Trans-96-2

National Implementation Plan

For Modernization

Of the National Weather Service

For Fiscal Year 1997

Department of Commerce

National Oceanic and Atmospheric Administration

October 1996

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

OCT 3 1996

I am pleased to submit the National Implementation Plan for Modernization of the National Weather Service for Fiscal Year 1997. The report is submitted in accordance with Section 703 (a) of Public Law 102-567. The modernization of the Nation's weather warning and forecast program will provide improved services to the public and save lives and property.

Assessments of the modernization plan were conducted to see what adjustments were needed as implementation of the modernization reached its mid-point. During this process, it was determined that three additional Doppler weather surveillance radars (WSR-88D), known also as NEXRADs, would be required to provide coverage for six identified sites; office operations should be continued at two sites until further assessment of communications and maintenance associated with WSR-88D systems is completed; and, current radar operations should be continued at two offices until the results of the "Lake Effect Snow Study" are known.

To further evaluate the capabilities of Automated Surface Observing Systems (ASOS), a joint demonstration was conducted between the National Weather Service and the Federal Aviation Administration. An observer's log was maintained to compare ASOS observations to perceived weather conditions. Representation of observations exceed 98 percent. Engineering performance was also analyzed. Individual sensor availability, system availability, and long-line communications availability exceeded 99 percent.

The Advanced Weather Interactive Processing System Independent Review Team chartered by the Deputy Under Secretary for Oceans and Atmosphere found that the main development effort through the prime contractor had yielded expected progress. Although the hardware and communications were found to be generally good, the Team recommended that the contract be significantly restructured to eliminate procedural deficiencies that hindered progress.

Modernization efforts continue to move forward. Antiquated radars are being removed from sites. New systems are providing enhanced forecasts and warnings for the protection of lives and property.

Sincerely,

Michael Kantor

Enclosure

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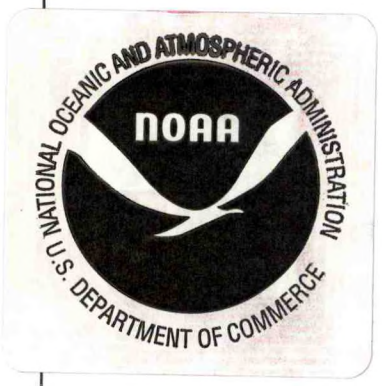

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National Oceanic and Atmospheric Administration

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TABLE OF CONTENTS

Appendices

Tables

Figures

MODERNIZATION TRANSITION COMMITTEE

Completion of Consultation on
FY 97 National Implementation Plan

The Modernization Transition Committee (MTC) has consulted during preparation of the National Implementation Plan for Modernization of the National Weather Service for Fiscal Year 1997. The MTC generally endorses the plan with the following recommendations:

1. It is the opinion of the MTC that the timely and effective implementation of AWIPS is crucial to the entire modernization process. Therefore, the Committee has concluded that it is imperative that AWIPS be funded at the full level for each fiscal year during development and implementation. Failure to do so will delay some offices reaching full WFO status, or for other offices being closed or consolidated. This will result in duplication of personnel in offices that must remain open and will ultimately reduce services and increase costs.

2. The Committee has noted that there have been a number of comments highlighting needed improvements in NEXRAD performance. While these comments do not reflect a degradation of services they do prevent full realization of anticipated benefits to the user community. Examples of needed modifications include the reduction of anomalous propagation (AP) in NEXRAD images, improvements in the performance of precipitation algorithms and the development of river basin mosaics. Thus, the Committee strongly recommends that adequate funding be provided for the timely implementation of these improvements.

3. It has come to the Committee's attention that part of the modernization process has inadvertently affected the collection and archiving of national climatological data. Data currently available are often inadequate to meet established needs and are sometimes contradictory. Attention should be given to establishing archival standards for the data and procedures for providing such information on a timely basis.

4. The Committee remains concerned with reports that many local emergency management and public safety organizations do not have access to timely and affordable severe weather information. Such information is vitally needed to warn the public and protect life and property. Therefore, the Committee enlarges upon its previous recommendation that critical weather information be made available to this emergency community. Specifically, the Committee recommends that a public/private partnership program be established to address these problems and that a preliminary report on the design of this program be presented to the MTC at the next regularly scheduled meeting.

DEC 15 1995

Peter R. Leavitt
Chair, Modernization
Transition Committee

Date

Summary of Changes Since the Fiscal Year 1996 National Implementation Plan

Since the publication of the fiscal year 1996 National Implementation Plan, there have been several significant changes. These changes are synopsized below:

- The National Research Council has completed the study of the adequacy of NEXRAD coverage
- The Secretary of Commerce's report assessing the adequacy of NEXRAD coverage and degradation of weather services in 32 geographical locations has been completed and submitted to Congress
- Delays have been encountered in achieving full automation of surface observations
- The decommissioning and disposal of WSR-57s, 74S and 74C radars has begun
- The National Meteorological Center has been reorganized into nine National Centers
- Individual Schedules have been updated - The Master Transition Schedule is being updated
- The Development Phase of the AWIPS contract was negotiated and signed.

Executive Summary

Results of Status Assessments

As reported in last year's National Implementation Plan, the Secretary of Commerce was conducting assessments of the National Weather Service modernization plan to see what adjustments were needed as implementation of the modernization reached its mid-point. The assessments were to draw upon actual operational experience with modernization so far and seek out and address concerns expressed by the public and users of weather services. Concerns had been expressed about degradation of service due to loss of local weather offices and inadequate Next Generation Weather Radar (NEXRAD) coverage, and the Automated Surface Observing System (ASOS) and the Advanced Weather Interactive Processing System (AWIPS) programs were at critical junctures. Results of the assessments for each of these three areas is provided below.

Adequacy of NEXRAD Coverage and Associated Weather Services

The Secretary of Commerce's report to Congress was released on October 27, 1995. Entitled, *Secretary's Report to Congress on Adequacy of NEXRAD Coverage and Degradation of Weather Services under the National Weather Service Modernization for 32 Areas of Concern*, this report was prepared by a departmental team with expertise in radar meteorology, operational weather services, employee relations, and strategic planning. The Secretary's report applied the criteria developed in the National Research Council's (NRC) study, *Toward a New National Weather Service -- Assessment of NEXRAD Coverage and Associated Weather Services*, which was delivered in June, 1995.

The Secretary's report assessed the adequacy of NEXRAD coverage and degradation of weather services in 32 geographical areas of concern under the NWS modernization plan, and mitigation actions for areas where degradation is indicated. Late last year, comments from the public were solicited to identify community concerns about possible degradation of weather services under the NWS modernization plan. Over 67,000 public comments were received from 32 different geographical areas. These 32 areas were then established as areas of concern to receive in depth analysis based on the NRC's assessment criteria.

The mitigation recommendations contained in the report and the Secretary's transmittal letter are:

Additional NEXRADs and/or WFO

The Secretary's Team recommended the acquisition and siting of three additional WSR-88Ds to provide coverage for six identified areas of concern:

Fort Wayne, Indiana; Toledo, Ohio; South Bend, Indiana: For the Fort Wayne, Indiana; Toledo, Ohio; and South Bend, Indiana areas of concern, the Team recommended that the National Weather Service install a WSR-88D in the vicinity of Fort Wayne, along with a fully staffed WFO, to provide forecast and warning services to the citizens of northern Indiana and northwestern Ohio. The Team found that this combined area experiences a high frequency of especially severe weather, and that the present NEXRAD configuration will not provide the low level surveillance necessary for detecting reflectivity and velocity signatures associated with tornado formation and other severe weather phenomena. It was the opinion of the Team that the frequency of severe weather, areal extent of radar coverage degradation, increased workload associated with a large spotter network, requires the establishment of a full-service WFO. In addition, the Team recommended that the NWS re-examine the distribution of county warning responsibility throughout Northern Indiana and Northwestern Ohio following placement of the WSR-88D.

Chattanooga, Tennessee; Huntsville, Alabama: For the Chattanooga, Tennessee; and Huntsville, Alabama areas of concern, the Team recommended the addition of a WSR-88D optimized for coverage of severe weather phenomena (particularly mini-supercells and macrobursts) in the northern Alabama, southeastern Tennessee, and northwestern Georgia region. The climatology of severe weather for this area is such that there are a significant number of tornados whose genesis is observable only from low level radar information. The recommended WSR-88D may be operated as a remote radar due to the accessibility of locations in the region, and reliability of commercial communications. The NWS should re-evaluate the county warning area distribution for future WFOs Nashville, TN; Birmingham, AL; Atlanta, GA; and Morristown, TN in order to determine which WFOs are best positioned to provide primary warning responsibilities for counties assumed from the Chattanooga and Huntsville areas. The Team further recommended that the Chattanooga and Huntsville WSR-74C's remain in service until the NWS commissions the new WSR-88D and achieves confirmation of services with users.

Fort Smith, Arkansas: For the Fort Smith, Arkansas area of concern, the Team recommended that an additional WSR-88D be installed to the southwest of Fort Smith and operated with dedicated communications to both WFO Tulsa and WFO Little Rock. The Fort Smith area experiences a very high frequency of severe thunderstorms and flash floods. The southern portion of the Fort Smith county warning area, comprising the counties of Le Flore, Scott and Polk, is beyond the range of reliable detection of the low, mid and upper altitude radar features used to identify the severe thunderstorms and weak to moderate tornadoes associated with squall lines and intersecting outflow boundaries. Many of the storms move into the area from the southwest of these counties -- an area also too far from surrounding WSR-88Ds for severe weather identification within acceptable parameters. The Team further recommended that the Fort Smith

WSR-74C remain in service until the NWS commissions the new WSR-88D and achieves confirmation of services with users.

Continuation of Office Operations

The Secretary's Team recommended the continuation of office operations at the following sites:

Caribou, Maine: The Team recommended continued operations at Caribou, Maine, until the NWS can: a) validate reliable communications and maintenance for the Hodgdon WSR-88D site; and b) certify that other distance- and time-sensitive service considerations have been reconciled, including maintenance of equipment and the coordination of northern Maine emergency management requirements and community outreach. If solutions to remote radar (and other equipment) communications and maintenance reliability concerns cannot be found, and if adequate community coordination and outreach cannot be assured, the Team recommended that a nearby office be established.

Key West, Florida: The Team recommended continued operations at Key West, Florida, until the NWS can validate reliable communications and maintenance between the Key West WSR-88D site and WFO Miami. If solutions to remote radar communications and maintenance reliability concerns cannot be found, the Team recommended a continued NWS presence at Key West, with, at a minimum, adequate staffing for maintaining and operating the radar for severe weather observations and the dissemination of warnings.

Continuation of Radar Operations

The Secretary's Team recommended continued radar operations at the following sites, in addition to those listed above:

Erie, Pennsylvania: As a result of the degraded radar coverage for certain lake-effect snow events, the Team recommended the continued operation of WSO Erie's WSR-74C pending the results of "The Lake Effect Snow Study." This assessment should compare the adequacy of existing WSR-88D information, and other data sources (the composite system) with the local warning radar to determine capabilities for lake effect snow identification. The Team recommended that the NWS remote the WSR-74C data to WFO Cleveland in order to facilitate the scheduled spindown of WSO Erie.

South Bend, Indiana: As a result of the degraded radar coverage for certain lake-effect snow events, the Team recommended continued radar operations at WSO South Bend pending the results of the lake effect snow study. This assessment should compare the adequacy of existing WSR-88D information, and other data sources (the composite system) with the local warning radar to determine capabilities for lake effect snow identification.

Continuation of Office and Radar Operations

The Secretary decided to continue office and radar operations in the Williston, North Dakota area. The following was extracted from the Secretary's transmittal letter:

"However, I remain concerned about the team's finding of significant degradation of radar coverage at the lower levels for the Williston, North Dakota, area. In this location, the team concluded that weather services should not be degraded, although their assessment included the finding that low-altitude radar coverage would be degraded over portions of all eight counties of the county warning area for certain weather phenomena. The geographic area which would experience some level of degradation of radar information is far more extensive than for any of the other areas examined. Therefore, I have decided that the NWS will maintain the operations of the Williston Weather Service Office and its associated radar for a period of two years before implementing the team's recommendation to proceed with planned radar decommissioning and weather office closure. During this time, the NWS will conduct an operational evaluation to assess whether mid- and upper-altitude NEXRAD data and information from composite system sources provide adequate information to detect, and warn for, all weather phenomena of concern. The team concurs with my decision."

Automated Surface Observing Program Demonstration

The NWS, the Federal Aviation Administration and the aviation industry conducted a joint demonstration, from February 15 to August 15, 1995, of the capability of Automated Surface Observing Systems (ASOS) to provide accurate, timely surface weather observations in support of aviation operations.

NWS observers reviewed each element of the ASOS observations at the Demonstration's 22 commissioned sites. ASOS observations which did not represent perceived weather conditions were reported in an Observer's Log. Based on these Logs, representativeness exceeded 98%. Additionally, a separate minute-by-minute comparison between "untouched" ASOS, and manual observations was conducted at three non-commissioned sites. This comparison yielded comparability statistics of 96% for visibility and 80% for ceiling.

The engineering performance was also analyzed. Individual sensor availability, system availability, and long-line communications availability exceeded 99%. While mean time between missing sensor events was lower than desired, the duration of each event was sufficiently short to provide high availability.

Advanced Weather Interactive Processing System Program

The AWIPS Independent Review Team (IRT) was chartered in May, 1994, by the Deputy Under Secretary for Oceans and Atmosphere to review and assess all elements of the AWIPS acquisition. The assessment covered the contractor's technical approach for designing and implementing AWIPS and the overall integration and development plans for AWIPS, including government-supplied software and testing. The IRT identified issues and significant risk areas and provided recommendations for overcoming organizational, contractual, and technical barriers to progress.

The IRT found that the main development effort through the prime contractor had not yielded expected progress. The team concluded that the contract be significantly restructured to eliminate procedural deficiencies that hindered progress. However, they confirmed that the hardware and communications designs proposed by the contractor were generally good. They identified problems relating to insufficient technical expertise resulting in inadequate system engineering and software discipline. They recommended a more incremental/evolutionary approach to development and the use of prototypes. They found inadequate interaction among the relevant NOAA offices and the contractor. Finally, they recommended the Government take responsibility for the hydrometeorological applications software development.

Proposed Streamlining of Public Law 102-567

As part of the Administration's Reinventing Government (REGO) initiative, the Department has proposed legislation to amend the Weather Service Modernization Act of 1992, Public Law No. 102-567, Title VII. The proposed amendments will streamline the current certification process, while retaining the requirement for the Secretary's certification to Congress of "no degradation of service." The amendments to Public Law No. 102-567 include the following:

Certification - The certification requirements are amended to eliminate unnecessary documentation and analysis required for each certification action. The Secretary's certification of an action to be taken (consolidate, automate or close) will be based on scientific and technical modernization criteria reviewed by the NRC, the Modernization Transition Committee and published for public comment in the *Federal Register*.

Notification - *Federal Register* notification for each certification action is eliminated as well as the 60-day public comment and review period. This comment period is largely redundant since affected users will already have had the opportunity to comment on significant issues during the commissioning and decommissioning processes that precede certification and during the development of criteria for certification. In addition, the requirement to publish a final certification in the *Federal Register* is dropped.

Special Users - The proposed amendment eliminates the requirement for a special evaluation on the effect of weather services to State users. This requirement is largely unnecessary because the Secretary will consult with users prior to closure and certification.

In addition, a definition of the term "air safety appraisal" is included as well as a requirement that the appraisal, required by the Act, be completed prior to September 30, 1996.

Modernization Transition Committee (MTC) - The MTC has served a useful purpose in support of modernization. Specifically, the MTC evaluated relocation and consolidation criteria prior to publication in the *Federal Register*, subsequent relocation and consolidation certifications, as well as other elements of the modernization. Under the proposed amendment, the MTC would serve out its role and terminate: (1) at the end of FY 1996; or (2) 90 days after the deadline for public comment on the modernization criteria for certification of office closures--whichever is later.

For the balance of its existence, the MTC will evaluate the remaining criteria for automation and closure certifications, and make recommendations to the Secretary, as appropriate. Once this has been completed, all criteria on which the Secretary will make certification decisions will have been reviewed by the MTC, as well as the one relocation and significant number of the consolidation certifications. The NWS, however, will continue to consult with the NRC and the respective user groups throughout the transition process to ensure that any and all concerns are addressed in an appropriate manner.

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 1997 Presidential budget. This NIP describes modernization goals for fiscal years 1997 and 1998. To provide a more comprehensive picture of the transition, this NIP includes progress achieved during fiscal year 1995 as well as actions planned for fiscal year 1996. 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 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 to ensure efficient and effective weather support
- Provide a spectrum of weather and hydrologic services to the private hydrometeorological community
- Provide data and products to the private sector and encourage growth of the private weather industry
- 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 service
- 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. In the past, the NWS focused on slowly changing, large-scale features of the atmosphere. This emphasis on the synoptic (larger) scale reflected the limits of operational systems still used to observe the atmosphere and the current level of weather-related sciences.

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

The impetus for major changes in NWS was twofold: First, the existing technology for weather observations, information processing and communication was obsolete and costly to maintain. Second, new scientific and technological breakthroughs provided, for the first time, an opportunity to analyze and predict the most destructive weather patterns with longer lead times. These factors provided a clear mandate to improve services.

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

- Field office forecasters are 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, focus on meteorological and hydrological events developing within the next 36 hours. NWS meteorologists 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 has rapid access to all sources of and is able to integrate and analyze all meteorological and hydrological data pertinent to that office.

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

- **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.

On October 1, 1995, the National Meteorological Center (NMC) was reorganized into the National Centers for Environmental Prediction (NCEP). The NCEP has prepared a National Centers Transition Plan as a counterpart to the regional planning documents. In addition, the NCEP has prepared an NCEP Planning Document that addresses the transition activities and schedules related to the spinup or reorganization of each of the National Centers. The nine National Centers are the Hydrometeorological Prediction Center, Tropical Prediction Center, Storm Prediction Center, Marine Prediction Center, Aviation Weather Center, Climate Prediction Center, Space Environment Center, Environmental Modeling Center, and NCEP Central Operations.

