of transitioning WSFO transferred to future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.

STATE OF WYOMING (Page 1 of 2)

Actions to Change Operations and to Certify Field Offices
FY 1995-1997

Modernized weather services in Wyoming will be provided by two in-state WFOs--Cheyenne and Riverton--and by WFOs Billings, Montana; Rapid City, South Dakota; and Salt Lake City, Utah. WFO Billings will serve one county in Wyoming; WFO Rapid City, three counties; and WFO Salt Lake City, one county. WFO Cheyenne will serve eight counties in Nebraska.

Shown below are notifiable actions scheduled to occur in fiscal years 1995-1997. Actions anticipated to occur after fiscal year 1997 are indicated by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs In-State:									
CHEYENNE, WY (WSFO to WFO)	**08/93**	88D 06/95 ASOS 03/95 AWIPS *	08/95	03/95	**04/94**				
•WSO Casper, WY		ASOS 03/95		03/95		10/96	*	10/96	*
•WSO Scottsbluff, NE		ASOS 03/95		03/95		11/96	*	11/96	*
•WSMO Alliance, NE			06/96			06/96			
RIVERTON, WY (New WFO)	05/95[1]	88D 01/96 ASOS 05/95 AWIPS *		03/96	04/95				
•WSO Casper, WY		ASOS 03/95		03/96		10/96	*	10/96	*
•WSO Lander, WY[1]				03/96		08/96	*	08/96	*
•WSO Sheridan, WY		ASOS 08/95		03/96		11/96	*	11/96	*

1. Upper air function will transition in July 1995 from WSO Lander to the site of WFO Riverton.

STATE OF WYOMING (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS						CERTIFICATIONS		
	Facility Occupancy	Systems Commissionings	Radar Decom-missionings	Service Transfer	Signif. Staff Changes				
					Increase	Decrease	Automate	Consolidate	Close
WFOs Out of State:									
BILLINGS, MT (WSO to WFO)	08/95	88D 04/96 AWIPS *	[redacted]	08/95 05/95	03/95	08/95	[redacted]	[redacted]	[redacted]
•WSO Sheridan, WY	[redacted]	ASOS 08/95	[redacted]	05/95	[redacted]	11/96	*	11/96	*
RAPID CITY, SD (WSO to WFO)	06/95	88D 03/96 AWIPS *	[redacted]	06/95 05/96	05/95	06/95	[redacted]	[redacted]	[redacted]
•WSO Casper, WY	[redacted]	ASOS 03/95	[redacted]	05/96	[redacted]	10/96	*	10/96	*
SALT LAKE CITY, UT (WSFO to WFO)	**07/94**	88D 05/95 88D 03/96 ASOS 12/95 AWIPS *	[redacted]	05/95	**05/94** 04/95	[redacted]	[redacted]	[redacted]	[redacted]

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 Al. 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 Al, 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 Al 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.