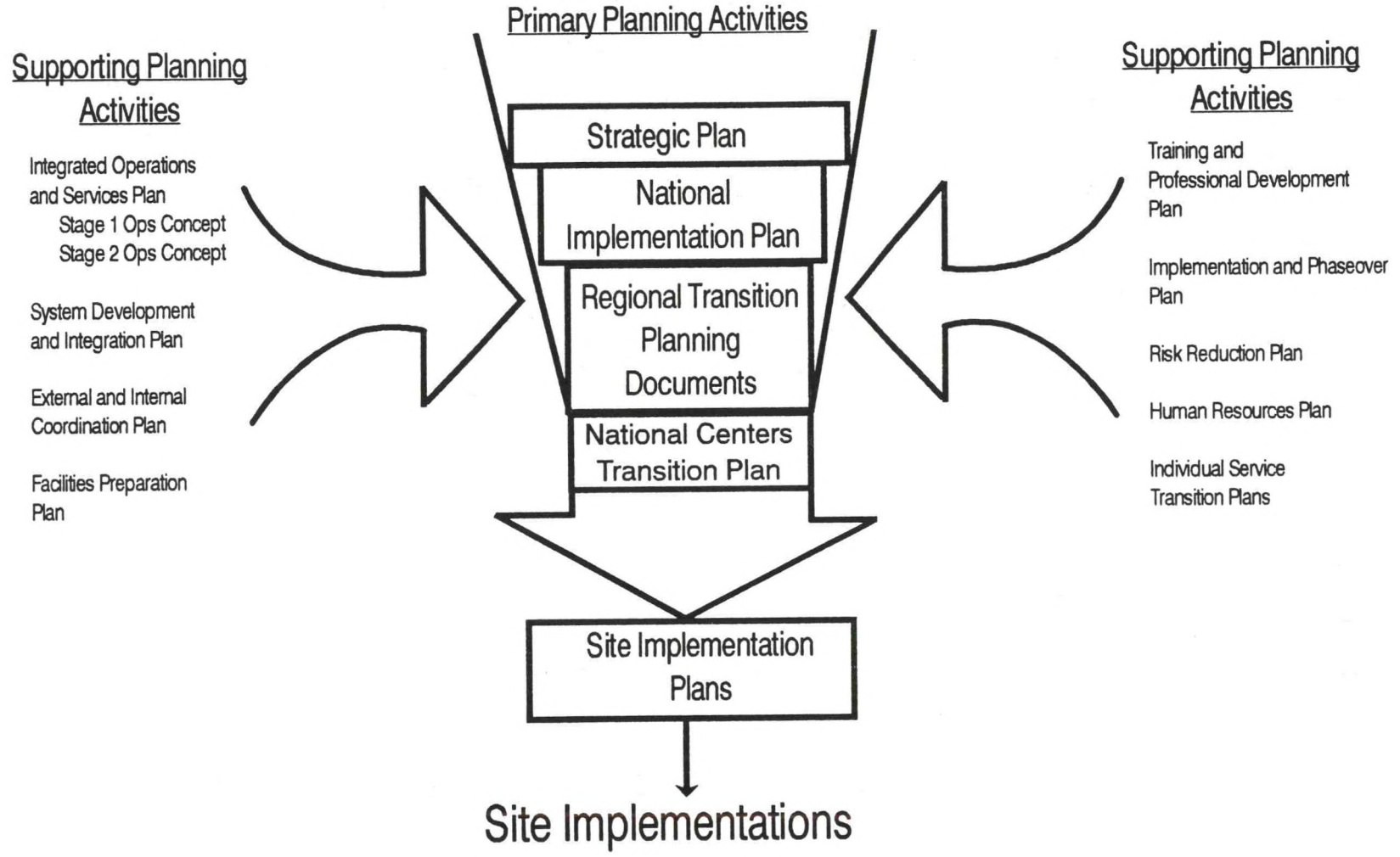
National, Regional/National Center and site level plans form the main planning path. As depicted in Figure 1, Page 6, these plans integrate efforts that focus on areas such as future operations and

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 the 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 synoptic and mesoscale 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)

- Provide automated or transfer observing functions.

Weather Service Contract Meteorological Observatories (WSCMOs)

- Provide automated 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 Center for Environmental Prediction (NCEP) 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.
  - Tropical Prediction Center (TPC) 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. In this area, the National Centers plan to enhance the current support for the off-shore and coastal forecasts areas.
- 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 Principal User Processor (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 modernized NWS will consist of a network of WFO's, RFC's, and National Centers. Current plans call for 119 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 service 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 for 24-hour periods and beyond
- 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 interactive hydrologic modeling operations made possible by more powerful computers and enhanced data collection and graphical assimilation capabilities
- Provide more frequent hydrologic forecasts and guidance to WFOs and water resource cooperators
- Improve analysis and forecasting of hydrometeorological phenomena.
- Implement advanced hydrologic modeling, including probabilistic-based water resources forecasting procedures.

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 24-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, NWSOs, and National Centers. 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 contract surface observations at some 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.

The National Centers will use NEXRAD data in several ways. Velocity and Direction (VAD) winds will be incorporated into both the mesoscale and regional analyses in 1996. The mesoscale analysis will also make direct use of radial velocities beginning in 1996.

Reflectivity mosaics will be included in the National Precipitation Analysis beginning in 1996 or 1997. These hourly analyses will in turn be used for model initialization.

The NCEP Service Centers will use NEXRAD data, obtained via the NEXRAD Information Dissemination Service (NIDS) vendors, to monitor severe weather. This data source is critical to support the National Centers in the provision of short-term guidance products to the WFOs and RFCs.

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 advanced hydrologic techniques and other types of pre-AWIPS equipment.

- Deploy Automation of Field Operations and Services (AFOS) System Z

- Decommission Network and Local Warning Radars
- Provide automated 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 a limited set of capabilities. This portion of Stage 2 will be referred to as Initial Stage 2. As systems are installed, sites will receive the most complex set of capabilities to date. 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 capabilities 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 in the service area 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 at WFO locations.

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 can be augmented by contractor personnel, 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, particularly for AWIPS applications. In addition, AWIPS contractors will provide limited on-site training for all staff. 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. The NCEP will also employ a SOO within each Forecast Center.

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.

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.

AWIPS Operational Test and Evaluation (OT&E)

Current planning calls for an incremental development of six software/hardware builds before AWIPS contains all its originally envisioned capabilities. Each build will be tested in an operational environment before being released to other field sites. There will be an OT&E for each build with one ending as the next begins.

The AWIPS OT&E process will evaluate not only the system performance for each version of software/hardware, but the impact on the operational processes within the various offices and the resultant ability to provide quality weather services to the public.

One focus of the OT&E will be on system performance and its impacts on the forecasting analysis tasks. Not all capabilities will be present initially, but will be evaluated as they are implemented. The broad areas of the OT&E system evaluation include:

- AWIPS Communications Network
- Local/Remote Data Acquisition
- Dissemination Systems
- Applications Processing
- Monitoring and Control
- Contractor Support Services
- System and User Training
- Service Backup & Reconfiguration
- Local Software Development
- Data Base
- User Interface
- Display and Interaction
- Product Generation
- Training Scenarios
- Systems Software
- System Documentation
- System Management
- Growth Capability

The other part of the OT&E is the service evaluation. One aspect evaluates the impacts of AWIPS on the overall internal operations of the office. Specifically, how do the new datasets and other aspects of the system integrate into the office environment and allow the forecasters to do their job? A second part of the service evaluation examines the quality of our products as perceived by our users.

AWIPS is being installed at a number of sites as a part of the development process to validate the suitability of the system, prior to the decision to proceed with national deployment. These OT&E sites listed below, are a cross section of the kind of offices that will be in the AWIPS network.

- Network Control Facility
- RFC Missouri Basin (Kansas City)
- NWSFO Topeka
- RFC Colorado Basin (Salt Lake City)
- NWSO Dodge City
- National Modernization & Test System
- RFC Northeast (Boston)*
- NWSO Kansas City
- NWSO Tulsa
- NWSFO Salt Lake City
- NWSO Wichita
- NWSO Goodland
- NWSFO Boston*
- NWSFO Pittsburgh*

* Participation in the OT&E process beginning after the AWIPS Production Decision (APD)

AWIPS Production Decision (APD)

A key component of the evidence that will be used in the decision for the national deployment of AWIPS, will be early results of the Build 1 OT&E. An intensive analysis is planned to validate that AWIPS meets expectations. The Build 1 OT&E will continue beyond the APD until the deployment of Build 2.

Modernization and Associated Restructuring Demonstration (MARD)

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 technology and techniques, and convert (restructure) current offices into WFOs. NWS will collocate some WFOs with an RFC. Hydrometeorological Analysis and Support (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 results of the MARD will be based mainly upon the OT&E evaluations (both system and service) for that subset of OT&E sites that are participating. The beginning of MARD will occur once AWIPS and the supporting infrastructure are deemed mature enough to support restructured WFO operations (no earlier than Build 2). The MARD sites will be the first to restructure. The MARD will continue until most of the more critical elements of AWIPS have been deployed and the system can be commissioned (probably Build 4). In addition, a special

emphasis of the MARD evaluation will be focused on other aspects of restructured operations, such as, coordination, workload, training, and backup operations. The aspects of service evaluation associated with acceptance by external users, will play a more prominent role with the initiation of restructured operations.

The following should occur to test the new operating configuration: involve sufficient WFOs and RFCs to test new hydrometeorological support and forecasting operations; exercise coordination and support functions in realistic situations; and provide warning and forecast services over a significant and contiguous area. The initial MARD WFOs will be Kansas City (MO), Topeka (KS), Goodland (KS), Dodge City (KS), and Wichita (KS). Others may be added later. NCEP and the RFCs at Kansas City and Tulsa will provide modernized guidance and support for the MARD WFOs.

The Proposed demonstration area and the overall design of MARD respond to Section 703 (a) (4) of Public Law 102-567.

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 mesoscale forecasting techniques. In addition, NWS will install and integrate the new technology systems with each other and with existing techonolgy at MARD offices.

The MARD concept and its scope has been evolving over the past several years. The main function of the MARD is now perceived to be the validation of Stage 2 planning and procedures, and to demonstrate restructured operations to our user community.

To summarize, 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

National Research Council (NRC)

The NWS Modernization Committee of the NRC has been tasked to review the plans and their implementation for both the APD OT&E and the MARD.

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. 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 field 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 field 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 consultation of the MTC, and approved by the Secretary of Commerce
- 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 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.

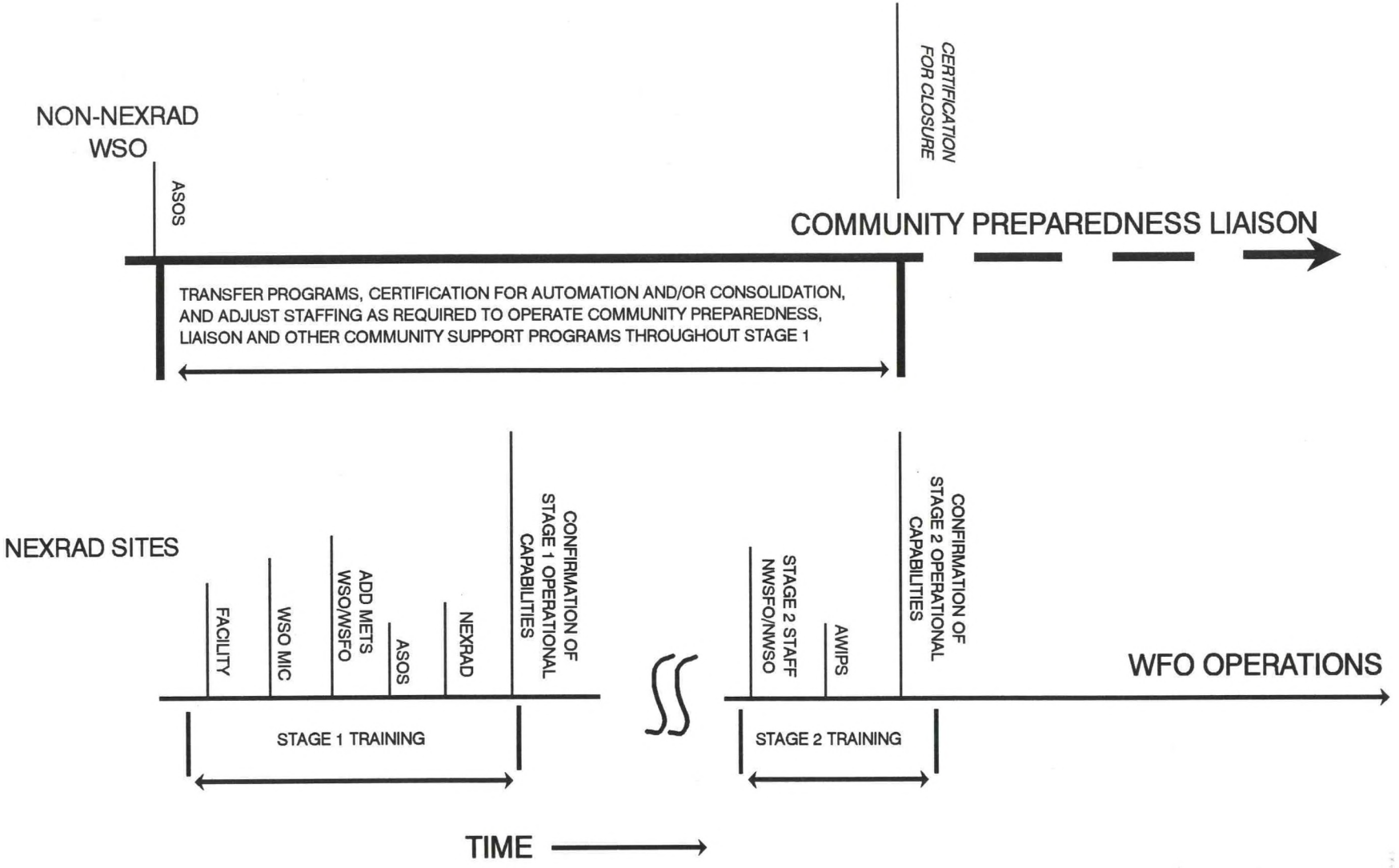
Specific operations changes required to phase out a WSO include commissioning a NEXRAD/ASOS, transferring warning responsibility from the old office to the office with the NEXRAD and decommissioning the old radar. In the sequence for WSFOs, additional specific changes in operations are the initial transfer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



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 DAR^{3}E 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 DAR^{3}E 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. ERL also is researching other profiler-complementary technologies, such as measuring integrated water vapor using the Navstar Global Positioning System.

National Severe Storms Laboratory

The National Severe Storms Laboratory (NSSL) in Norman, OK, conducts a broad program of research to improve understanding, prediction, detection and forecasting of severe weather phenomena. The laboratory conducts research, develops potential applications, prototype decision aids and support systems, enhances observational systems (particular Doppler radar), and

interacts directly with NWS components to test and transfer results in support of the Modernization. Research is focused on 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:

- Develops prototype Severe Weather Warning Decision Support Systems and tests them in NWS offices
- Works directly with the Storm Prediction Center (SPC) to enhance their capability to predict severe weather and provide new guidance products
- Processes radar signals and develops advanced hardware/analysis techniques, including methods to enhance precipitation estimation through polarization diversity
- Examines integrated data streams (Doppler radar, satellite, lighting, numerical model output, etc.) to determine the utility of the integrated data set to help predict and detect severe weather
- Develops radar and satellite applications, assesses and improves algorithms used with the NWS NEXRAD Doppler radars
- Examines the prediction of weather systems using numerical models
- Develops a modern open systems computing platform for the NEXRAD system to support new product development.

NSSL works directly with NWS field offices, the four continental Regional Headquarters, and the NCEP to improve weather services and contribute to training programs. Much of the joint work is done within the framework of experimental forecasts at the NWS field offices and with the SPC in Norman. Close working relationships with NCEP has resulted in several changes to the operational models and participation in the evaluation of similar mesoscale models to determine the models' abilities to produce a significant improvement in simulating convective events. In addition, a collaborative pilot study will investigate the use of ensemble techniques in short-range (0-48 hour) numerical weather prediction. NSSL User Groups comprised of NWS field and center meteorologists continue to provide extremely important guidance for NSSL research aimed at important NWS operational problems.

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) rely on the NOAA WP-3D research aircraft as the major source of data in field programs that support the operational mission of NHC. Research teams analyze aircraft and radar 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 developed complex models using high-resolution movable grids. HRD also conducted experiments using Omega dropwindsondes (ODWs), expendable instruments that profile temperature, humidity, and wind in the storm environment as they fall to the surface of the ocean after they are dropped. ODW data have significantly improved track predictions in a variety of numerical models. In addition, AOML continues to support hurricane forecasting services through studies of precipitation in mature hurricanes, hurricane air-sea interaction and mesoscale structure of hurricanes at landfall.

Environmental Technology Laboratory

The mission of the Environmental Technology Laboratory (ETL), is to improve the Nation's geophysical research and services by developing, demonstrating, and transferring to operations cost-effective remote measurement systems. An important aspect of this work is the application of remote sensors to atmospheric and oceanic research, and improved forecast and warning services. ETL's remote-sensing program addresses all scales relevant to 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 another technology area, ETL has developed over-the-horizon radar applications for mapping ocean surface conditions and tracking hurricanes.

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 was operational at the NCEP during the 1995 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 Laboratory (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 hydrologic analysis and data collection technologies. HRL is placing significantly more emphasis on hydro-meteorological applications to capitalize on interrelationships between operational 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 work with the NWS modernization technologies in its efforts to develop initial capabilities for hydrometeorological operations at WFOs and RFCs. 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 events effecting smaller areas such as flash-flood prone watersheds and urban areas.

National Centers for Environmental Prediction

The Environmental Modeling Center (EMC) 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 NCEP forecasting. The EMC supports and refines the models in use by National Centers, 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 EMC 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 Laboratory (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

COMET projects have been a significant activity in the Alaska Region since their inception in 1991. In 1995, 3 Cooperative and 5 Partners projects are active. New proposals for projects beginning in 1996 include 2 Cooperative and 3 Partners projects.

The COMET projects involve 7 universities across the country with the 3 Forecast Offices and 1 of the Weather Service Offices. The Air Force's Elmendorf Air Force Base Weather Support Unit is also a collaborator in a Cooperative project with Michigan Technical University and the Anchorage Forecast Office.

The scientific and technological perspective of the many, varied projects which impact the public, marine, aviation, fire weather services include:

- Digital polar orbiter (NOAA and Defense Meteorological Satellite Program) and geostationary satellite imagery: visible, infrared, microwave, Television and InfraRed Observation Satellite (TIROS) operational vertical sounding, synthetic aperture radar, Special Sensor Microwave/Imager (SSM/I), and Special Sensor Microwave/Temperature (SSM/T)
- WSR-88D Doppler radar products
- Regional high resolution numerical weather prediction modeling over Alaska
- High resolution dispersion modeling for forecasting the track of volcanic ash
- Artificial intelligence applications such as neural networks and expert systems
- Lightning detection network data
- Storm surge modeling and forecasting

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, Research and Application's Regional and Mesoscale Meteorology (RAMM) Advanced Meteorological Satellite Demonstration and Interpretation System (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 NCEP 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, GOES, and Polar satellites.

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 3 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.

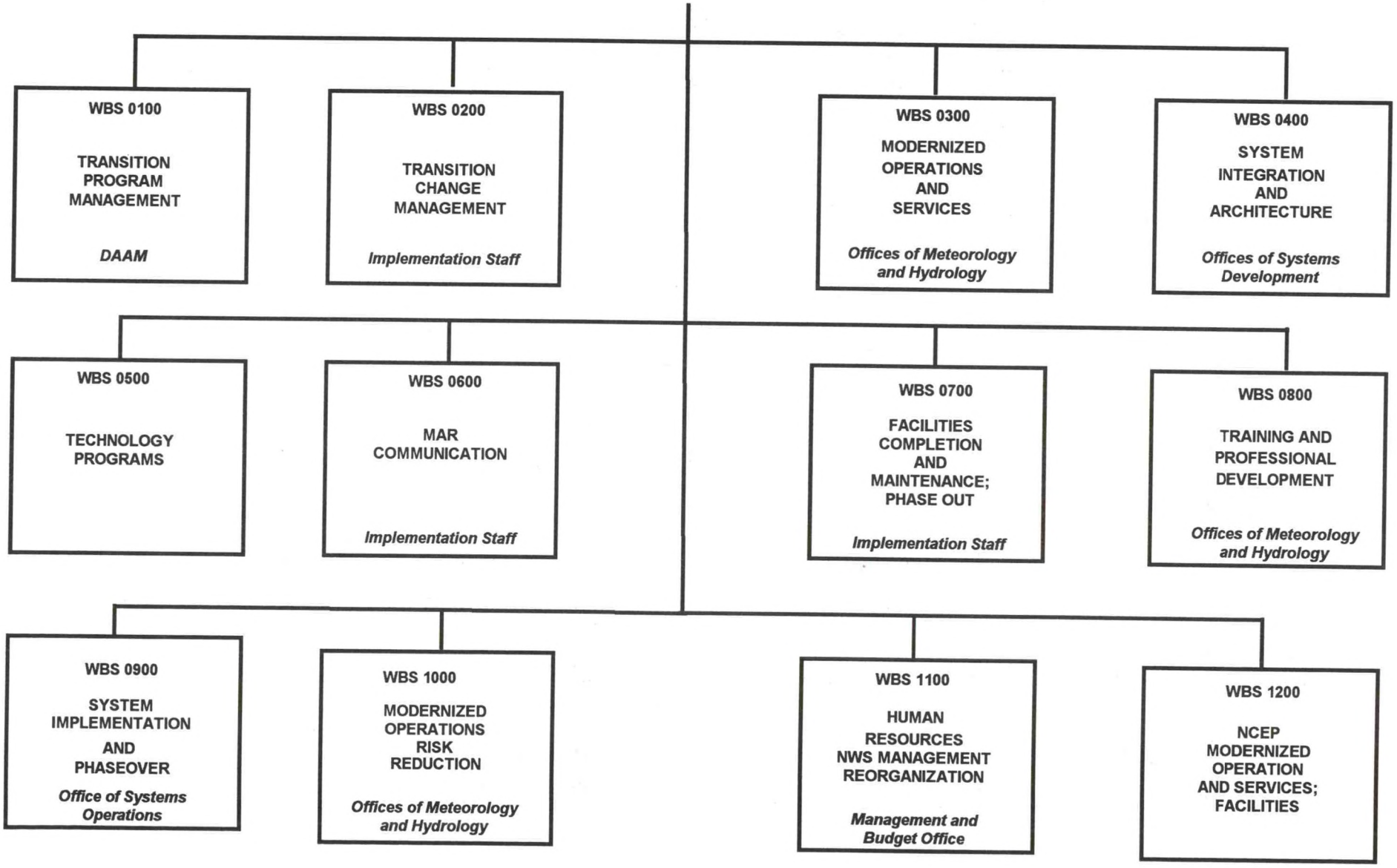
5.6 Transition Management Meetings

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 3

TRANSITION WORK BREAKDOWN SCHEDULE



6.0 Transition Program Status and Outlook

This section reviews fiscal year 1995 progress and plans for fiscal years 1996-1998. Table 5 at the end of this section provides detailed budgets for fiscal years 1996 and 1997. It also shows budgetary planning ceilings for fiscal year 1998 for each of the major program components. Table 5 is not intended to portray the total cost of the transition program. Figures 4-13 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 fiscal year 1995, NWS developed and integrated programs to ensure the transition is well coordinated internally and externally. In addition, NWS continued to deploy ASOS and NEXRAD systems; the first installed systems are now in use.

Funding

Congress has funded the modernization primarily through cumulative appropriations for technology. Through fiscal year 1995, Congress has appropriated $712.0 million for NEXRAD, $123.0 million for ASOS, and $199.8 million for AWIPS/NOAAPORT. The NWS transition program budget funds all other elements of modernization and associated restructuring; through fiscal year 1995, Congress has appropriated $235.1 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) during fiscal year 1995 to support the NWS MAR Commissioning, Decommissioning and Certification Managers and to improve communications between these managers and their regional counterparts.

In June 1995, the NRC released *Toward a New National Weather Service—Assessment of NEXRAD Coverage and Associated Weather Services*. This report responds to a request from the Secretary of Commerce who, in a letter dated August 18, 1994, asked the National Research Council's (NRC's) National Weather Service Modernization Committee (NWSMC) to conduct a study on the adequacy of coverage of the Next Generation Weather Radar (NEXRAD) with respect to a congressional requirement that the system result in "no degradation of service." This request was further amended by an October 5, 1994 agreement between the National Oceanic and Atmospheric Administration (NOAA) and Congressman Bud Cramer of Alabama. Accordingly, the NRC established a panel of experts to (1) review the new radar's technical specifications and network spatial coverage, (2) evaluate and compare the detection capabilities and coverage of the pre-NEXRAD and NEXRAD radars, (3) assess the performance of both networks from the standpoint of significant weather events, and (4) establish general criteria for evaluating the adequacy of coverage of the NEXRAD network and identifying areas where service might be degraded when the old radars are decommissioned. A site-by-site evaluation using these criteria was excluded from the panel's task, but the data and procedures to conduct such evaluations are included in this report.

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, three meetings in fiscal year 1995, and five meetings are anticipated in fiscal year 1996.

On December 14-15, 1994 the Committee consulted on the fiscal year 1996 NIP. The Committee received presentations on: the background and events leading to the National Research Council's study on the adequacy of NEXRAD coverage (i.e. Cramer Agreement); the National Research Council's task and process to review public comments concerning the adequacy of NEXRAD coverage; the Surface Observation Modernization and ASOS Status Update; the AWIPS Status and Program Summary; the NWS Transition Program Update; and the certification Outlook. At the June 14, 1995 meeting, the first two Consolidation Certifications (WSO Galveston, TX and Residual WSO Los Angeles, CA) were proposed. The committee accepted the proposed consolidations for release in the Federal Register for a 60-day public comment period. The Committee also received presentations on ASOS Service Standards from the FAA; a review of the certification process; an overview of the Cramer Agreement; and the Conclusion of the NRC Study on the adequacy of radar coverage. The September 13-14, 1995 meeting included a Fire Weather tour and presentation from the National Fire Weather Advisory Group; status briefing on DOCs review of the NRC Study; and a NWS Modernization update. The Committee consulted on the WSO Galveston and Residual WSO Los Angeles consolidations and determined the consolidations will not result in Degradation of Services. Additionally, the

Committee reviewed the proposed Consolidation Certifications for Residual WSOs Phoenix, New Orleans, Oklahoma City, and Tulsa and accepted them for release in the federal register for a 60-day public comment period. The Secretary of Commerce signed the first two consolidation certifications on October 23, 1995.

On October 30, 1995 the MTC met to consult on the *Secretary's Report to Congress on Adequacy of NEXRAD Coverage and Degradation of Weather Service Modernization for 32 Areas of Concern.* The MTC was complimentary of the work that was done by the Secretary's Team. On December 14, 1995, the MTC consulted on four final Consolidations and the Fiscal Year 1997 NIP. Additionally, the MTC reviewed 13 proposed consolidations, received briefings on staffing and workload, and a Modernization Update. The MTC streamlined the certification process by "eliminating proposed certification consultations of noncontroversial" certifications. The next MTC meeting was held on April 24-25, 1996 in Taunton, Massachusetts. Consultation was completed on 42 Consolidation Certifications, all 42 were accepted and submitted for the Secretary's signature. The MTC received briefings on the Aviation Service Standards, Automation Criteria Update, Modernization update and toured the Boston WFO and Northeast RFC where they saw demonstrations of the Pathfinder system.

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 1995, NWS approved the following plans/packages:

- Support Function Demonstration Plan for ASOS
- Support Function Demonstration Plan for NEXRAD
- Transition System Development and Integration Plan

National Center for Environmental Prediction

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

In March 1994, the National Centers completed Phase 1 of the electrical upgrade for the NOAA Central Computer Facility (NCCF). Phase 1 consisted of a rotary power filter for the disk subsystems of the Hitachi Data Systems (HDS) mainframe computers.

The NCEP has two tape silo storage systems at the NCCF. Both were upgraded in fiscal year 1994, doubling the allowable density for data storage. These systems now have a total capacity of four terabytes.

In fiscal year 1995 the Cray Research systems at the NCCF were upgraded significantly. The Y-MP8 and Y-EL systems were replaced with two J-916 computers. The memory of the C-90 was also increased to 256 megawords of 64-bit memory, the same capacity as that of the two J

systems. The disk subsystems supporting the three computers were also increased, providing a total of 768 gigabytes of on-line storage.

The acquisition of the two J systems facilitates the migration from the HDS mainframe to an all UNIX environment. One HDS mainframe was removed at the end of 1995 and the last mainframe will be taken out of operations in the first or second quarter of fiscal year 1997.

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.

System Development and Integration

In fiscal year 1995 the NWS commissioned WSR-88D units at 66 sites bringing the total number of commissioned sites to 78. Retrofit of VME/MicroFive equipment was completed in fiscal year 1995. Hardware and software architecture design efforts began the evolution of the current NEXRAD computer platforms to Open Systems hardware and software.

In fiscal year 1995 ASOS units were commissioned at 50 NWS locations, bringing the total number of commissioned sites to 90.

During fiscal year 1995 the AWIPS Program completed a restructuring process to provide a sharper focus on the following objectives and goals: 1) to ensure development of a system that supports life-cycle AWIPS requirements; 2) to establish a system development process that facilitates rapid, incremental development, test, and deployment; 3) to redefine the initial deployment baseline and planned product improvements as necessary to maximize AWIPS support of the NWS Modernization; and 4) to minimize and make appropriate contract modifications with clear delineation of responsibilities as quickly as possible.

In fiscal year 1995, the AWIPS program began activities to validate key engineering decisions through early deployment of an AWIPS "Pathfinder" system. This system includes the AWIPS Network Control Facility (NCF) in Silver Spring (the hub of the AWIPS Communications Network), the National Headquarters Modernization Test and Integration System in Silver Spring, and units at the Pittsburgh and Boston forecast offices and the Northeast RFC. At these sites Pathfinder will demonstrate the following:

- Selected system architecture features (such as Satellite Broadcast Network, Network Control Facility Functions, and Local Communications Processing)
- Functional capabilities of Modernization-era data sets in operational settings
- System operations and maintenance
- Feasibility of AWIPS operation and maintenance plans.

In fiscal year 1995, NWS continued to use, for forecasts and warning operations, the lighting data covering the CONUS which is acquired under contract to Atmospheric Research Systems, Inc. (ARSI). The National Severe Storms Forecast Center (NSSFC) used the lightning data to support their operations, to prepare AFOS lighting graphics for field office use, and to incorporate the data into the Man-computer Interactive Data and Analysis System (McIDAS) data stream for use at the National Centers. During fiscal year 1995, NWS joined with ARSI to establish a long range sub-network to detect and report lightning over the Eastern Pacific Maritime areas out more than 2000 km. NWS established a data link to transfer the lightning data directly from ARSI to the NWSTG. This data will be used for AWIPS risk reduction efforts and maritime data evaluations. Preparations have been completed for the Request for Proposals (RFP) for a follow-on contract to provide lightning data to Government users beginning in fiscal year 1997.

In fiscal year 1995, NWS continued to use the hourly wind profile data from the NOAA Profiler Network (NPN) both at field offices and in the preparation of numerical forecasts. The NPN has evolved to include testbed activities for the evaluation of mature atmospheric observing techonolgy which complement the profiler. Frequency coordination with the National Telecommunications and Information Administration (NTIA) and United States Coast Guard (USCG) to protect Space System for Search of Vessels in Distress/Search and Rescue Satellite Aided Tracking (COSPAS/SARSAT) operations has enabled the continued operation of NPN. Coordination, tests, and studies relating to DOD radars have resulted in establishing a physical coordination zone for future deployment of operational profilers. Planning for a National Network of operational profilers has been incorporated into the more general NOAA planning for the evolution of a North American Atmospheric Observing System (NAOS). The creation of a NAOS effort was approved by the NOAA Deputy Under Secretary, a draft NAOS Program Plan completed, and the creation of a NAOS oversight group established. The NWS and ERL have joined forces with the USAF to develop, acquire, and integrate components to convert the NPN profilers which presently operate at a frequency of 404 Megahertz (MHz) to the new operational frequency of 449 MHz. A total of three profilers will be installed in Alaska in response to the Congressional Mt. Redoubt directive.

Internal and External Coordination

The NWS continued its rigorous internal and external communication and coordination activities during fiscal year 1995. The pace of deployment of Doppler weather surveillance radars and automated surface observing systems required intensive internal and external awareness and technical coordination efforts. In addition, the election of a record number of new Members of Congress offered NWS an opportunity to educate Members about new weather service technology and facilities in their states and districts. Specifically, the agency:

- Coordinated and conducted MAR briefings for Members of Congress, Congressional committees, and state delegations

- Published and distributed three issues of the Critical Path, an employees' technical report on the progress of the MAR

- Planned, prepared, and sent out 236 outreach packets of MAR materials and maps to all MICs and WCMs at future WFOs

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

- Planned and organized the dedication of the National Hurricane Center in Miami, Florida, as well as office dedications, technology commissionings, and other events

- Coordinated and conducted the third Field Managers Meeting in Baltimore, Maryland which brought together over 450 regional, field and headquarters staff

- Continued an aggressive outreach program to communities, emergency managers, user groups, and local state governments through support to WCMs

- Conducted MAR briefings to major aviation industry groups and associations

- Supported MAR awareness at professional meetings and trade shows including AOPA, Heli-Expo, and AMS

- Managed the production and distribution of national, state, and district specific maps for WSH, regions, and the field to support MAR outreach efforts

- Updated MAR publications including *How the Weather Service Gets the Word Out, Frequently Asked Questions and Answers on the NWS Modernization*, and the narrative format of the NIST Benefit/Cost Analysis

- Managed MAR exhibits for use by regional and field staff during community meetings, trade shows, and outreach events.

Facilities Preparation

The results of the NWS construction efforts are evident as 106 facilities were completed and 101 facilities occupied at the close of fiscal year 1995. Some important highlights include the following:

- The first Pacific and Alaska Region modernized facilities were completed.

- All the River Forecast Centers (RFCs) were completed. (Each RFC is collocated with a Weather Forecast Office.)

- Miami, Minneapolis, and Anchorage, the three largest facilities, were completed.

- Four University and Weather Forecast Office Collocations were completed; only four of 13 collocations remain; Tucson, Albany, Tallahassee, and Fairbanks.

Training and Professional Development

COMET held two 8-week COMET Mesoscale Analysis and Prediction Courses (COMAP) which educated 36 SOOs at its facility in Boulder on the latest understandings in mesoscale meteorology using new NWS technologies and three 3-week hydrometeorology (HYDROMET) courses which educated 54 hydrologists (service hydrologists, HAS forecasters, hydrologic forecasters) on new forecasting techniques and tools available at modernized RFCs. COMET also educated 31 NWS managers in two 1-week Managers' courses and 13 NWS regional and national center meteorologists in a three-week Mesoscale course.

Due to the conversion from analog videodisc technology to full motion digital video on CD-ROM during fiscal year 1995, COMET only produced one Computer-Based Learning (CBL) Module entitled Extratropical Cyclones II: Intensification. COMET also funded 13 Cooperative projects and 14 Partners projects for applied research and training between NWS offices and universities. Seven COMET fellowships and one post-doc were awarded in fiscal year 1995.

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 20 classes in fiscal year 1995, training 458 NWS students. The OSF also taught four Unit Control Position (UCP) radar classes for 93 students. Since a majority of the NWS offices have now completed their training requirements, the number and size of classes at the OSF has begun to decrease. The OSF also hosted four Advanced Training Workshops for over 100 participants to focus on the new scientific understandings of mesoscale thunderstorm structure learned by using the WSR-88Ds.

The NWSTC continued its new courses for the modernization, while continuing to phase out old courses. The Modernization courses included MAR Management course, SOO and DOH Instructional Techniques, Basic Operational Hydrology, WSR-88D Maintenance and the Hydrometeorological Technician course. New courses initiated in fiscal year 1995 are summarized below:

- **Team Leadership Course:** Provides SOOs, DOHs, WCMs, ESAs, and DAPMs with the knowledge and skill needed to be functional members of an NWS management team - or to be effective leaders of the team - in assigned projects and programs.

- **UNIX System Administration:** Provides to SAC/Workstation focal points the information and training needed to become skillful UNIX System Administrators.

- **UNIX Operating System Training:** Provides a 5-day introduction to the UNIX operating system, building upon the UNIX computer-based learning module available to the field offices.

The OM continued to manage the national SOO program in fiscal year 1995. Major activities included a national SOO/DOH Conference at the AMS Annual Meeting in Dallas, Texas, procurement of SAC 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

In FY 1995, the NWS installed 81 additional ASOS sites for a total of 233, accepted 74 for a total of 214, and commissioned 50 for a total of 90. By the end of fiscal year 1995, the ASOS Operations and Monitoring Center was monitoring slightly over 200 ASOS locations. A total of 603 ASOS sites have been accepted of which 214 are NWS sites. NWS currently supports telecommunications for 603 ASOS sites. The decommissioning of manual surface observing equipment began in the middle of fiscal year 1995.

The NWS installed 29 NEXRAD systems for a total of 101, accepted 32 for a total of 95, and commissioned 66 for a total of 78. During this fiscal year the WSR-88D Operational Support Facility built and delivered its first complete software upgrade to operational WSR-88D sites. The NWS decommissioned an additional 19 conventional radars by the end of fiscal year 1995 bringing the total of decommissioned conventional radars to 24.

The NIDS program that provides NEXRAD data to external NWS users is continuing to expand. NIDS service is available from all commissioned and most accepted NWS and U.S. Air Force WSR-88Ds in the United States. The NIDS special-subscriber program was implemented in fiscal year 1995 and 42 state government agencies were selected as special subscribers.

Telecommunications were provided for 74 additional NEXRAD sites (55 sites were transitioned from commercial circuits to the Sprint contract) during fiscal year 1995, including 2 more sites in Alaska and 2 more sites in Hawaii. A total of 120 sites are currently supported. A total of 13 additional T1 circuits were installed for NEXRAD communications between RDAs and RPGs for fiscal year 1995. A total of 39 T1 circuits are now supported. The phase II (installation) portion of the Sprint contract is underway for NEXRAD narrowband communications throughout the CONUS.

A major AWIPS milestone was reached in May 1995 when the AWIPS GOES 8 satellite imagery data stream and the NWS Telecommunication Gateway (NWSTG) data stream (including NCEP model outputs, observations, forecasts and warnings) were provided to the AWIPS Network Control Facility for real-time broadcast over satellite to the AWIPS Pathfinder sites at future WFOs Pittsburgh and Boston. The AWIPS Pathfinder systems were installed at the future WFOs in Pittsburgh, Pennsylvania, and Boston, Massachusetts, in July and August 1995, respectively.