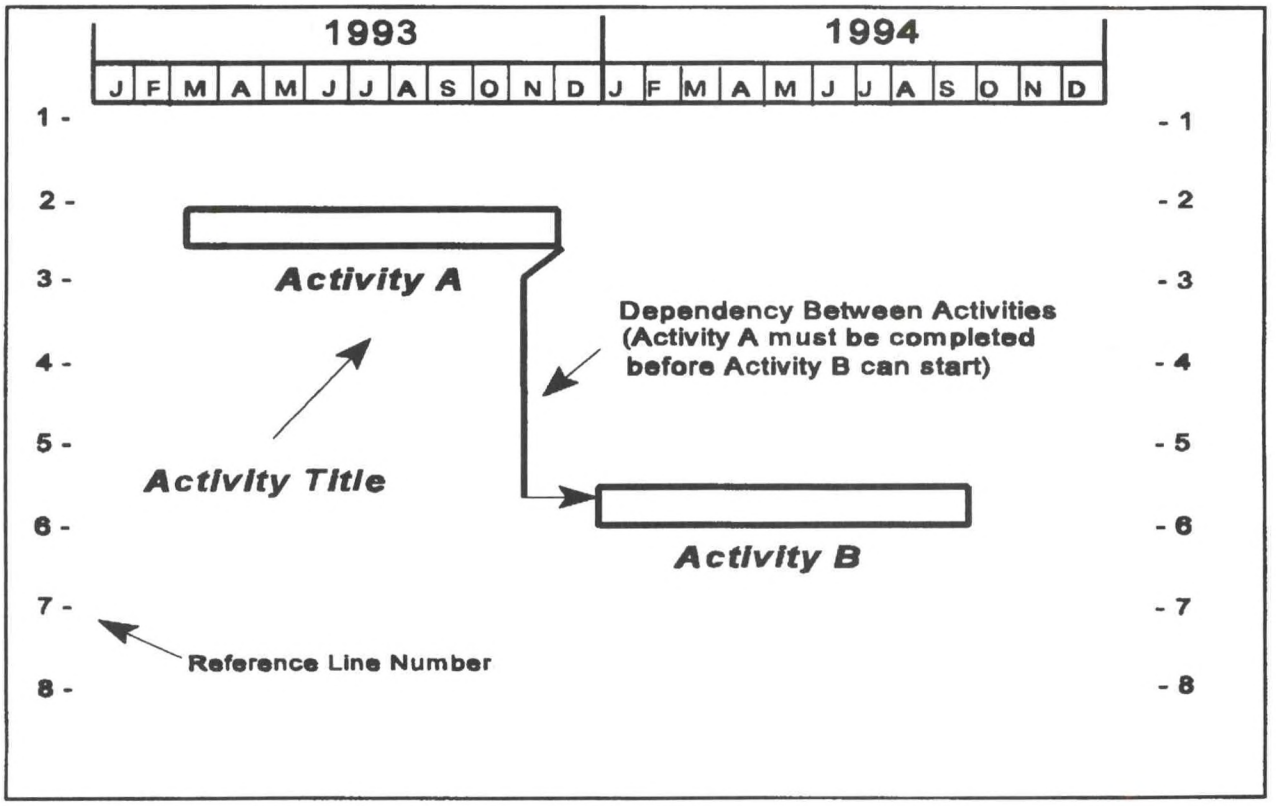


Figure Al

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 #7); an Office Transition & Evaluation period for MARD (reference line #7); and Initial Stage 2 Service Implementation nationwide (reference line #10). The Principal Path activities are dependent on the other Major sets of transition activities described below.

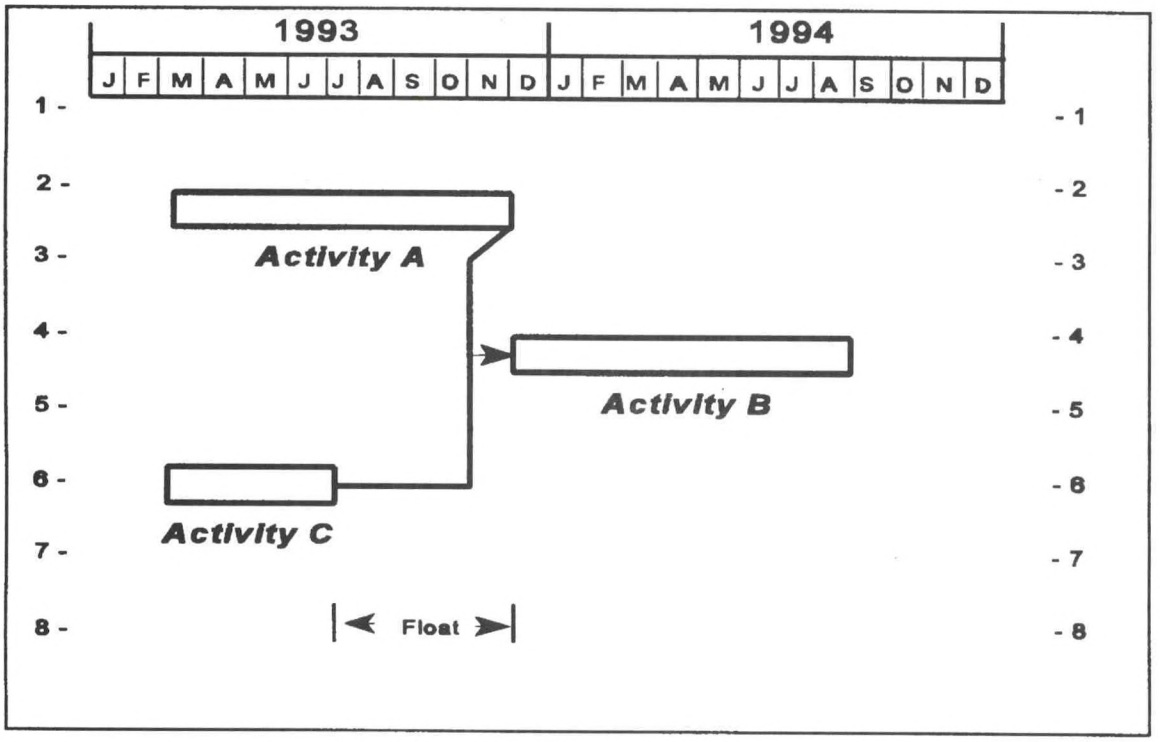


Figure A2

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); and certifications that services will not degrade (not shown).