The Information Stream Project for AWIPS/NOAAPORT (ISPAN) data stream was upgraded to replace the GOES 7 satellite imagery with the GOES 8 imagery (operational in December 1994) from NESDIS. In addition the new RUC model output data from the NCEP has been acquired for the NWSTG ISPAN interface.

The NWS completed its evaluation of an experimental prototype radiosonde upper air system developed by the National Center for Atmospheric Research in December 1994. Work has been underway to develop the requirements and specifications associated with the operation system. This included a briefing to industry in May 1995, and an associated Request for Information. A redesign of the balloon inflation and launch shelter was also completed in August 1995.

The NOAA Weather Radio (NWR) Console Replacement System (CRS) Phase I development contract was awarded to Communications and Power Engineering, Inc. in December 1994.

NWS completed and approved the Support Function Demonstration (SFD) plans for both the ASOS and NEXRAD systems. With these SFD plans now in place periodic support function assessments for these systems will be conducted.

NWS Risk Reduction Activities

NWS is conducting the following major transition risk reduction projects:

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 forecasters. To ensure a high quality Fire Weather (FW) service, NWS must evaluate and integrate into operations the high-resolution data resulting from new technology. The core forecaster must be prepared to assume the key role of providing routine FW forecasts in the future. To this end, a National FW Risk Reduction Project is under way at NWSFO Boise, ID.

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

- Develop procedures, techniques, and new products to take advantage of MAR technology and related scientific advances to satisfy NWS FW customer requirements and enhance services to fulfill the NWS mission to protect life and property.

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

- Involve FW customers in assessing 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 FW products.

During fiscal year 1995, the project focused on putting together the infrastructure and training to support the core forecasters in the generation of existing fire weather products. Initial test forecasts were produced in an operational setting during July through mid-September. An Interagency User Assessment Team designed procedures to evaluate these forecasts. Time lines have been developed to incorporate advanced forecast preparation systems, streamline procedures, refine basic forecasts, and generate new FW products during fiscal years 1996 and 1997.

Human Resources

During fiscal year 1995, an additional 40 sites were staffed for Stage 1 operations for a total of 98. Two offices were staffed for Stage 2 operations. During the fiscal year, a substantial number of meteorologists interns were reassigned from spin-down offices into positions at spin-up sites. The remaining Hydrometeorological Technician (HMT) positions were also staffed during fiscal year 1995, primarily from within the ranks of the existing NWS career meteorological technician (met tech) work force. A total of 5 HMT Job Registers were used as the vehicle for the placement of career met techs, and Weather Coordination Officers (WCO) were designated at numerous NWS sites for in advance of the liaison officer requirements of P.L. 102-567 in order to offer stability to the career met tech work force. These efforts marked the last organized means of placing NWS career met techs.

6.2 Outlook for Fiscal Year 1996

NWS expects to complete the following actions in fiscal year 1996:

- Commission an additional 120 NWS ASOS systems for a total of 210
- Commission an additional 33 NWS NEXRAD systems for a total 111
- Deploy 17 AWIPS development phase systems and conduct OT&E
- Continue systems training and scientific education
- Continue Stage 1 staffing actions
- Complete Stage 2 staffing actions at an additional 4 offices for a total of 6
- Decommission an additional 78 conventional radars for a total of 102
- Complete 66 Consolidation Certifications
- Develop an implementation/transaction 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.

- The AWIPS/NOAAPORT satellite broadcast data stream will be expanded to include the newly launched GOES 9 satellite imagery from NESDIS and the higher resolution MesoETA model output from NCEP acquired from the NWSTG interface.

Funding Requirements for Fiscal Year 1996

NWS and/or SAO need sufficient fiscal year 1996 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

- Fund facilities and interim operations at SPC and AWC

- Continue funding the Class VII Supercomputer

- Continue the AWIPS development phase contract. The includes completing development of AWIPS system and hydrometeorological applications software needed for APD, beginning full operations of the Network Control Facility, installing AWIPS at select early deployment sites, and completing OT&E for these sites.

The NWS Transition program will need funds in fiscal year 1996 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 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 Stage 2 planning and implementation of the modernization. Documents prepared during Stage 1 will be updated to reflect Stage 2 requirements.

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 Center for Environmental Prediction

In early fiscal year 1996, 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.

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 AWC and the 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. The Hydrometeorological

Prediction Center and the Marine Prediction Center will be formed at the NOAA Science Center after the formation of the AWC and the SPC.

System Development and Integration

The hardware and software architecture design efforts toward an Open Systems NEXRAD computer subsystem, begun in fiscal year 1995, will continue in fiscal year 1996 under a formal Memorandum of Understanding between the NWS and Environmental Research Laboratories. Under this MOU, the National Severe Storms Laboratory will support the NWS in the design and development of a prototype Open Systems Radar Product Generator (RPG). This prototype development, expected to extend into fiscal year 1997, will form the basis for procurement and installation of Open System RPGs into field operations to provide the processing capability required to add new algorithms, improve data quality, and incorporate other hydrometeorological data with radar data. In related development activities under this MOU, NSSL will also begin design work on an Open Systems Radar Data Acquisition computer subsystem.

Current plans are to install a total of 868 ASOS units in the base program by 1997 at NWS, FAA, and Navy sites in the United States. Puerto Rico, the Virgin Islands, Guam, and six international locations. This installation includes both existing observing locations and expansion locations (primarily FAA) where either limited or no observations were available before. The FAA may add 800 optional expansion locations to this list at a later date.

In fiscal year 1996 the AWIPS program will complete Build 1 software development as part of the AWIPS system development. Implementation of AWIPS Development Phase evaluation sites will also occur in fiscal year 1996. These sites will receive AWIPS with Build 1 software: the Forecast Offices at Topeka, Kansas City, Goodland, Wichita, Dodge City, Tulsa, and Salt Lake City; the Missouri Basin and Colorado Basin RFCs; NCEP's Hydrometeorological Prediction Center; National Headquarter's Development System (NHD); Test and Integration System, Network Control Facility; and the National Weather Service Training Center. An OT&E will be conducted at these sites to support the AWIPS Production Decision for nationwide deployment of AWIPS.

NWS will award a follow on contract in fiscal year 1996 to continue the delivery of lightning data. AWIPS risk reduction activities will be completed to ensure a smooth introduction in fiscal year 1997 of real-time lightning data into offices with AWIPS equipment. The evaluation of the Pacific Maritime data will be completed to provide technical and operational basis for a decision to continue with the acquisition of data over the Pacific and also to support the development of an Atlantic Maritime network.

In fiscal year 1996 the NOAA Profiler Network will continue to provide high frequency wind profile data for research and NWS operations. An expansion of NPN testbed activities will continue with added support and direction from the NAOS program. Hardware acquisition, integration, and testing of the Alaska profilers will take place during fiscal year 1996 along with site selection and preparation. Installation, final testing and consolidation into NPN operations

will be completed during the summer of 1997. COSPAS/SARSAT frequency coordination activities are expected to result in operating agreements which will allow the NPN to continue to operate until the transition to the new operational frequency is completed.

Internal and External Coordination

To promote communication NWS will:

- Develop brochures, maps, fact sheets, and a modernization video to increase external awareness and technical coordination activities
- Develop electronic outreach capabilities such as MAR news on the Internet and teleconferencing
- Publish the *Critical Path* to enhance internal communication
- Conduct congressional briefings for Members of Congress, Congressional committees, and state delegations on the status of the MAR
- Support MAR awareness at professional meetings and trade shows
- Revise the *Internal and External Communication and Coordination Plan for the Modernization and Associated Restructuring of the NWS* to focus on Stage 2 and beyond activities

Facilities Preparation

NWS plans are to complete construction on four sites and occupy nine sites in fiscal year 1996 for a total of 110. Nine sites will be under design or construction.

Training and Professional Development

At COMET, a series of courses will be offered which includes one COMAP course that will educate 18 SOOs, one HYDROMET course which will educate 18 hydrologists, two Managers courses which will educate 36 MICs and two GOES Workshops which will educate 36 SOOs and satellite focal points. In addition, COMET will sponsor a 2-week Mesoscale Meteorology Workshop for university faculty, a World Meteorological Organization International Training Workshop on Short-Term Weather Prediction, and a 3-week Mesoscale Meteorology Workshop for NWS forecasters. COMET will also produce six Computer-Based Learning modules: Fire Weather, Numerical Weather Prediction Supplement, Convection I: Storm Type and Evolution, Satellite Meteorology I: Introduction to GOES-8, Hydrology for the Meteorologist, and Marine

Meteorology III: Special Topics. COMET will also fund 18 Cooperative and 16 Partners projects between universities and NWS offices and several fellowships and post-docs.

The NWSTC will continue a busy courseload in fiscal year 1996 with courses on WSR-88D Maintenance, UNIX System Administration, UNIX Operating System Training, Team Leadership, Basic Operational Hydrology, MAR Management, Forecaster Development Courses and courses for WCMs, ESAs, SOOs, HMTs, SOOs, DOHs, Cooperative Program Managers (CPMs), and Electronic Technicians (ETs). 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 the WSR-88D Operations Training Course will continue with 384 students being trained in 18 classes. The OTB will offer two Unit Control Position radar classes training 48 radar focal points and SOOs. The OTB will also host four Advanced training Workshops for 24 participants.

The AWIPS contractor will be providing system management and user training for the development phase sites.

OM will continue to manage the national SOO program. This program involves sponsoring regional SOO workshops on various topics related to NWS forecasting and training, procuring SACs for forecast offices, and providing funds to support SOO efforts to establish local Internet connections and to promote local office training and education activities. OM also provides a National SAC coordinator who gives SAC programming and software support to the SOOs through the use of Internet home pages and workshops. In fiscal year 1996, OM will establish the Visiting SOO Program. This program's purpose is to enable each SOO to stay on the leading edge of the Science. This is accomplished by allowing the SOO to spend one week every two years working at a NOAA Center of Excellence, Cooperative Institute, or Research Institute.

Implementation and Phaseover

NWS expects to complete the following actions in fiscal year 1996:

- Install 12 additional NWS ASOS systems for a total of 245, accept an additional 31 systems for a total of 245, and commission 120 systems for a total of 210
- Install 19 NEXRAD systems for a total of 120, accept an additional 23 systems for a total of 118, and commission 33 systems for a total of 111
- The WSR-88D Operational Support Facility will deliver its next software build, version 9.0, to the field
- Complete and approve the Surface Disposal Plan
- Complete and approve the updated Systems Implementation and Phase Over Plan (WBS 0900) to map out all activities and milestones that OSO must accomplish in order to aid the NWS in achieving full Stage 2 operations.

- Develop specifications for hardware and begin the acquisition process for an upper air radiosonde replacement system.
- Complete development and operational field testing of the CRS prototype system by September 1996.
- Develop an implementation/transaction 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.
- The AWIPS/NOAAPORT satellite broadcast data stream will be expanded to include the newly launched GOES 9 satellite imagery from NESDIS and the higher resolution MesoETA model output from NCEP acquired from the NWSTG interface.

Human Resources

During fiscal year 1996, Stage 2 staffing efforts will be complete at an additional 4 sites, Dodge City, Goodland, Wichita, and Kansas City, for a total of 6 sites, filling out the remaining staff required to begin Stage 2 operations at those WFOs. Approval will be gained from the U.S. Office of Personnel Management for the new qualification standard for Federal meteorologist positions, and activities will be conducted to implement that standard by the end of the fiscal year, including the cross-over of qualified meteorological technicians prior to implementing the standard. Actions will also begin in fiscal year 1996 to direct the reassignment of several career meteorological technicians who have not attempted to be placed or have not been successful in being placed in HMT or DAPM positions. The Human Resources Position Management Plan for the MAR will also be updated during fiscal year 1996 with a sharper focus on Stage 2 activities.

6.3 Outlook for Fiscal Year 1997

The transition program's major objectives are to:

- Commission an additional 6 NEXRADs for a total of 117
- Commission an additional 98 ASOS systems for a total of 308
- Continue development of AWIPS
- Begin nationwide deployment of AWIPS; deliver 56 systems for a total of 73 systems and accept the first 37 systems
- Complete Stage 1 Staffing at 20 sites for a total of 118
- Complete Stage 2 staffing at an additional 16 sites for a total of 22
- Decommission 24 conventional radars for a total of 126
- Complete 52 additional Consolidation Certifications and 110 Automation Certifications
- Close 133 WSOs and 10 additional WSMOs/WSCMOs
- 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 1997

NWS and/or SAO need fiscal year 1997 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
- Deployment and Operations phase of AWIPS contract
- Continued funding for the Class VII Supercomputer
- Complete facilities and move-in for the AWC
- Contracting for meteorological/computer experts to ensure efficient and effective use of the advanced supercomputer and supporting systems
- Continued construction at nine sites with three completions at the close of the fiscal year. The last design should be completed during this fiscal year.
- Continued funding of possible launch and on-orbit checkout of the next GOES satellite (GOES K)

The NWS Transition program will require funds in fiscal year 1997 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

- Purchase and deploy the NWR CRS

6.4 Outlook for Fiscal Year 1998

In fiscal year 1998, the transition program's major objectives are to:

- Commission 3 NEXRADS for a total of 120
- Continue systems training and scientific education
- Build and occupy 2 WFOs for a total of 115
- Accept an additional 55 AWIPS for a total of 92
- Decommission 3 conventional radars for a total of 129
- Complete 22 Automated Certifications for a total of 132 and 10 Consolidation Certifications for a total of 128
- Close an additional 21 WSOs for a total of 154 sites

Funding Requirements for Fiscal Year 1998

NWS and/or SAO need fiscal year 1998 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
- Continued funding for the Class VII Supercomputer
- Initial funding for the Class VIII Supercomputer
- Continued funding for the deployment phase of AWIPS

The NWS Transition program will require funds in fiscal year 1998 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

- Complete the deployment 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 1996-1998)

Level MODERNIZATION INITIATIVES ($M)	FY96	FY97	Planning FY98
NEXRAD	**53.3**	**53.1**	**48.1**
ASOS	**17.0**	**10.1**	**10.8**
AWIPS/NOAAPORT	****65.0**	**119.8**	**138.0**
SATELLITE UPGRADE (GOES I-M)	**134.6**	**104.9**	**92.3**
CENTRAL COMPUTER FACILITY UPGRADE	**12.0**	**16.0**	**13.9**
NWS TRANSITION (MARDI)	**84.8**	**98.9**	**84.8**
WFO FACILITIES	**16.3**	**8.0**	**11.1**
WFO MAINTENANCE	**3.0**	**2.0**	**3.0**
RESEARCH ($M)			
ERL	**16.3**	**15.7**	**15.5**
NWS (AWIPS)*	**24.7**	**22.0**	**13.0**
NESDIS	**8.0**	**8.0**	**8.0**

*FY96 Research amount under review due to restructuring of AWIPS development contract. Estimate may be revised.
**Assumes concurrence of the FY 1996 NOAA-wide reprogramming.

Figure 4

FACILITIES PREPARATION SCHEDULE

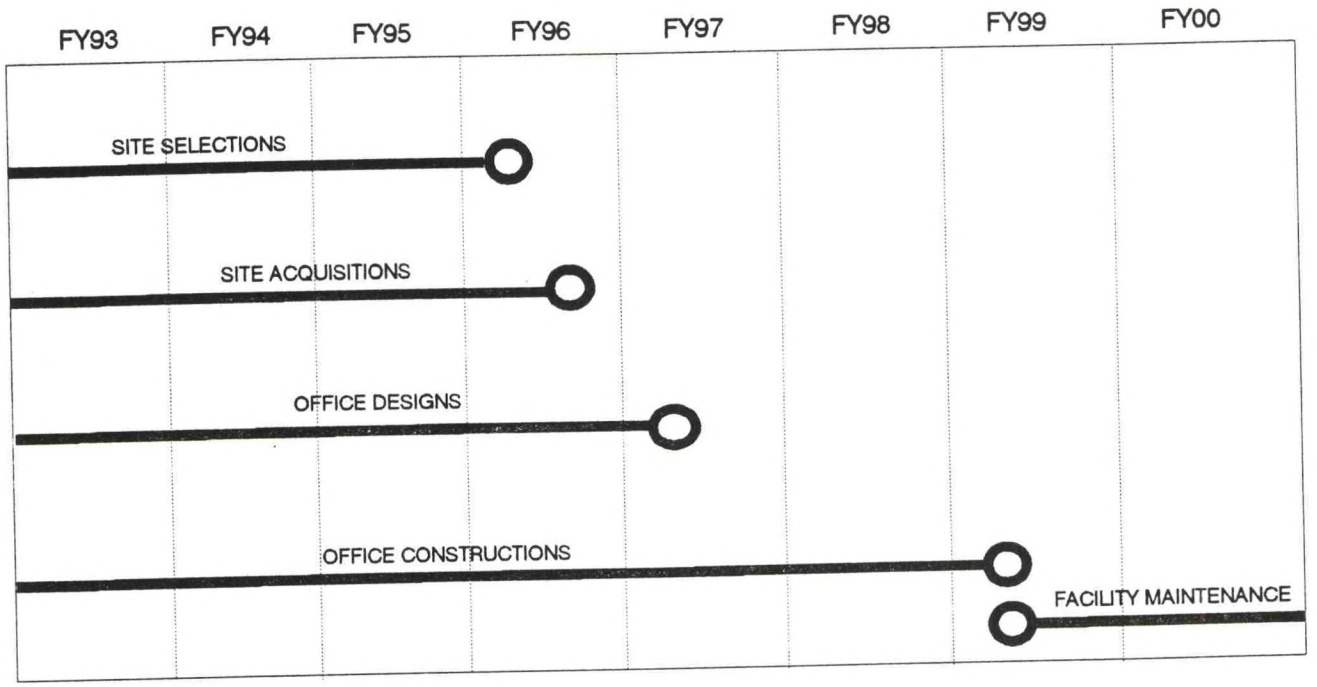


Figure 5

NEXRAD SCHEDULE

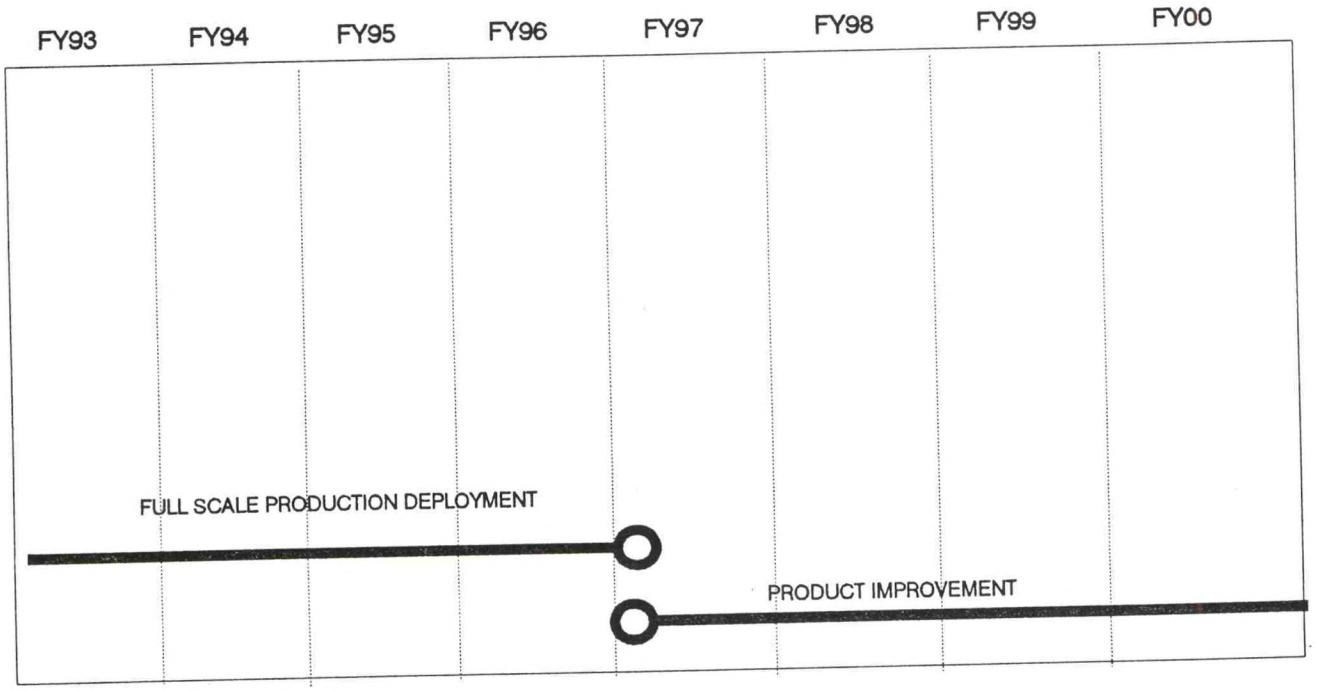


Figure 6
ASOS SCHEDULE

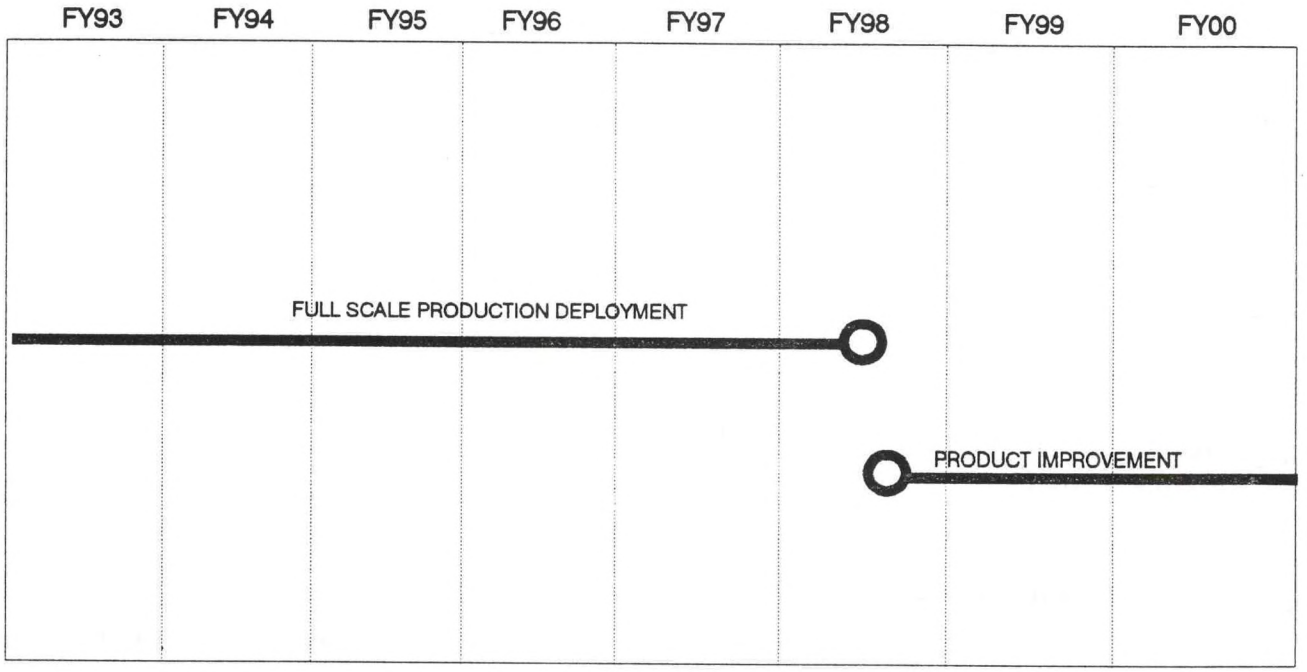


Figure 7
AWIPS/NOAAPORT SCHEDULE

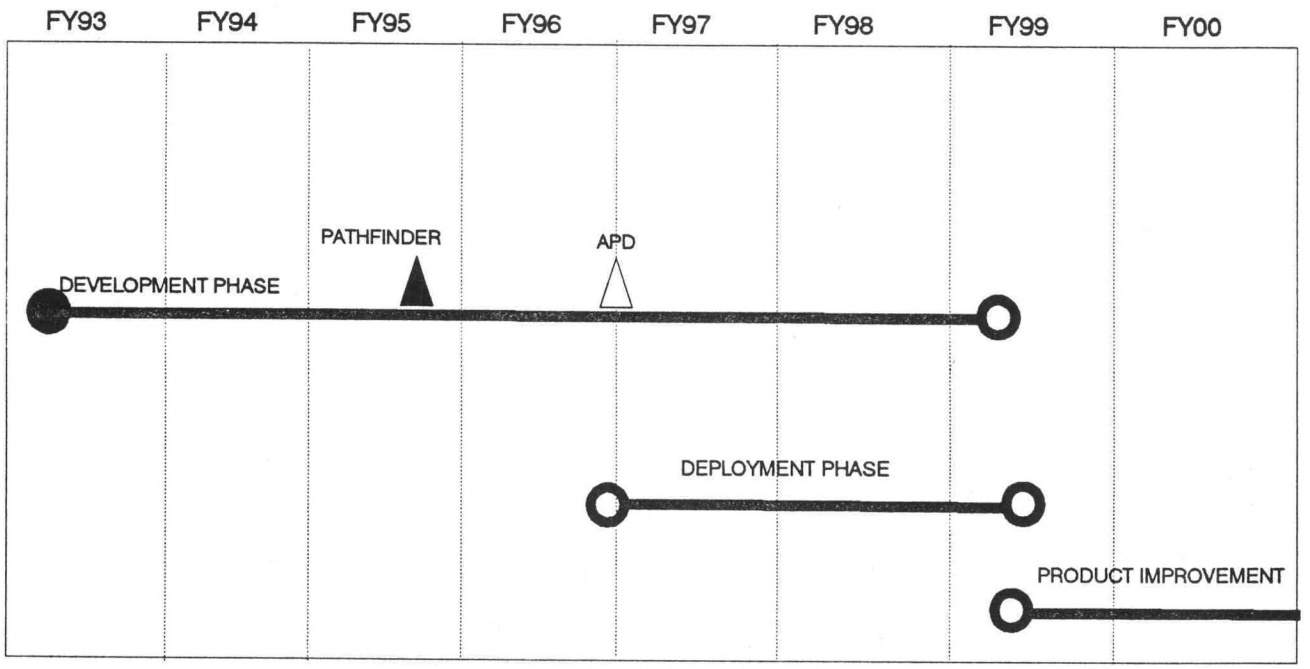


Figure 8
SATELLITE UPGRADE SCHEDULE

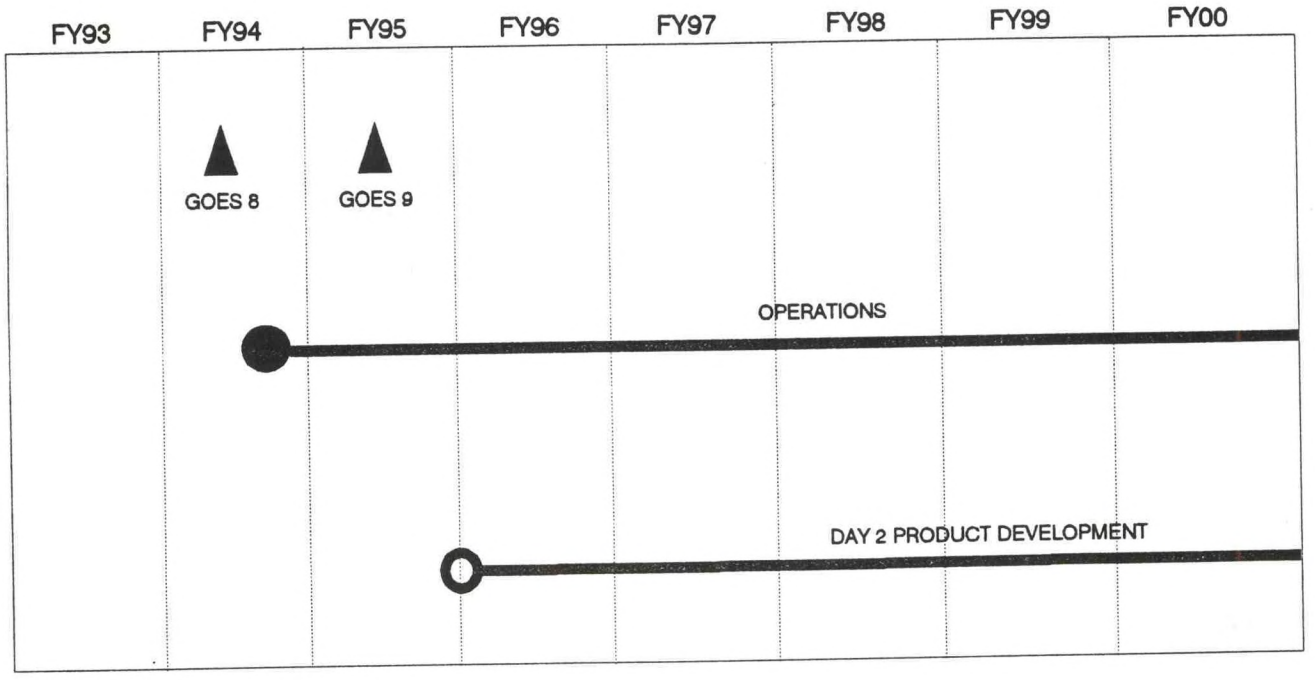


Figure 9
NATIONAL CENTER COMPUTER UPGRADE SCHEDULE

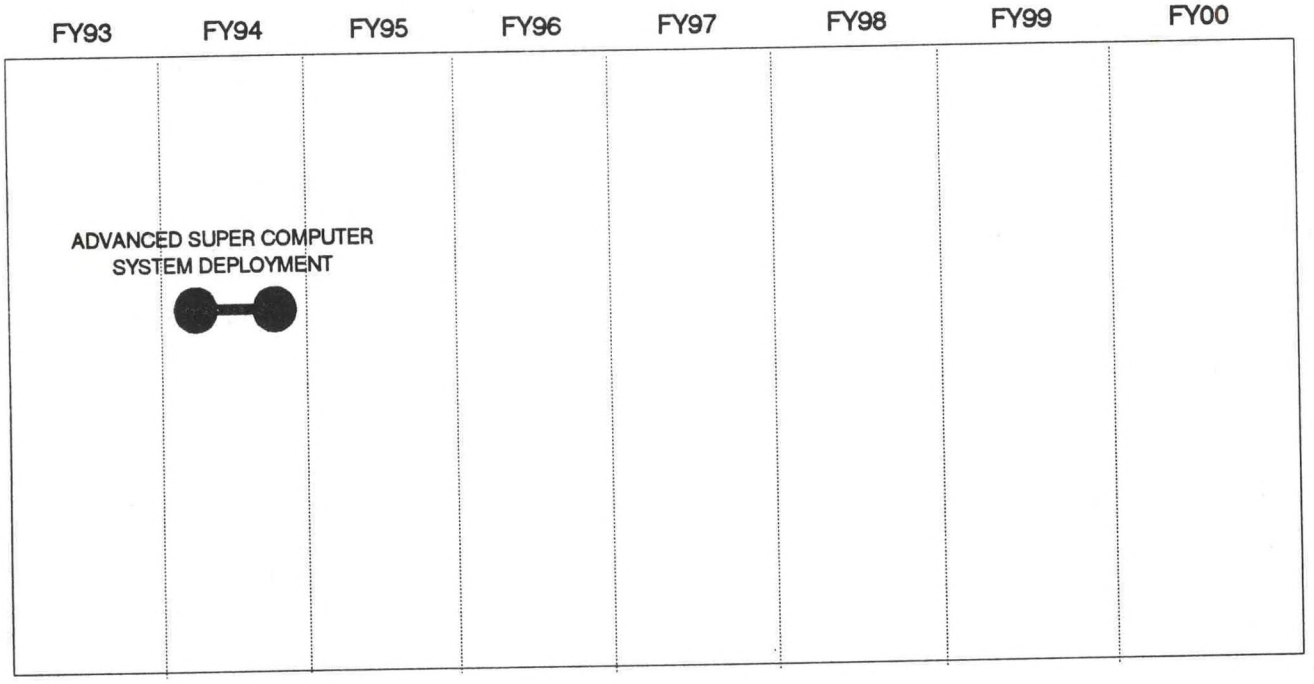


Figure 10
SCIENTIFIC EDUCATION AND PROFESSIONAL DEVELOPMENT SCHEDULE

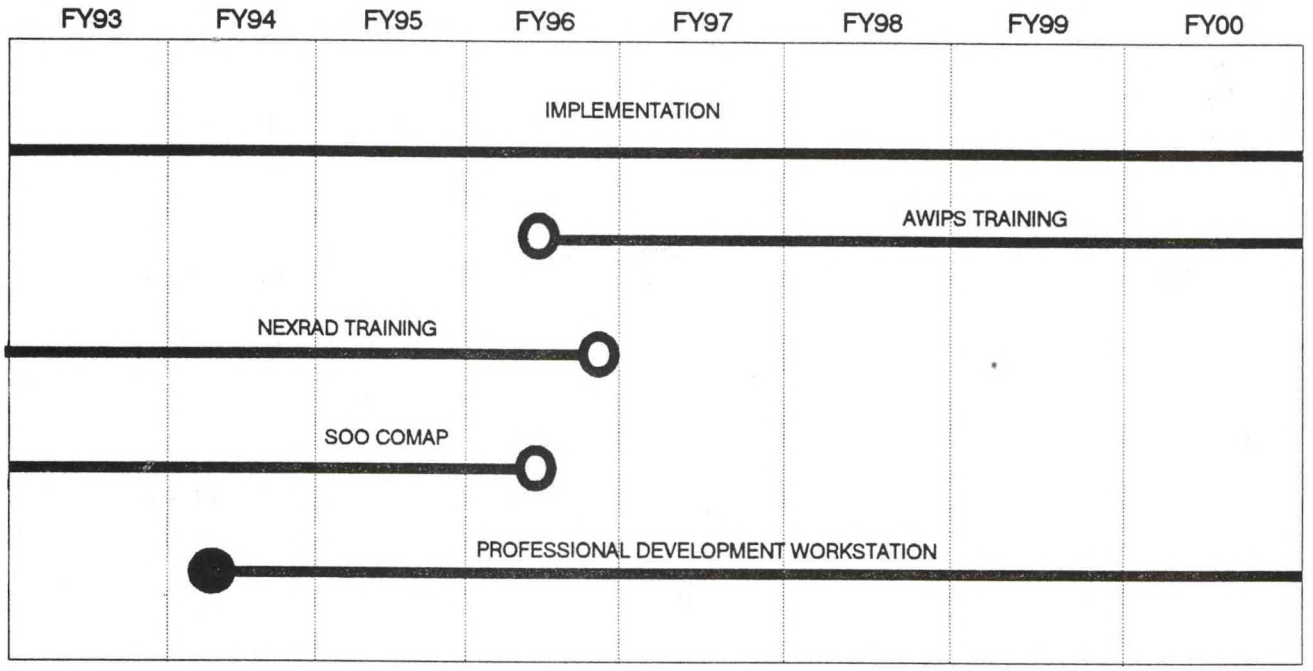


Figure 11
NWS RESEARCH PROGRAM SCHEDULE

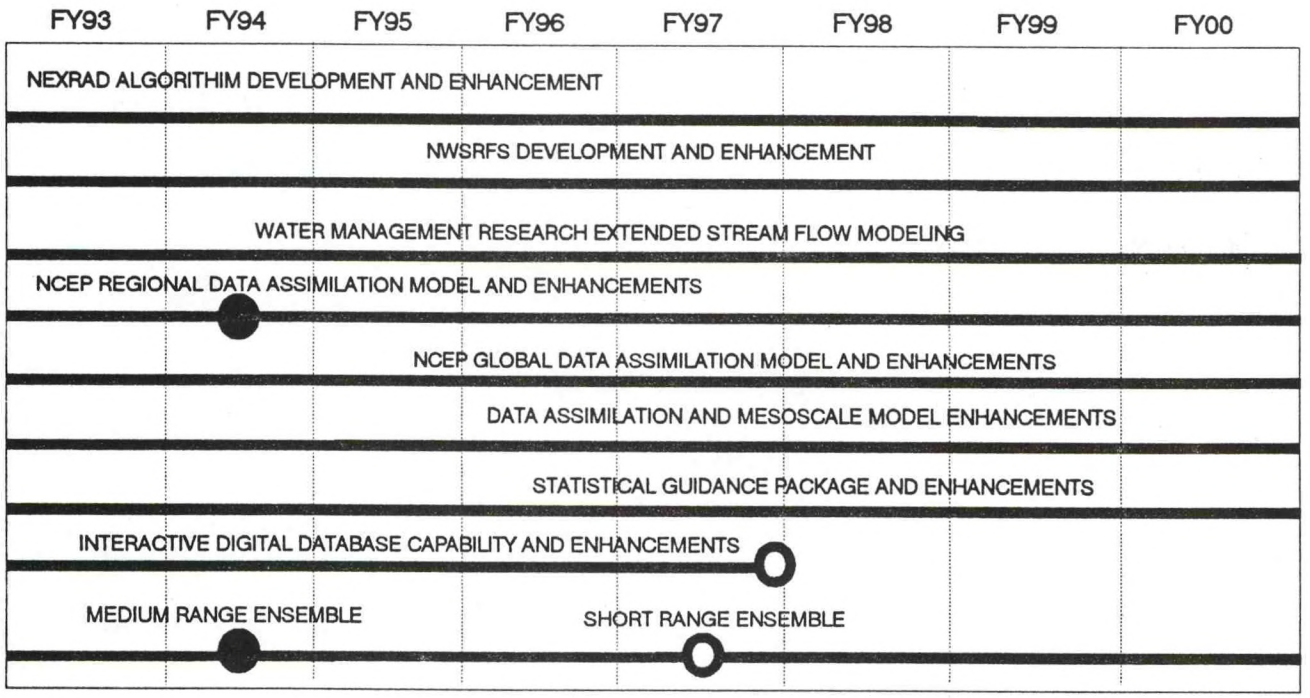


Figure 12
ERL RESEARCH PROGRAM SCHEDULE

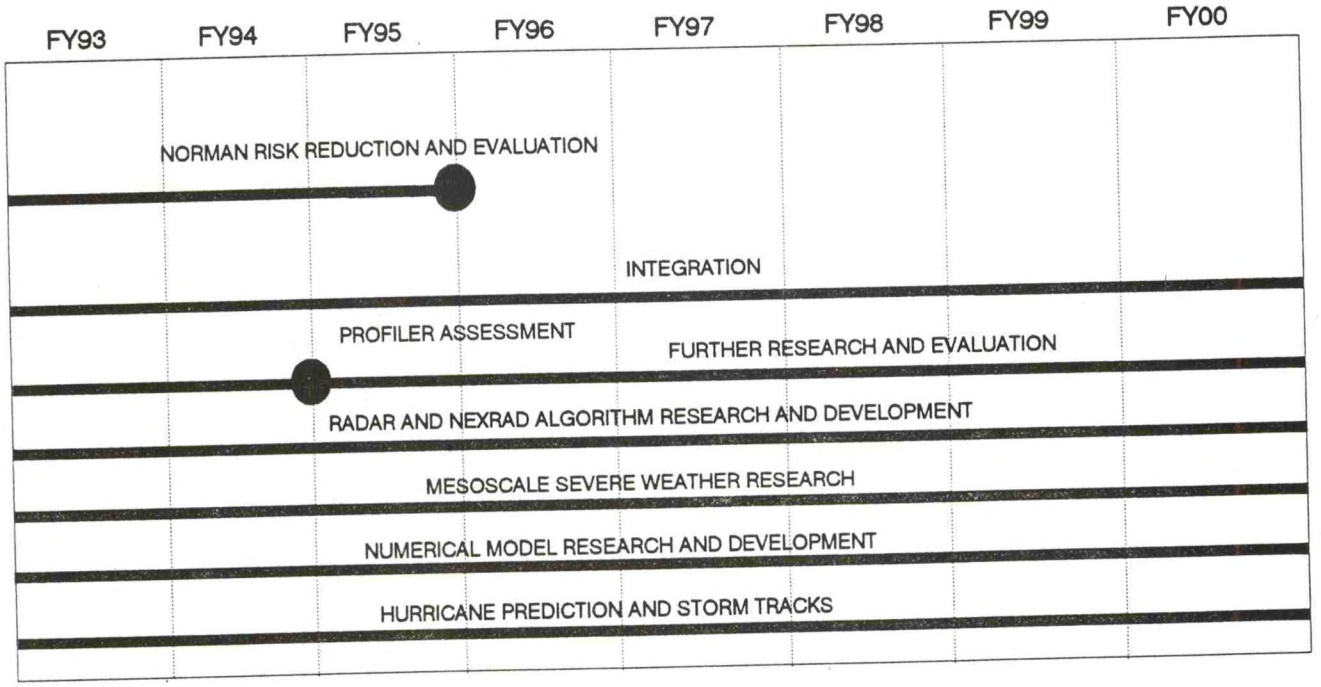


Figure 13
NESDIS RESEARCH PROGRAM SCHEDULE

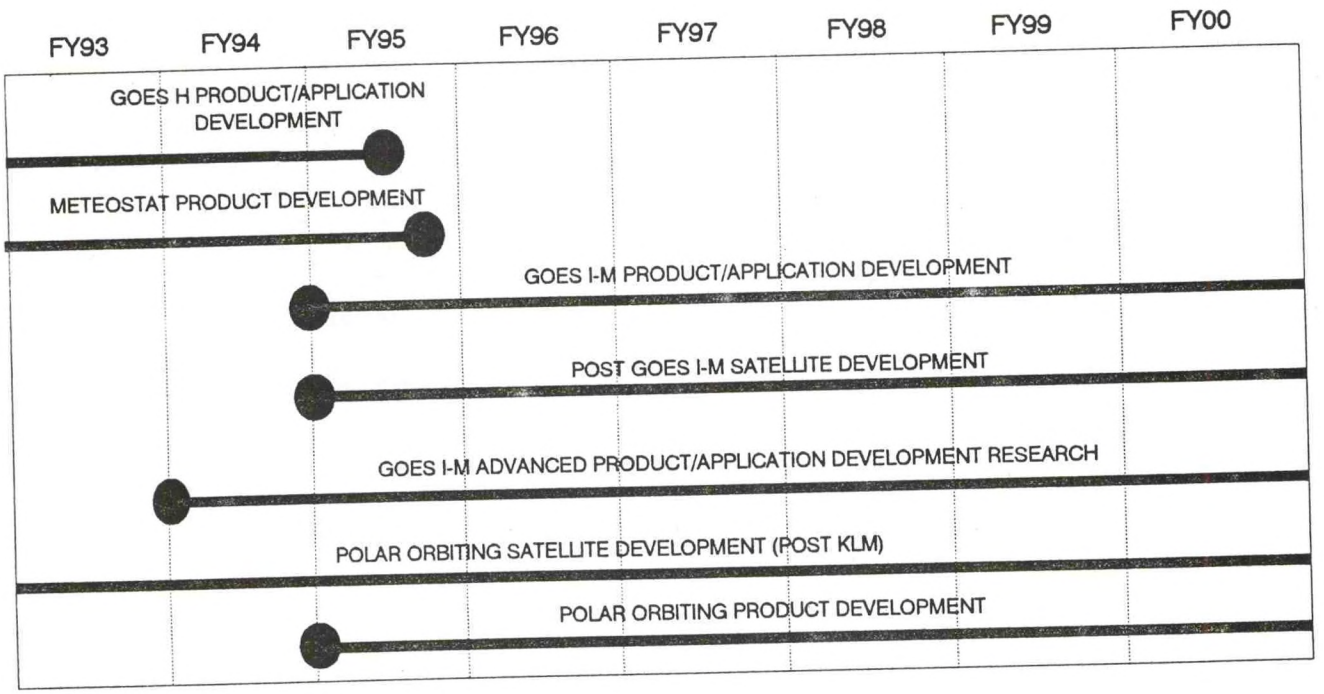


Table 6

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 1996 through 1998, 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., 06/97) 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 07/97).

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 1998 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 , i.e., **06/94**.

E. **Additional/Clarifying Information.** Footnotes are used to (a) clarify actions and (b) 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:

- **Facility Occupancy.** Notifications are of the month and year in which the occupancy of a future WFO or of a new RFC occurred or 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 Commission.** Notifications are of the month and year in which:

  - The commissioning of an ASOS, NEXRAD or AWIPS at a given office occurred or is anticipated to take place. (Note that "88D" is used to indicate a NEXRAD commissioning).
  - The commissionings occurred or are anticipated 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).

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

  Radar:
  - Replaced NWS Radars were or are anticipated to be decommissioned as a result of the commissioning of one or more NEXRADs.

  AFOS (Automation of Field Operations and Services):
  - Replaced Automation of Field Operations and Services (AFOS) installations are anticipated to be decommissioned at WFO locations as a result of the commissioning of an AWIPS installation.

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

  Warnings:
  - In Stage 1, the warning or warning and forecast responsibilities for the County Warning Area (s) (CWA) of a WSO to a future WFO. (In several instances the CWA of the WSO is distributed among two or more future WFOs with transfers to each occurring at different times).

  Forecasts:
  - In Stage 2, forecast and remaining service responsibilities from NEXRAD WSFOs (NWSFO) and non-NEXRAD WSOs to appropriate WFOs.

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

Increase Stage 1:

- The completion of staffing associated with the delivery of NEXRADs in Stage 1.

Increase Stage 2:

- AWIPS EDD in Stage 2 at WFOs and the delivery of NPUPs at RFCs. It must be recognized that the actual initiation of staffing normally begins at least 12 months prior to full staffing.

Decreases:

- 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*, occurred or 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. It is anticipated that some closures may occur in FY 1997, but exact dates can't be determined at this time. These dates are identified by a # sign in the table.

- **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 1996-1998

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 will serve three counties in Florida and five counties in Mississippi.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BIRMINGHAM, AL (WSFO to WFO)	11/93[1]	88D 12/94 APUP 12/95[2] AWIPS *		*		06/98	09/94					
•WSO Columbus, GA		ASOS 05/94	04/96		09/95				07/96	11/96	07/96	#
•WSO Huntsville, AL[3]		ASOS 08/94	TBD		TBD				TBD	TBD	TBD	TBD
•WSO Meridian, MS		ASOS 07/95	09/96		04/95				01/97	01/97	01/97	#
•WSO Montgomery, AL		ASOS 07/95	06/96		09/95				11/96	11/96	11/96	#
•WSMO Centreville, AL[4]			06/95						06/95			
MOBILE, AL (WSO to WFO)	02/94	88D 04/95 ASOS 02/96 AWIPS *	10/95	*		06/98	10/94	01/98				
•WSO Meridian, MS		ASOS 07/95	09/96		04/95				01/97	01/97	01/97	#
•WSO Montgomery, AL		ASOS 07/95	06/96		09/95				11/96	11/96	11/96	#
•WSO Pensacola, FL			01/96		04/95				06/96		06/96	#

1. Upper air function was transferred from WSMO Centreville to the site of WFO Birmingham in August 1994.
2. WFO Birmingham also uses, by means of an associated PUP (APUP), data from the DOD East Alabama WSR-88D.
3. Funding requested for the approved WSR-88D for northern Alabama/southeast Tennessee; schedules for related activities will be determined when funding is appropriated.
4. This WSMO closed in June 1995. No certification required.

STATE OF ALABAMA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
TALLAHASSEE, FL (WSO to WFO)	*	**88D 08/95 APUP 12/95 AWIPS ***	[redacted]	*	[redacted]	09/98	**10/94**	04/98	*	[redacted]	[redacted]	[redacted]
•WSO Montgomery, AL	[redacted]	**ASOS 07/95**	06/96	[redacted]	**09/95**	[redacted]	[redacted]	[redacted]	11/96	11/96	11/96	#

STATE OF ALASKA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
ANCHORAGE, AK (WSFO to WFO)	09/95[1,6]	APUP 06/96[2] AWIPS 08/98				10/97	06/94					
•WSO Bethel, AK (DCO)[3]		ASOS 08/96			08/96							
•WSO Cold Bay, AK (DCO)[3]		ASOS 07/96			08/98[4]				*[5]		*	
•WSO Homer, AK		ASOS 07/98			01/96				*[5]	*	*	*
•WSO King Salmon, AK (DCO)[3]		ASOS 07/96			11/96							
•WSO Kodiak, AK (DCO)[3]		ASOS 06/96			08/98[4]				*[5]		*	
•WSO McGrath, AK (DCO)[3]		ASOS 08/96			08/98[4]				*[5]		*	
•WSO St. Paul Island, AK (DCO)[3]		ASOS 09/96			08/98[4]				*[5]		*	
•WSO Valdez, AK					08/98[4]				*[5]		*	*
•WSCMO Anchorage, AK[6]		ASOS 10/96										
•WSCMO Talkeetna, AK[7]		ASOS 06/96										

1. The entire WSFO moved 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. Upper air function will remain with this office.
4. Service transfer will take place upon the commissioning of the AWIPS at WFO Anchorage.
5. No change in staffing will occur at these offices until after the commissioning of an AWIPS at the Anchorage WFO.
6. Upper air function moved to the site of WFO Anchorage in November 1995. This WSCMO is scheduled to close in October 1998.
7. This WSCMO is scheduled to close in December 1996. No certification required.

STATE OF ALASKA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
ANCHORAGE, AK Alaska RFC	**09/95**	NPUP 07/96 AWIPS 07/98					**10/94**					
FAIRBANKS, AK[8] (WSFO to WFO)	11/97[9]	APUP 06/96[10] AWIPS 08/98				10/97	**09/94**					
•WSO Barrow, AK (DCO)[11]		ASOS 07/96			08/98[12]				*[13]		*	
•WSO Fairbanks, AK[11]		ASOS 10/96							*[13]	*	*	*
•WSO Kotzebue, AK (DCO)[11]		ASOS 07/96			08/98[12]							
•WSO Nome, AK (DCO)[11]		ASOS 08/96			09/96				*[13]		*	
•WSO Unalakleet, AK					08/98[12]				*[13]		*	*

8. An ASOS also will be commissioned at an unstaffed site at Nenana Municipal Airport, Nenana, Alaska, in the administrative area of WFO Fairbanks. No commissioning date has been established.
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.
12. Service transfer will take place upon the commissioning of the AWIPS at WFO Fairbanks.