Risk Reduction-Risk reduction activities in the first several years include the DARE II project (completed, not shown), "ISPAN" (reference line #17), the PROTEUS project (reference line #18), and the Norman project (reference line #19).

Research Programs-Research activities shown include: Rapid Update Cycle Testing at NMC (reference line #14); and Profiler Production and Assessment Phase I (completed, not shown) and Assessment Phase II (reference line #15).

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 #4); NEXRAD installation, acceptance and commissioning for the MARD sites (reference line #5); and installation of the Cray YMP8 computer system (completed, not shown) and the advanced super computer system for NMC (reference line #16). Activities associated with implementation and commissioning of the various new technologies

required for modernization nationwide include: ASOS installation, acceptance and commissioning (reference line #3); NEXRAD installation, acceptance and commissioning (reference line #2); and AWIPS installation, acceptance and commissioning (reference line #4).

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.

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 requiring 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

1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999

J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O

1 New Technologies

Pathfinder Delivered

AWIPS FULL PRODUCTION DECISION

2 NEXRAD PRODUCTION INSTALL, ACCEPT, COMMISSION

3 ASOS PRODUCTION INSTALL, ACCEPT, COMMISSION

4 ASOS INSTALL, ACCEPT, COMMISSION MARD SITES

AWIPS PRODUCTION INSTALL, ACCEPT, COMMISSION

5 NEXRAD INSTALL, ACCEPT, COMMISSION MARD SITES

6 LAST MARD NEXRAD COMMISSIONED

MARD SCHEDULE
UNDER REVISION

Principal Path

7 PRE-MARD RISK REDUCTION PROGRAMS

OFFICE TRANSITION & EVALUATION FOR MARD

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

Research Programs

14

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 15MAR95
Data Date 6MAR95
Project Start 28DEC87
Project Finish 4NOV01

(c) Primavera Systems, Inc.

Activity Bar/Early Dates
Critical Activity
◇/◆ Milestone/Flag Activity

NWS
MASTER TRANSITION SCHEDULE

MASTER TRANSITION SCHEDULE

Date	Revision	Checked	Approved
3-11-95	M. Straight	—	✓
3-14-95	L. Long		

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	Dec 93
Modernization Criteria for Relocation and Consolidation Certification	Dec 93
MARD Plan (Preliminary)	Oct 92
Office Transition & Evaluation Plan	
Integrated Operations and Services Plan	
Stage 1 Operations Concept	Apr 94
AWIPS Operations Concept (Stage 2)	Jan 87
Public Services Plan	Dec 93
Stage 2 County Warning Forecast Area Assignments	Jul 93
Marine Services Plan	Mar 93
Aviation Plan	Aug 93
Fire Weather Operations and Services Plan	Apr 93
Modernized Surface Observing Concept	
National Centers Transition Plan	Aug 90
Dissemination Transition Plan	
Quantitative Precipitation Forecasting Operations Concept (Draft)	Aug 94
Hydrometeorological Service Operations for the 1990s	
Transition Systems Development and Integration Plan (Draft)	Aug 94
ASOS Deployment Schedule	Jan 92
NEXRAD Deployment Schedule	Oct 93
AWIPS Deployment Schedule	
Internal and External Coordination Plan	Sep 93
Facilities Management Plan	
Integrated Training and Professional Development Plan	Mar 92

Implementation and Phase Over Plan	Apr 94
ASOS Site Component Commissioning Plan	Oct 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 (Map)	Page D-2
List of the Weather Forecast Offices	Page D-3
List of the River Forecast Centers	Page D-6
Continental United States NEXRAD Coverage (Map)	Page D-8
NEXRAD Sites and Estimated Coverage for Alaska (Map)	Page D-9
NEXRAD Sites and Estimated Coverage for Hawaii (Map)	Page D-10
List of the NEXRAD Locations	Page D-11
NWS and FAA ASOS Locations (Map)	Page D-15
List of Candidate ASOS Locations (NWS and FAA)	Page D-16