13. There will be no change in staffing until after the commissioning of an AWIPS at the Fairbanks WFO.

STATE OF ALASKA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
JUNEAU, AK (WSFO to WFO)	09/98[14]	APUP 03/97[15] AWIPS 08/98				10/97	07/96					
•WSO Annette, AK (DCO)[17]		ASOS 06/96			08/98[16]							
•WSO Yakutat, AK (DCO)[17]		ASOS 08/96			08/98[16]				*[18]		*	

14. The entire WSFO will move to the facility of the future WFO located in the WSFO's current commuting and service areas.
15. There will be one associated PUP (APUP) at Juneau connected to an FAA WSR-88D in Sitka.
16. Service transfer will take place upon the commissioning of the AWIPS at WFO Juneau.
17. Upper air function will remain with this office.
18. There will be no change in staffing until after 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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
FLAGSTAFF, AZ[1,2] **(WSO to WFO)**	08/95[3]	88D 05/96 AWIPS 05/98		*		06/97	08/95	01/97				
•WSO Winslow, AZ[3]		ASOS 07/95[4]			04/95				#			#
PHOENIX, AZ (WSFO to WFO)	05/91[6]	88D 04/94 88D 01/97[5] AWIPS 04/98		*		06/97	09/92		05/91[6]			
•Res WSO Phoenix, AZ[6]		ASOS 03/94	08/94						03/96	01/97	03/96	#
•WSO Riverside(AG & FW), CA					04/98[7]				*			*
•WSO Yuma, AZ					04/95				#			#

1. An ASOS will be commissioned at an unstaffed site at Page Municipal Airport, Page, AZ. No commissioning date has been established. ASOS's were commissioned at unstaffed sites Pulliam Airport, Flagstaff, AZ in July 1994 and at Kingman Airport, Kingman, AZ in September 1995 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, office occupied temporary facilities at the site of the future WFO Flagstaff before occupying permanent quarters in August 1995.
3. Upper air function transferred from WSO Winslow to the site of WFO Flagstaff in August 1995.
4. This ASOS replaced an automated system, AUTOB, at this site.
5. A second WSR-88D, located in the vicinity of Yuma, AZ, will be operated out of the Phoenix WFO.
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. 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
TUCSON, AZ (WSO to WFO)	11/96[8]	**88D 12/95** AWIPS 05/98		*		06/97	**04/95**	01/97	11/96[8]			
•Res WSO Tucson, AZ[8,9]		**ASOS 01/96**	**03/96**						04/97	04/97	04/97	#
WFOs Out Of State:												
LAS VEGAS, NV (WSO to WFO)	**03/95**	**88D 09/95** AWIPS 07/98		*		09/97	**05/95**	04/97	**03/95**			

8. Forecast and warning services of transitioning WSO transfer to facility of future WFO. Surface and radar observation functions retained at original WSO location and office redesignated a residual WSO.
9. Upper air function will remain at RWSO 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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
LITTLE ROCK, AR (WSFO to WFO)	02/93[1]	88D 06/94 AWIPS *	06/95	*		04/98	02/94					
•WSO Fort Smith, AR[2]		ASOS 08/94	TBD		07/94				TBD	TBD	TBD	TBD
WFOs Out Of State:												
JACKSON, MS (WSFO to WFO)	04/93	ASOS 07/93 88D 02/95 AWIPS *	06/95	*		06/98	03/94					
MEMPHIS, TN (WSFO to WFO)	08/93	88D 01/95 APUP 12/95 AWIPS *	06/95	*		04/98	06/94					

1. WSFO Little Rock transitioned to WFO Little Rock at its current site.. Upper Air function remains in place.
2. Funding requested for the approved new WSR-88D for northwest Arkansas/eastern Oklahoma; schedule for related activities will be determined when funding is appropriated.

STATE OF ARKANSAS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
SHREVEPORT, LA (WSO to WFO)	**02/95**	**ASOS 10/95 88D 10/95** AWIPS *	06/96	*	[redacted]	02/98	**06/95**	10/97	[redacted]	[redacted]	[redacted]	[redacted]
TULSA, OK (WSO to WFO)	**03/92**	**88D 05/94** AWIPS 12/97	[redacted]	*	[redacted]	01/98	**06/94**	**06/94**	**03/92**	[redacted]	[redacted]	[redacted]
•WSO Fort Smith, AR[3]	[redacted]	**ASOS 08/94**	TBD	[redacted]	**07/94**	[redacted]	[redacted]	[redacted]	TBD	TBD	TBD	TBD

3. Funding requested for the approved new WSR-88D for northwest Arkansas/eastern Oklahoma; schedule for related activities will be determined when funding is appropriated.

STATE OF CALIFORNIA (Page 1 of 4)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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, eight counties.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
EUREKA, CA (WSO to WFO)	10/94	88D 07/95 AWIPS *		*		01/98	05/95	07/97				
•WSO Redding, CA		ASOS 07/96			04/96				*	*	*	#
LOS ANGELES, CA[1] (WSFO to WFO)	10/93[2]	88D 12/94 APUP 01/96[3] AWIPS *		*		03/98	02/94		10/93[2]			
•Res WSO Los Angeles, CA[2]			05/95						11/95		11/95	#
•WSO Los Angeles (AV), CA		ASOS 10/96							*	*		#
•WSO Riverside(AG & FW), CA[5]					*[4]				*			*
•WSO Santa Maria, CA[5]		ASOS 06/96			04/95				11/96	11/96		#
•WSCMO Long Beach, CA[6]		ASOS 07/96										

1. An additional ASOS was commissioned on April 1, 1996 at an unstaffed, non-airport site at Sandberg, California, in the administrative area of WFO Los Angeles.
2. 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.
3. WFO Los Angeles also uses, by means of an associated PUP (APUP), data from the DOD WSR-88D at Vandenberg AFB.
4. Service transfer will take place upon the commissioning of an AWIPS at WFO Los Angeles.
5. Consolidation certification requirement has been dropped as the agricultural weather function is no longer a NWS responsibility.
6. This WSCMO is scheduled to close in September 1997. No certification required.

STATE OF CALIFORNIA (Page 2 of 4)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
SACRAMENTO, CA[7] (WSO to WFO)	**08/95[8]**	**88D 12/94 APUP 08/96[9] AWIPS ***		*		12/97	**06/94**	07/97	**08/95[8]**			
•Res WSO Sacramento, CA			**08/95**						01/97		01/97	#
•WSO Redding, CA		ASOS 07/96			08/96[10]				*	*	*	#
•WSO Stockton, CA		ASOS 06/96							11/96	11/96		#
•WSCMO Blue Canyon, CA		**ASOS 01/93**										
SACRAMENTO, CA California-Nevada RFC	**08/95**	NPUP 07/96 AWIPS *					**01/94**					
SAN DIEGO, CA[11] (WSO to WFO)	**10/95[12]**	88D 09/96 AWIPS *		*		03/98	**05/96**	10/97	**10/95[12]**			
•Res WSO San Diego, CA		ASOS 10/96							01/97	01/97		#
•WSO Riverside(AG & FW), CA					*[13]				*			*
•WSCMO San Diego, CA[14]												

7. An additional ASOS was commissioned at an unstaffed site at Red Bluff Municipal Airport, Red Bluff, California, in the administrative area of WFO Sacramento in October 1995.
8. Forecast and warning services of transitioning WSO transfered to facility of future WFO. Radar observation function retained at original WSO location and office redesignated a residual WSO.
9. WFO Sacramento also will use, by means of an associated PUP (APUP), data from the DOD WSR-88D at Beale AFB; an NPUP is currently available.
10. Short fuse warning responsibility will transfer from WSO Redding to WFO Sacramento upon DOD commissioning of the WSR-88D at Beale AFB.
11. 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 September 1996.
12. Local adaptive forecasts and warning services of transitioning WSO transferred to facility of future WFO. Surface weather observations retained at original WSO and office redesignated a residual WSO.
13. Service will be transferred upon the commissioning of an AWIPS at WFO San Diego.
14. Upper air function will remain at WSCMO San Diego.