LOCATIONS OF WEATHER FORECAST OFFICES

wfo118, 11/22/04

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
Guam	TBD
Hastings, NE	Hastings, NE
Honolulu, HI	University of Hawaii, Honolulu, HI
Houston/Galveston, TX	League City, TX
Indianapolis, IN	Indianapolis International Airport
Jackson, KY	Julian Carroll 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

Weather Forecast Office Locations
(continued)

WFO Name—Metropolitan Area	Proposed Office Location
North Central Lower Michigan, MI	Passenheim Road, Waters, MI
North Platte, NE	North Platte Regional Airport
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
Wakefield, VA	Wakefield, VA
Wichita, KS	Wichita Mid-Continent Airport
Wilmington, NC	New Hanover International Airport

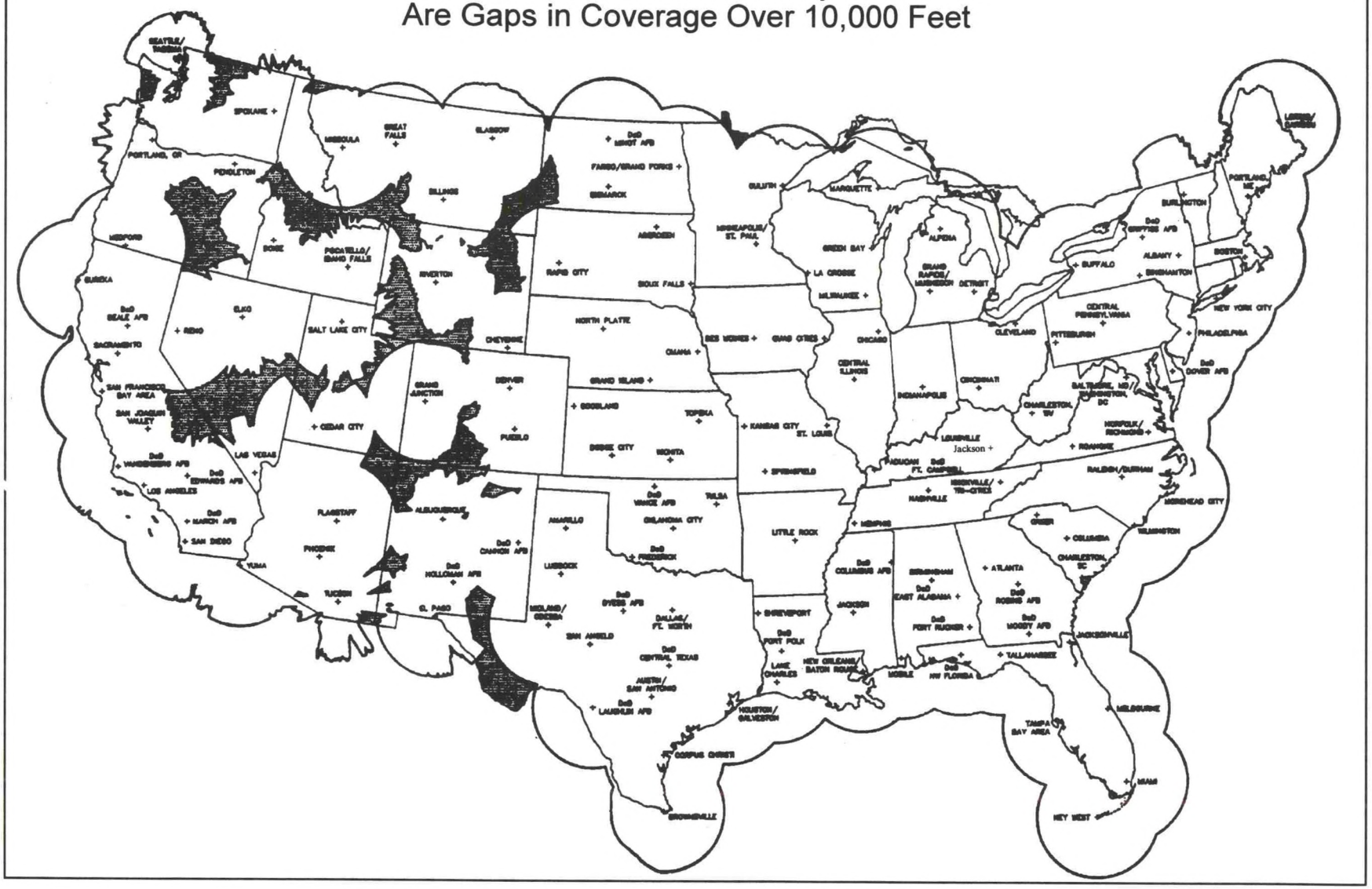
River Forecast Centers

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

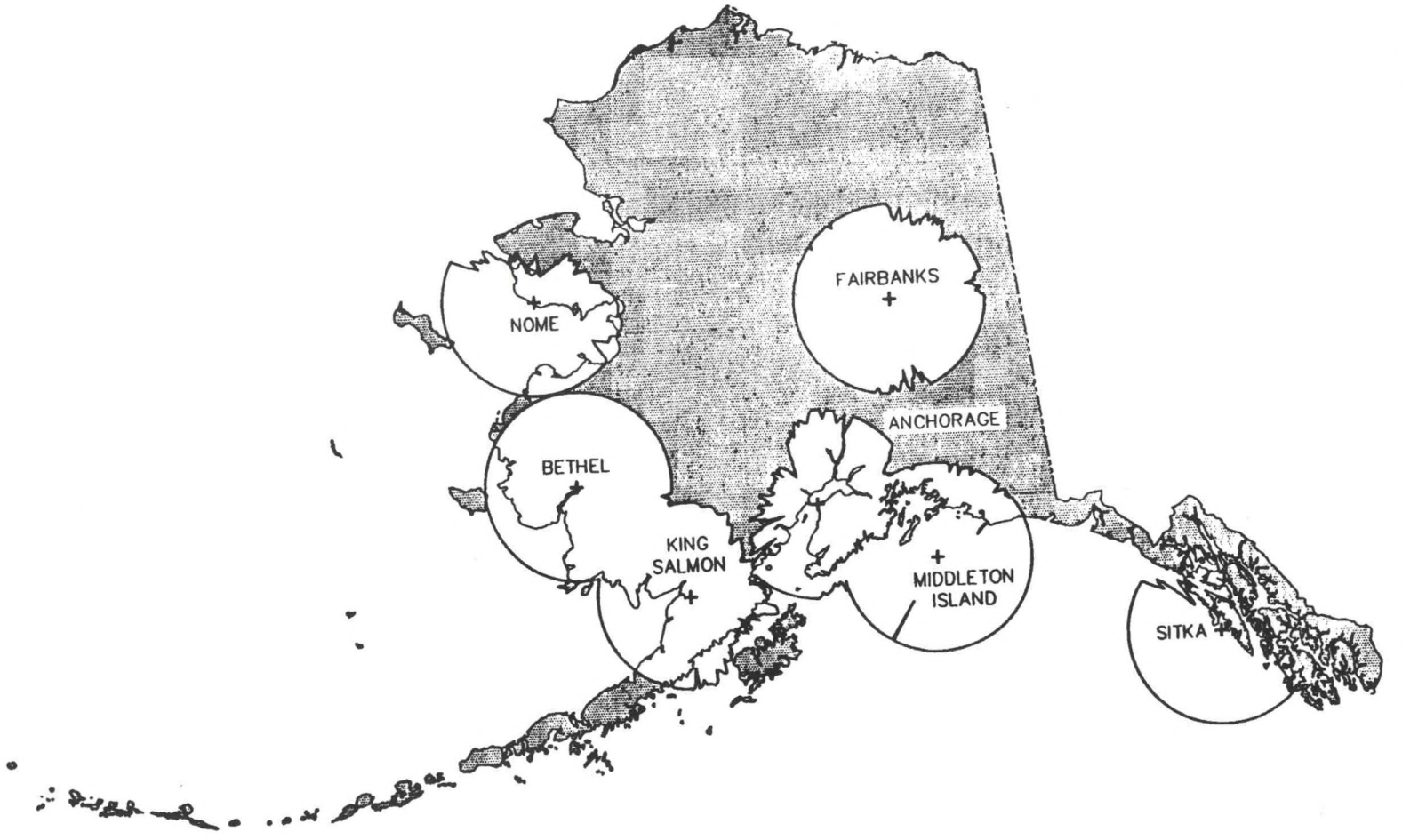
The following maps depict coverage of the NEXRAD network at the 10,000 foot level. This level corresponds to 125 nautical miles, which is the instrumented range for doppler. Additionally convective weather storms are best observed at 10,000 feet or above, and mesocyclones begin at 15,000 feet and build downward. With these factors considered, the 10,000 foot level of coverage was incorporated into the NEXRAD design.