STATE OF CALIFORNIA (Page 3 of 4)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
SAN FRANCISCO BAY AREA, CA (WSFO to WFO)	**08/94**[15]	**88D 05/95 AWIPS ***		*		01/98	**11/94**					
•WSO Riverside(AG & FW), CA[17]					*[16]				*			*
•WSO San Francisco, CA		ASOS 10/96							07/97	07/97		#
•WSO Santa Maria, CA[17]		ASOS 06/96			**09/95**				11/96	11/96		#
•WSCMO Oakland, CA[18]												
SAN JOAQUIN VALLEY, CA (WSO to WFO)	**01/95**	**88D 09/95 AWIPS ***		*		01/98	**09/95**	07/97				
•Res WSO Fresno, CA		**ASOS 09/95**							11/96	11/96		#
•WSO Bakersfield, CA		ASOS 06/96			**10/95**				07/96	11/96	07/96	#
•WSO Riverside(AG & FW), CA[17]					*[19]				*			*

15. 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.
16. Service will be transferred upon commissioning of an AWIPS at WFO San Francisco.
17. Consolidation certification requirement has been dropped as the agricultural weather function is no longer a NWS responsibility.
18. Upper air function will remain at WSCMO Oakland.
19. Service will be transferred upon the commissioning of an AWIPS at WFO San Joaquin Valley.

STATE OF CALIFORNIA (Page 4 of 4)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
LAS VEGAS, NV (WSO to WFO)	**03/95**	**88D 09/95** AWIPS 07/98		*		09/97	**05/95**	04/97	**03/95**			
•WSO Riverside(AG & FW), CA					07/98[20]				*			*
MEDFORD, OR (WSO to WFO)	**06/95**	**88D 04/96** ASOS 06/96 AWIPS *	02/97[21]	*		05/98	**05/96**	01/98				
•WSO Redding, CA		ASOS 07/96			06/96				*	*	*	#
PHOENIX, AZ (WSFO to WFO)	**05/91**	**88D 04/94** 88D 01/97 AWIPS 04/98		*		06/97	**09/92**		**05/91**			
•WSO Riverside(AG & FW), CA					04/98[22]				*			*
RENO, NV (WSFO to WFO)	**07/94**	**88D 06/95** AWIPS 07/98		*		09/97	**07/94**		**07/94**			
•WSO Redding, CA		ASOS 07/96			**05/96**				*	*	*	*

20. Service transfer will take place upon the commissioning of an AWIPS at WFO Las Vegas.
21. WSR-57 was dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction.
22. 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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
DENVER/BOULDER, CO (WSFO to WFO)	10/97[1,2]	88D 07/94 AWIPS *		*		01/98	02/94					
•WSO Colorado Springs, CO		ASOS 11/92			10/94				06/96	11/96	06/96	#
•WSMO Limon, CO[3]		ASOS 12/95	12/95						12/95			
•WSCMO Denver, CO[4]		ASOS 02/94										
GRAND JUNCTION, CO (WSO to WFO)	06/95[5]	ASOS 04/96 88D 06/96 AWIPS *		*		08/98	10/95	04/98				
•WSO Alamosa, CO		ASOS 09/92			06/95				01/97	01/97	01/97	#

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 WSMO closed in December 1995. No certification required.
4. This WSCMO was established in October 1993 at the new Denver International (Front Range) Airport.
5. Upper air function transferred with WSO Grand Junction to the site of WFO Grand Junction in June 1995.

STATE OF COLORADO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
PUEBLO, CO (WSO to WFO)	**09/94**	**ASOS 10/92 88D 08/95 AWIPS ***		*		02/98	**12/94**	04/98				
•WSO Alamosa, CO		**ASOS 09/92**			**06/95**				01/97	01/97	01/97	#
•WSO Colorado Springs, CO		**ASOS 11/92**			**06/95**				06/96	11/96	06/96	#
•WSMO Limon, CO[6]		**ASOS 12/95**	**12/95**						**12/95**			
WFOs Out Of State:												
GOODLAND, KS (WSO to WFO)	**03/90**	**ASOS 09/92 88D 04/95 AWIPS 01/98**	**10/95**	*		08/96	**12/93**	**01/96**				
•WSO Colorado Springs, CO		**ASOS 11/92**			**03/94**				06/96	11/96	06/96	#

6. This WSMO closed in December 1995. No certification required.

STATE OF CONNECTICUT (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
ALBANY, NY (WSFO to WFO)	04/97	**88D 04/95** AWIPS *	[redacted]	*	[redacted]	07/98	**12/94**	[redacted]	04/97	[redacted]	[redacted]	[redacted]
•WSO Hartford, CT	[redacted]	**ASOS 04/96**	**11/95**	[redacted]	**09/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
BOSTON, MA (WSFO to WFO)	**11/93**	**88D 12/94** AWIPS 12/97	[redacted]	*	[redacted]	03/97	**07/94**	[redacted]	**11/93**	[redacted]	[redacted]	[redacted]
•WSO Hartford, CT	[redacted]	**ASOS 04/96**	**11/95**	[redacted]	**09/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
NEW YORK CITY, NY (WSFO to WFO)	**10/93**	**88D 01/95** AWIPS 03/98	[redacted]	*	[redacted]	03/97	**01/95**	[redacted]	**10/93**	[redacted]	[redacted]	[redacted]
•WSO Bridgeport, CT	[redacted]	**ASOS 05/96**	[redacted]	[redacted]	**09/94**	[redacted]	[redacted]	[redacted]	07/96	11/96	07/96	#
•WSO Hartford, CT	[redacted]	**ASOS 04/96**	**11/95**	[redacted]	**09/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#

STATE OF DELAWARE (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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

Shown below are [illegible]iable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
PHILADELPHIA, PA (WSFO to WFO)	**08/93**	**88D 02/95** AWIPS 04/98		*		06/97	**01/95**					
•WSO Wilmington, DE		**ASOS 10/94**			**10/94**				06/96	11/96	06/96	#

DISTRICT OF COLUMBIA (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

Modernized weather services in District Of Columbia will be provided by WFO Baltimore MD/Washington, DC, . WFO Baltimore MD/Washington, DC will serve one county in District Of Columbia.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	**04/90**	**88D 06/94** AWIPS *		*		02/98	**05/93**					

STATE OF FLORIDA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve five counties in Alabama and 25 counties in Georgia.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
JACKSONVILLE, FL (WSO to WFO)	**01/95**	**88D 08/95 ASOS 03/96 AWIPS ***		*		09/98	**02/95**	04/98				
•WSO Daytona Beach, FL		**ASOS 06/95**	**12/95**		**06/95**				06/96	11/96	06/96	#
•WSO Savannah, GA		**ASOS 04/96**	10/96		**06/95**				04/97	04/97	04/97	#
•WSMO Waycross, GA[1]			**01/96**						**01/96**			
MELBOURNE, FL (New WFO)	**08/89**	**88D 03/94 AWIPS ***		*		09/98	**02/93**	04/98				
•WSO Daytona Beach, FL		**ASOS 06/95**	**12/95**		**04/94**				06/96	11/96	06/96	#
•WSO Orlando, FL					**10/89**							#
•WSO West Palm Beach, FL[2]		**ASOS 04/93**	**10/95**		**04/94**				06/96	11/96	06/96	#
•WSCMO Orlando, FL[3]		ASOS 07/96										

1. Upper air function transferred from WSMO Waycross to the site of WFO Jacksonville in January 1995. This WSMO closed in January 1996. No certification required.
2. Upper air function transferred from WSO West Palm Beach to the site of WFO Miami in July 1995.
3. This WSCMO is scheduled to close in October 1998. No certification required.

STATE OF FLORIDA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
MIAMI, FL (WSFO to WFO)	**05/95**[4]	**88D 04/95**[5] 88D 11/96[5] AWIPS 04/98	**12/95**	*		05/97	**10/94**					
•WSO Key West, FL[6]		**ASOS 03/96**	TBD		TBD				TBD	TBD	TBD	TBD
•WSO West Palm Beach, FL[4]		**ASOS 04/93**	**10/95**		**03/95**				06/96	11/96	06/96	#
•WSCMO Miami, FL[7]		ASOS 07/96										
TALLAHASSEE, FL (WSO to WFO)	*[8,9]	**88D 08/95 APUP 12/95**[10] AWIPS *		*		09/98	**10/94**	04/98	*[8]			
•Res WSO Tallahassee, FL[8,9]		**ASOS 04/96**							07/98	07/98		#
•WSO Apalachicola, FL			**01/96**		**06/95**				06/96		06/96	#
•WSO Columbus, GA		**ASOS 05/94**	**04/96**		**06/95**				07/96	11/96	07/96	#
•WSO Macon, GA		**ASOS 05/94**	**04/96**		**06/95**				07/96	11/96	07/96	#
•WSO Montgomery, AL		**ASOS 07/95**	06/96		**09/95**				11/96	11/96	11/96	#
•WSO Pensacola, FL			**01/96**		**06/95**				06/96		06/96	#
•WSO Savannah, GA		**ASOS 04/96**	10/96		**06/95**				04/97	04/97	04/97	#
•WSMO Waycross, GA[11]			**01/96**						**01/96**			

4. The upper air function transferred from WSO West Palm Beach to the site of WFO Miami in July 1995.
5. This radar, located at Key West, FL, will be operated out of WFO Miami.
6. Upper air function at WSO Key West contracted out in July 1995. Existing WSO will remain in service during 1 year assessment, ends November 1997, of the adequacy of communications, maintenance, and outreach. Schedule for related activities will be determined after results of the assessment.
7. This WSCMO is scheduled to close in March 1997. No certification required.
8. 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.
9. Upper air function will remain at RWSO Tallahassee until availability of roof launch capability at WFO Tallahassee.
10. WFO Tallahasse also uses by means of an associated PUP (APUP), data from the DOD WSR-88D at Eglin AFB.
11. Upper air function transferred from WSMO Waycross to the site of WFO Jacksonville in January 1995. This WSMO closed in January 1996. No certification required.

STATE OF FLORIDA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
TAMPA BAY AREA, FL (WSO to WFO)	02/95[12]	88D 04/95 AWIPS *	11/95	*		06/98	09/94	01/98				
•WSO Fort Myers, FL[13]					04/95				#			#
•WSCMO Tampa, FL[14]		ASOS 11/95										
WFOs Out Of State:												
MOBILE, AL (WSO to WFO)	02/94	88D 04/95 ASOS 02/96 AWIPS *	10/95	*		06/98	10/94	01/98				
•WSO Pensacola, FL			01/96		04/95				06/96		06/96	#

12. Upper air function remains and is collocated with WFO Tampa Bay Area.
13. 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 predictions of severe weather (e.g. hurricanes).
14. This WSCMO closed in April 1996. No certification required.

STATE OF GEORGIA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes			Automate	Consolidate	Close
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease			
WFOs In State:												
ATLANTA, GA (WSFO to WFO)	04/94[1,2]	88D 02/95 APUP 02/96[3] AWIPS 06/98		*		07/97	09/94		04/94[1]			
•Res WSO Atlanta, GA[1]		ASOS 08/95	02/96						07/96	11/96	07/96	#
•WSO Athens, GA[2]		ASOS 02/96	07/96		03/95				01/97	01/97	01/97	#
•WSO Augusta, GA		ASOS 05/94	06/96		03/95				01/97	01/97	01/97	#
•WSO Chattanooga, TN[4]		ASOS 09/95	TBD		06/95				TBD	TBD	TBD	TBD
•WSO Columbus, GA		ASOS 05/94	04/96		03/95				07/96	11/96	07/96	#
•WSO Macon, GA		ASOS 05/94	04/96		03/95				07/96	11/96	07/96	#
•WSO Savannah, GA		ASOS 04/96	10/96		03/95				04/97	04/97	04/97	#

1. 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.
2. Upper air function was transferred from WSO Athens to the site of WFO Atlanta in August 1994.
3. WFO Atlanta also uses, by means of an associated PUP (APUP), data from the DOD WSR-88D at Robbins AFB.
4. Funding requested for the approved new WSR-88D for northern Alabama/southeast Tennessee; schedule for related activities will be determined when funding is appropriated.

STATE OF GEORGIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
ATLANTA, GA Southeast RFC	**04/94**	NPUP 07/96 AWIPS 06/98					**01/94**					
WFOs Out Of State:												
BIRMINGHAM, AL (WSFO to WFO)	**11/93**	**88D 12/94 APUP 12/95** AWIPS *		*		06/98	**09/94**					
•WSO Columbus, GA		**ASOS 05/94**	**04/96**		**09/95**				07/96	11/96	07/96	#
CHARLESTON, SC (WSO to WFO)	**11/94**	**ASOS 10/95** 88D 06/96 AWIPS *	10/96	*		05/98	**07/94**	01/98				
•WSO Augusta, GA		**ASOS 05/94**	06/96		**06/95**				01/97	01/97	01/97	#
•WSO Savannah, GA		**ASOS 04/96**	10/96		**06/95**				04/97	04/97	04/97	#
•WSMO Waycross, GA[5]			**01/96**						**01/96**			
COLUMBIA, SC (WSFO to WFO)	**09/93**	**88D 06/95 ASOS 12/95** AWIPS *	**10/95**	*		05/98	**08/94**					
•WSO Augusta, GA		**ASOS 05/94**	06/96		**12/94**				01/97	01/97	01/97	#

5. This WSMO closed in January 1996. No certification required.

STATE OF GEORGIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	**05/95**	**88D 03/96 ASOS 04/96** AWIPS *		*		04/98	**10/94**	10/97				
•WSO Athens, GA		**ASOS 02/96**	07/96		**10/95**				01/97	01/97	01/97	#
JACKSONVILLE, FL (WSO to WFO)	**01/95**	**88D 08/95 ASOS 03/96** AWIPS *		*		09/98	**02/95**	04/98				
•WSO Savannah, GA		**ASOS 04/96**	10/96		**06/95**				04/97	04/97	04/97	#
•WSMO Waycross, GA[6]			**01/96**						**01/96**			
TALLAHASSEE, FL (WSO to WFO)	*	**88D 08/95 APUP 12/95** AWIPS *		*		09/98	**10/94**	04/98	*			
•WSO Columbus, GA		**ASOS 05/94**	**04/96**		**06/95**				07/96	11/96	07/96	#
•WSO Macon, GA		**ASOS 05/94**	**04/96**		**06/95**				07/96	11/96	07/96	#
•WSO Savannah, GA		**ASOS 04/96**	10/96		**06/95**				04/97	04/97	04/97	#
•WSMO Waycross, GA[6]			**01/96**						**01/96**			

6. This WSMO closed in January 1996. No certification required.

TERRITORY OF GUAM (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
GUAM, GU[1,2] **(WSO to WFO)**	05/98	ASOS 06/96 APUP 06/96				10/97	07/96					

1. WSMO Guam and WSO (AV) Guam are both to be assumed by the establishment 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.

STATE OF HAWAII (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
HONOLULU, HI (WSFO to WFO)	06/95[1]	APUP 06/96[2] APUP 06/96[2] AWIPS 08/98				10/97	09/94		06/95[1]			
•Res WSO Honolulu, HI[1]		ASOS 09/96							01/97	04/97		#
•WSO Hilo, HI (WSO to DCO)[3]		ASOS 07/96			08/98[4]				*[5]		04/98	
•WSO Kahului, HI		ASOS 10/96			08/98[4]				*[5]	*	04/98	*
•WSO Lihue, Kauai, HI (WSO to DCO)[3]		ASOS 08/96			08/98[4]				*[5]		04/98	

1. 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.
2. 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 1996/early FY 1997.
3. Upper air function will remain with this office.
4. Service transfer will take place upon the commissioning of the AWIPS at WFO Honolulu.
5. No decrease in staff will occur until after 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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BOISE, ID (WSFO to WFO)	**07/93**[1]	**88D 01/95 ASOS 12/95** AWIPS *		*		08/98	**05/94**					
•WSO Twin Falls, ID[2]									**04/96**			
•WSMO Burns, OR[3]		**ASOS 07/95**							10/96			
POCATELLO/IDAHO FALLS, ID (WSO to WFO)	**03/95**	**88D 02/96 ASOS 03/96** AWIPS *		*		08/98	**09/95**	04/98				
WFOs Out Of State:												
MISSOULA, MT (WSO to WFO)	**07/94**	**88D 06/95** ASOS 06/96 AWIPS *	**12/95**	*		09/98	**12/94**	04/98				
•WSO Lewiston, ID		**ASOS 07/95**			**10/95**				04/97	04/97	04/97	#

1. Upper air function remains in place and is collocated with WFO Boise.
2. One person Agricultural Weather Office closed due to non-modernization related action (i.e. elimination of the agricultural weather program.) No certification required.
3. This WSMO is scheduled to close in December 1996. No certification required.

STATE OF IDAHO (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
SALT LAKE CITY, UT (WSFO to WFO)	**08/94**	**88D 06/95** ASOS 06/96 88D 03/97[4] AWIPS 12/97		*		08/98	**05/94**					
SPOKANE, WA (WSO to WFO)	**09/95**	88D 07/96 AWIPS *		*		07/98	**10/95**	01/98	**09/95**			
•WSO Lewiston, ID		**ASOS 07/95**			**01/96**				04/97	04/97	04/97	#

4. A second WSR-88D, located at Cedar City, UT is to be controlled & used by the Salt Lake City WFO.

STATE OF ILLINOIS (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
CENTRAL ILLINOIS, IL (New WFO)	**09/95**[1]	**88D 01/96** AWIPS 05/98		*		07/97	**09/95**	01/97				
•WSO Evansville, IN		**ASOS 02/96**	06/96		**02/96**				*	*	*	*
•WSO Peoria, IL[2]		**ASOS 10/95**			**09/95**				11/96	11/96	01/97	#
•WSO Springfield, IL		**ASOS 12/95**	06/96		**09/95**				11/96	01/97	11/96	#
CHICAGO, IL (WSFO to WFO)	**12/91**	**88D 12/94** AWIPS 05/98		*		07/97	**12/94**					
•WSO Chicago-O'Hare (AV), IL		**ASOS 02/96**							01/97	01/97		#
•WSO Rockford, IL		**ASOS 07/95**			**10/94**				06/96	11/96	06/96	#
•WSO South Bend, IN[3]		ASOS 07/96	TBD		**10/94**				TBD	TBD	TBD	TBD
•WSMO Marseilles, IL[4]			**01/96**						**01/96**			

1. Upper air function transferred from WSO Paducah, Kentucky to the site of WFO Central Illinois in February 1995.
2. Upper air function transferred from WSO Peoria, Illinois to the site of WFO Quad Cities, Iowa in February 1995.
3. Funding requested for the approved new WFO and WSR-88D for northern Indiana/northwest Ohio; existing radar will remain during ongoing Lake Effect Snow Study which is expected to be completed in May 1998. Schedules for related activities will be determined when funding is appropriated.
4. This WSMO closed in January 1996. No certification required.