Depiction of the Total Coverage (at 10,000 Feet) Provided by the Completed NEXRAD Network

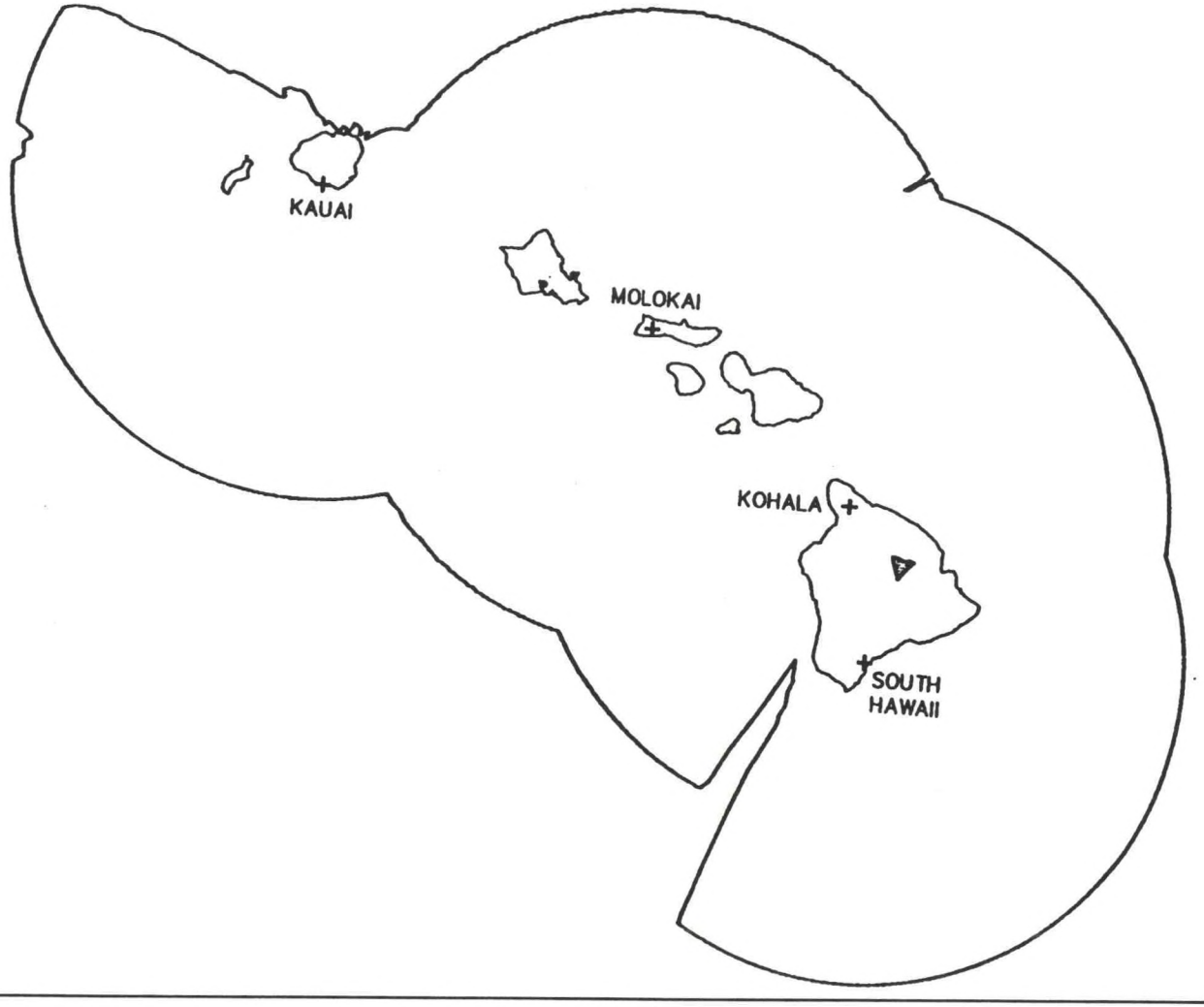
Darkened Areas Over the Rocky Mountains Are Gaps in Coverage Over 10,000 Feet



NEXRAD Sites and Estimated Coverage (at 10,000 Feet) for Alaska



NEXRAD Sites and Estimated Coverage (at 10,000 Feet) 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

NEXRAD Locations
(Continued)

Metropolitan Area	Proposed NEXRAD Location
Goodland, KS	Goodland Municipal Airport
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
Guam	Anderson Air Force Base
Hastings, NE	Blue Hill, NE
Houston/Galveston, TX	League City, TX
Indianapolis, IN	Indianapolis International Airport
Jackson, KY	Julian Carroll 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	Empire Mountain
Tulsa, OK	Shreck Farm, Rogers County
Wichita, KS	Wichita Mid-Continent Airport
Wilmington, NC	Shallotte, NC
Yuma, AZ	near Yuma International Airport

NEXRAD Locations

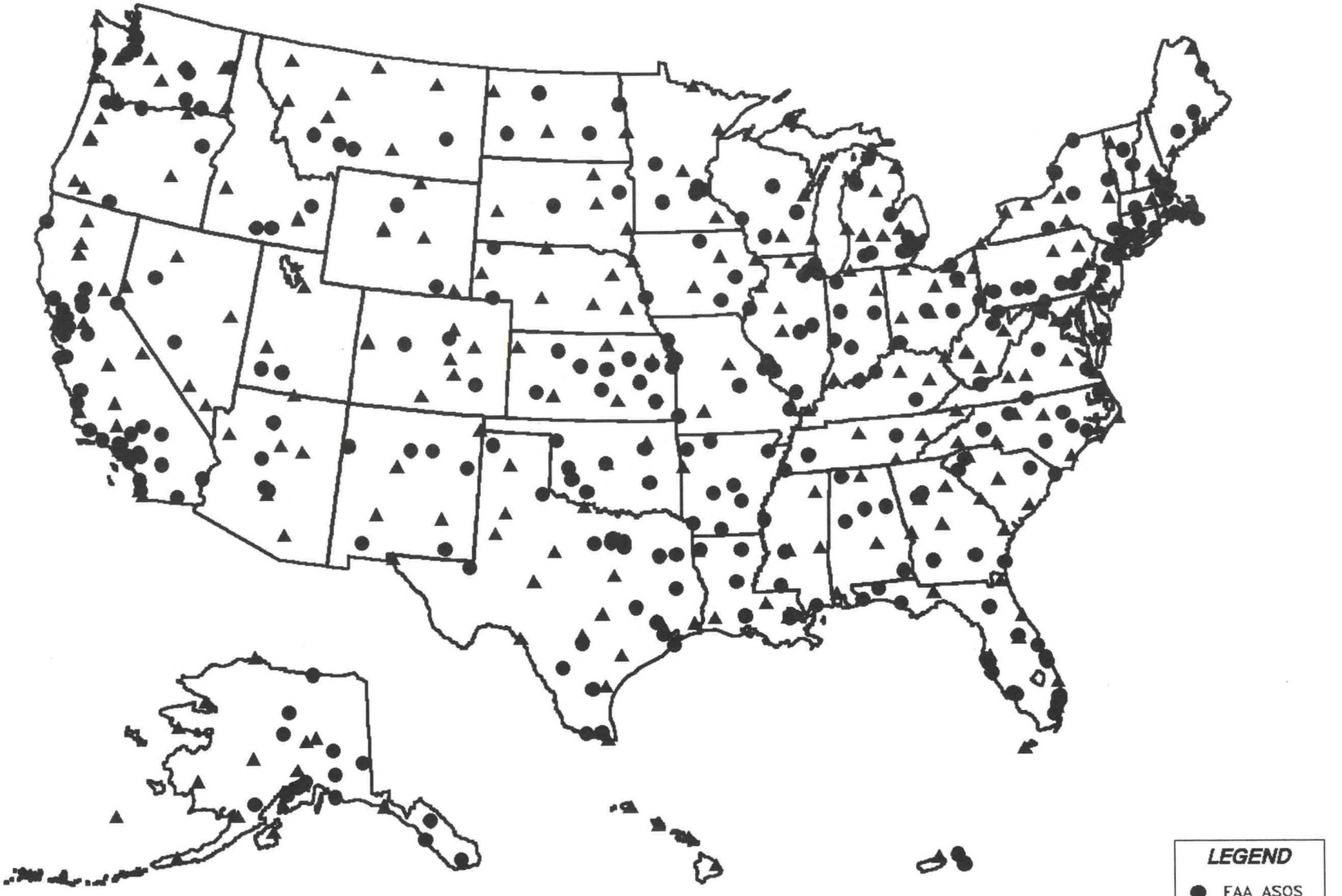
NEXRADs in Alaska and Hawaii

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

NWS AND FAA ASOS LOCATIONS



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
CA	Bishop	NWS
CA	Blythe	FAA
CA	Burbank	FAA
CA	Carlsbad	FAA
CA	Chino	FAA

Candidate ASOS Locations (NWS and FAA)
(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

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
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

Candidate ASOS Locations (NWS and FAA)

(Continued)

WA	Spokane	FAA
WA	Spokane	NWS
WA	Stampede Pass	NWS
WA	Tacoma	FAA
WA	Toledo	FAA
WA	Walla Walla	FAA
WA	Yakima	NWS
WI	Ashwaubenon	NWS
WI	Ashland	FAA
WI	Boscobel	FAA
WI	Fond du Lac	FAA
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

AAO	AWIPS Acquisition Office
ACARS	ARINC Communications Addressing and Reporting System
AFOS	Automation of Field Operations and Services
AFPS	AWIPS Forecast Preparation System
AOML	Atlantic Oceanographic and Meteorological Laboratory
AMS	American Meteorology Society
ASOS	Automated Surface Observing System
AWC	Avaition Weather Center
AWIPS	Advanced Weather Interactive Processing System
CBL	Computer-Based Learning
COMAP	COMET Mesoscale Analysis and Prediction Course
COMET	Cooperative Program for Operational Meteorology Education and Training
CPHC	Central Pacific Hurricane Center
CRS	Console Replacement System (NOAA Weather Radio)
CWA	County Warning Area
CWSU	Center Weather Service Unit
DARE	Denver AWIPS Risk Reduction and Requirements Evaluation
DOC	Department of Commerce
DCO	Data Collection Office
DOD	Department of Defense
DOH	Development and Operations Hydrologist
ERL	Environmental Research Laboratory
ESA	Electronic Systems Analyst
ETL	Environmental Technology Laboratory
FAA	Federal Aviation Administration
FSL	Forecast Systems Laboratory
GDP	Government Development Platform (AWIPS)
GFDL	Geophysical Fluid Dynamics Laboratory
GOES	Geostationary Operational Environmental Satellite
GPS	Global Positioning System
HAS	Hydrometeorological Analysis and Support
HIC	Hydrologist-In-Charge
HRD	Hurricane Research Division

HRL	Hydrologic Research Laboratory
ICWF	Interactive Computer Worded Forecast
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
MIC	Meterologist-In-Charge
MOS	Model Output Statistics
MTC	Modernization Transition Committee
MTS	Master Transition Schedule
NAUOS	North American Upper-Air Observing System
NCDC	National Climatic Data Center
NCCF	NOAA Central Computer Facility
NCEP	National Centers for Environmental Prediction
NEC	Norman Evaluation Committee
NESDIS	National Environmental Satellite, Data and Information Service
NEXRAD	Next Generation Weather Radar
NHC	National Hurricane Center
NIDS	NEXRAD Information Distribution System
NIP	National Implementation Plan
NIS	National Implementation Staff
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
NTD	National Transition Data Base
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
NWSTC	National Weather Service Training Center
ODW	Omega Dropwindsondes
OH	Office of Hydrology
OHRFC	Ohio River Forecast Center
OM	Office of Meteorology
OSD	Office of Systems Development
OSF	NEXRAD Operational Support Facility
OSO	Office of Systems Operations

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)
RASS	Radio Acoustic Sounding System
RDA	Radar Data Acquisition
RFC	River Forecast Center
RPG	Radar Product Generator
RRB	Risk Reduction Branch
SAC	Science Application Computer
SAO	Systems Acquisition Office
SIP	Site Implementation Plan
SOO	Science and Operations Officer
SPC	Storm Prediction Center
TCM	Transition Change Management
TDL	Techniques Development Laboratory
UCP	Unit Control Position
WBS	Work Breakdown Structure
WCM	Warning Coordination Meteorologist
WFO	Weather Forecast Office
WPDN	Wind Profiler Demonstration Network
WSCMO	Weather Service Contract Meteorological Observatory
WSFO	Weather Service Forecast Office
WSMO	Weather Service Meteorological Observatory
WSO	Weather Service Office

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