STATE OF ILLINOIS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
PADUCAH, KY (WSO to WFO)	02/95	ASOS 08/95 88D 09/95 AWIPS 09/98	02/96	*		11/97	12/94	07/97				
QUAD CITIES, IA (WSO to WFO)	02/95	88D 09/95 AWIPS *		*		03/98	09/95	10/97	02/95			
•Res WSO Moline, IL		ASOS 07/95	01/96						06/96	11/96	06/96	#
•WSO Peoria, IL[5]		ASOS 10/95			03/95				11/96	11/96	01/97	#
•WSO Rockford, IL		ASOS 07/95			10/94				06/96	11/96	06/96	#
ST. LOUIS, MO (WSFO to WFO)	09/90	88D 07/94 AWIPS 05/98		*		07/97	11/92		09/90			
•WSO Springfield, IL		ASOS 12/95	06/96		09/94				11/96	01/97	11/96	#

5. Upper air function transferred from WSO Peoria, Illinois to the site of WFO Quad CIties, Iowa in February 1995.

STATE OF INDIANA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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, ten counties; and WFO Paducah, six counties.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
INDIANAPOLIS, IN (WSFO to WFO)	**08/93**[1]	**88D 05/95** AWIPS 09/98		*		11/97	**04/94**		**08/93**[1]			
•Res WSO Indianapolis, IN[1]		**ASOS 01/96**	**02/96**						07/96	11/96	07/96	#
•WSO Evansville, IN		**ASOS 02/96**	06/96		**02/96**				*	*	*	*
•WSO Fort Wayne, IN[2]		ASOS 06/96	TBD		TBD				TBD	TBD	TBD	TBD
WFOs Out Of State:												
CHICAGO, IL (WSFO to WFO)	**12/91**	**88D 12/94** AWIPS 05/98		*		07/97	**12/94**					
•WSO South Bend, IN[3]		ASOS 07/96	TBD		**10/94**				TBD	TBD	TBD	TBD

1. Forecast and warning services of transitioning WSFO transferred to facility of future WFO. Surface and radar observations were retained at original WSFO location and office redesignated a residual WSO.
2. Funding requested for the approved new WFO and WSR-88D for northern Indiana/northwest Ohio; schedules for related activities will be determined when funding is appropriated.
3. Funding requested for the approved new WFO and WSR-88D for northern Indiana/northwest Ohio; existing radar will remain during ongoing Lake Effect Snow Study which is expected to be completed in May 1998. Schedules for related activities will be determined when funding is appropriated.

STATE OF INDIANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
CINCINNATI, OH (New WFO)	**06/94**	**88D 06/95** AWIPS 06/98		*		08/97	**07/94**	04/97				
•WSO Fort Wayne, IN[4]		ASOS 06/96	TBD		**10/94**				TBD	TBD	TBD	TBD
GRAND RAPIDS, MI (WSO to WFO)	**08/95**	**ASOS 08/95** **88D 02/96** AWIPS 03/98		*		04/97	**09/95**	10/96				
•WSO Fort Wayne, IN[4]		ASOS 06/96	TBD		TBD				TBD	TBD	TBD	TBD
•WSO South Bend, IN[5]		ASOS 07/96	TBD		**04/96**				TBD	TBD	TBD	TBD
LOUISVILLE, KY (WSFO to WFO)	**02/93**	**88D 11/94** AWIPS 09/98		*		11/97	**09/94**		**02/93**			
•WSO Evansville, IN		**ASOS 02/96**	06/96		**02/96**				*	*	*	*
PADUCAH, KY (WSO to WFO)	**02/95**	**ASOS 08/95** **88D 09/95** AWIPS 09/98	**02/96**	*		11/97	**12/94**	07/97				
•WSO Evansville, IN		**ASOS 02/96**	06/96		**02/96**				*	*	*	*

4. Funding requested for the approved new WFO and WSR-88D for northern Indiana/northwest Ohio; schedules for related activities will be determined when funding is appropriated.
5. Funding requested for the approved new WFO and WSR-88D for northern Indiana/northwest Ohio; existing radar will remain during ongoing Lake Effect Snow Study which is expected to be completed in May 1998. Schedules for related activities will be determined when funding is appropriated.

STATE OF IOWA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 and one county in Wisconsin.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
DES MOINES, IA (WSFO to WFO)	**08/93**[1]	**88D 06/95 AWIPS ***		*		03/98	**06/94**		**08/93**[1]			
•Res WSO Des Moines, IA[1]		**ASOS 12/95**	**05/96**						11/96	11/96	11/96	#
•WSO Waterloo, IA		**ASOS 04/96**	08/96		**03/95**				07/97	10/97	07/97	#
QUAD CITIES, IA (WSO to WFO)	**02/95**[2]	**88D 09/95 AWIPS ***		*		03/98	**09/95**	10/97	**02/95**[2]			
•Res WSO Moline, IL[2]		**ASOS 07/95**	**01/96**						06/96	11/96	06/96	#
•WSO Dubuque, IA		**ASOS 09/95**			**09/95**				07/96	10/97	07/96	#
•WSO Peoria, IL[3]		**ASOS 10/95**			**03/95**				11/96	11/96	01/97	#
•WSO Rockford, IL		**ASOS 07/95**			**10/94**				06/96	11/96	06/96	#
•WSO Waterloo, IA		**ASOS 04/96**	08/96		**03/95**				07/97	10/97	07/97	#

1. 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.
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 transferred from WSO Peoria, Illinois to the site of WFO Quad Cities, Iowa in February 1995.

STATE OF IOWA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
LA CROSSE, WI (WSO to WFO)	**08/95**	88D 09/96 AWIPS *	[redacted]	*	[redacted]	06/98	**03/96**	01/98	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Waterloo, IA	[redacted]	**ASOS 04/96**	08/96	[redacted]	08/96	[redacted]	[redacted]	[redacted]	07/97	10/97	07/97	#
OMAHA, NE (WSFO to WFO)	**04/94**	88D 07/95 AWIPS *	[redacted]	*	[redacted]	01/98	**07/94**	[redacted]	**04/94**	[redacted]	[redacted]	[redacted]
•WSO Sioux City, IA	[redacted]	**ASOS 06/95**	[redacted]	[redacted]	**03/95**	[redacted]	[redacted]	[redacted]	11/96	11/96	11/96	#
SIOUX FALLS, SD (WSFO to WFO)	**09/93**	88D 10/95 ASOS 04/96 AWIPS *	06/96	*	[redacted]	04/98	**08/94**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Sioux City, IA	[redacted]	**ASOS 06/95**	[redacted]	[redacted]	**03/95**	[redacted]	[redacted]	[redacted]	11/96	11/96	11/96	#

STATE OF KANSAS (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 Nebraska and three counties in Colorado.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
DODGE CITY, KS (WSO to WFO)	**10/90**[1]	**ASOS 09/92 88D 04/94 AWIPS 01/98**		*		08/96	**06/93**	**01/96**				
•WSMO Garden City, KS[2]			**09/94**						**10/94**			
GOODLAND, KS (WSO to WFO)	**03/90**	**ASOS 09/92 88D 04/95 AWIPS 01/98**	**10/95**	*		08/96	**12/93**	**01/96**				
•WSO Colorado Springs, CO		**ASOS 11/92**			**03/94**				06/96	11/96	06/96	#
TOPEKA, KS (WSFO to WFO)	**06/90**[3]	**ASOS 12/92 88D 01/95 AWIPS 01/98**	**11/95**	*		08/96	**10/93**					
•WSO Concordia, KS		**ASOS 09/92**	**11/95**		**09/94**				06/96	11/96	06/96	#

1. Upper air function was transferred with WSO Dodge City to the site of WFO Dodge City in October 1990.
2. This WSMO closed in October 1994. No certification required.
3. 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WICHITA, KS (WSO to WFO)	**01/92**	**ASOS 11/92** **88D 04/94** AWIPS 01/98	**11/95**	*	[redacted]	08/96	**06/93**	**01/96**	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Concordia, KS	[redacted]	**ASOS 09/92**	**11/95**	[redacted]	**03/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
WFOs Out Of State:												
HASTINGS, NE (New WFO)	11/92	**88D 12/94** AWIPS *	[redacted]	*	[redacted]	01/98	**03/94**	07/97	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Concordia, KS	[redacted]	**ASOS 09/92**	**11/95**	[redacted]	**09/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
KANSAS CITY/PLEASANT HILL, MO (WSO to WFO)	12/93	**88D 02/95** AWIPS 01/98	[redacted]	*	[redacted]	08/96	**06/93**	**10/95**	**12/93**	[redacted]	[redacted]	[redacted]
SPRINGFIELD, MO (WSO to WFO)	11/94	**88D 09/95** **ASOS 11/95** AWIPS 05/98	[redacted]	*	[redacted]	07/97	**01/95**	02/97	[redacted]	[redacted]	[redacted]	[redacted]

STATE OF KENTUCKY (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 seven counties in Kentucky; and WFO Cincinnati, 12 counties. WFO Louisville will serve ten counties in Indiana; and WFO Paducah will serve 19 counties in Illinois, six counties in Indiana and 11 counties in Missouri.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
JACKSON, KY (WSO to WFO)	01/97	**ASOS 12/95** 88D 09/96 AWIPS 09/98	02/97	*		11/97	07/96					
•WSO Huntington, WV		ASOS 09/96			**10/94**				07/96	07/98	07/96	#
•WSO Lexington, KY		**ASOS 03/96**			**02/96**[1]				11/96	04/98	11/96	#
LOUISVILLE, KY (WSFO to WFO)	**02/93**[2]	**88D 11/94** AWIPS 09/98		*		11/97	**09/94**		**02/93**[2]			
•Res WSO Louisville, KY[2]		**ASOS 08/94**	**07/94**						11/96	11/96	11/96	#
•WSO Evansville, IN		**ASOS 02/96**	06/96		**02/96**				*	*	*	*
•WSO Lexington, KY		**ASOS 03/96**			**02/96**				11/96	04/98	11/96	#

1. Seven counties were transferred to WFO Louisville, KY in February 1996 until final transfer to WFO Jackson, KY scheduled for October 1996.
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 KENTUCKY (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
PADUCAH, KY[3] **(WSO to WFO)**	**02/95**	**ASOS 08/95** **88D 09/95** AWIPS 09/98	**02/96**	*		11/97	**12/94**	07/97				
•WSO Evansville, IN		**ASOS 02/96**	06/96		**02/96**				*	*	*	*
WFOs Out Of State:												
CHARLESTON, WV (WSFO to WFO)	**05/95**	**88D 08/95** AWIPS 07/98		*		08/97	**12/94**		**05/95**			
CINCINNATI, OH (New WFO)	**06/94**	**88D 06/95** AWIPS 06/98		*		08/97	**07/94**	04/97				
•WSO Cincinnati, OH		**ASOS 10/95**	06/96		**10/94**				01/97	04/97	01/97	#
•WSO Lexington, KY		**ASOS 03/96**			**10/94**				11/96	04/98	11/96	#

3. Upper air function transferred from WSO Paducah to the site of WFO Central Illinois in February 1995.

STATE OF LOUISIANA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve eight counties in Mississippi; and WFO Shreveport will serve nine counties in Arkansas, one county in Oklahoma and 21 counties in Texas.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
LAKE CHARLES, LA (WSO to WFO)	**02/96[1]**	**88D 05/95 ASOS 01/96, APUP 01/96[2] AWIPS ***	**10/95**	*		02/98	**10/94**	10/97				
•WSO Baton Rouge, LA		**ASOS 05/93**	**05/96**		**05/95**				11/96	11/96	11/96	#
•WSO Port Arthur, TX		**ASOS 07/95**			**05/95**				06/96	11/96	06/96	#
NEW ORLEANS/BATON ROUGE, LA (WSFO to WFO)	**02/94[3,4]**	**88D 02/95** AWIPS 03/98		*		02/97	**10/94**		**02/94[3]**			
•Res WSO New Orleans, LA[3]			**08/95**						**03/96**		**03/96**	#
•WSO Baton Rouge, LA		**ASOS 05/93**	**05/96**		**04/95**				11/96	11/96	11/96	#
•WSCMO New Orleans, LA[4]		**ASOS 05/96**										

1. WSO Lake Charles becomes WFO Lake Charles at its current location. Upper air function remains in place.
2. WFO Lake Charles also uses, by means of an associated PUP (APUP), data from the DOD Ft. Polk WSR-88D.
3. 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.
4. Upper air function was relocated in January 1994 on Slidell Airport to be collocated on the site of WFO New Orleans/Baton Rouge. This WSCMO is scheduled to close in August 1996. No certification required.

STATE OF LOUISIANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
NEW ORLEANS/BATON ROUGE, LA Lower Mississippi RFC	**02/94**	NPUP 07/96 AWIPS 02/98					**07/94**					
SHREVEPORT, LA (WSO to WFO)	**02/95**[5]	**ASOS 10/95 88D 10/95** AWIPS *	06/96	*		02/98	**06/95**	10/97				
•WSO Port Arthur, TX		**ASOS 07/95**			**05/95**				06/96	11/96	06/96	#
•WSMO Longview, TX[5]			**03/96**						**03/96**			
WFOs Out Of State:												
JACKSON, MS (WSFO to WFO)	**04/93**	**ASOS 07/93 88D 02/95** AWIPS *	**06/95**	*		06/98	**03/94**					
•WSO Baton Rouge, LA		**ASOS 05/93**	**05/96**		**04/95**				11/96	11/96	11/96	#

5. Upper air function transferred from WSMO Longview to the site of WFO Shreveport in February 1995. This WSMO closed in March 1996. No certification required.

STATE OF MAINE (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
PORTLAND, ME (WSFO to WFO)	09/94[1,2]	88D 05/95[3] 88D 02/96 AWIPS *		*		04/98	10/94		09/94[1]			
•Res WSO Portland, ME[1]		ASOS 08/94	09/95						06/96	11/96	06/96	#
•WSO Caribou, ME[4,5]		ASOS 08/96			TBD				TBD	TBD	TBD	TBD
•WSO Concord, NH		ASOS 03/96			11/94				06/96	11/96	06/96	#

1. 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 residual WSO.
2. Upper air function transferred with WSFO Portland to the site of WFO Portland in September 1994.
3. This WSR-88D, located in the vicinity of Houlton, ME, is also operated by Portland WFO.
4. Upper air function at WSO Caribou will be contracted upon closure of the WSO.
5. Existing WSO will remain in service during 1 year assessment, ends December 1996, of the adequacy of communications, maintenance, and outreach; schedule for related activities will be determined after results of the assessment.

STATE OF MARYLAND (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	**04/90**	**88D 06/94** AWIPS *		*		02/98	**05/93**					
•WSO Baltimore, MD		**ASOS 04/96**			**04/94**				06/96	01/97	06/96	#
•WSMO Patuxent River, MD[1]			**11/95**						**11/95**			
PHILADELPHIA, PA (WSFO to WFO)	**08/93**	**88D 02/95** AWIPS 04/98		*		06/97	**01/95**					
•WSO Baltimore, MD		**ASOS 04/96**			**10/94**				06/96	01/97	06/96	#
PITTSBURGH, PA (WSFO to WFO)	**05/93**	**88D 01/95** AWIPS 12/97	**05/95**	*		08/97	**09/94**					

1. This WSMO closed in November 1995. No certification required.

STATE OF MARYLAND (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WAKEFIELD, VA (New WFO)	05/94	88D 08/95 APUP 11/95 AWIPS *		*		02/98	12/94	10/97				
•WSO Baltimore, MD		ASOS 04/96			02/95				06/96	01/97	06/96	#
•WSMO Patuxent River, MD[2]			11/95						11/95			

2. This WSMO closed in November 1995. No certification required.

STATE OF MASSACHUSETTS (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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, five counties in Rhode Island and two counties in New Hampshire.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BOSTON, MA (WSFO to WFO)	11/93[1]	88D 12/94 AWIPS 12/97		*		03/97	07/94		11/93[1]			
•Res WSO Boston, MA[1]		ASOS 04/96							11/96	11/96		#
•WSO Concord, NH		ASOS 03/96			11/94				06/96	11/96	06/96	#
•WSO Hartford, CT		ASOS 04/96	11/95		09/94				06/96	11/96	06/96	#
•WSO Providence, RI		ASOS 09/95			09/94				06/96	11/96	06/96	#
•WSO Worcester, MA		ASOS 07/95	04/95		06/94				06/96	11/96	06/96	#
•WSMO Chatham, MA[2]			04/95						10/95			
•WSMO Milton-Blue Hill, MA												
BOSTON, MA Northeast RFC	07/93	NPUP 07/96 AWIPS 12/97					08/94					

1. 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.
2. Upper air function at WSMO Chatham was contracted out after decommissioning the WSR-74S at Chatham. This WSMO closed in October 1995 and redesignated a WSCMO. No certification required.

STATE OF MASSACHUSETTS (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
ALBANY, NY (WSFO to WFO)	04/97	**88D 04/95** AWIPS *	[redacted]	*	[redacted]	07/98	**12/94**	[redacted]	04/97	[redacted]	[redacted]	[redacted]

STATE OF MICHIGAN (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
DETROIT, MI (WSFO to WFO)	**11/92**[1]	**88D 03/95** AWIPS 03/98		*		04/97	**07/94**					
•WSO Detroit, MI		**ASOS 07/95**	**11/95**		**07/94**				06/96	01/97	06/96	#
•WSO Flint, MI[1]		**ASOS 06/95**			**07/94**				11/96	01/97		#
GRAND RAPIDS, MI (WSO to WFO)	**08/95**	**ASOS 08/95** **88D 02/96** AWIPS 03/98		*		04/97	**09/95**	10/96				
•WSO Fort Wayne, IN[2]		ASOS 06/96	TBD		TBD				TBD	TBD	TBD	TBD
•WSO Houghton Lake, MI		**ASOS 04/96**	12/96		**02/96**				07/97	07/97	07/97	#
•WSO Lansing, MI		ASOS 06/96			**10/95**				11/96	11/96	11/96	#
•WSO Muskegon, MI		**ASOS 05/96**	06/96		**02/96**				04/97	04/97	04/97	#
•WSO South Bend, IN[3]		ASOS 07/96	TBD		**04/96**				TBD	TBD	TBD	TBD

1. Upper air function was transferred from WSO Flint to the site of WFO Detroit in September 1994.
2. Funding requested for the approved new WFO and WSR-88D recommended for northern Indiana/northwest Ohio; schedules for related activities will be determined when funding is appropriated.
3. Funding requested for the approved new WFO and WSR-88D recommended for northern Indiana/northwest Ohio; existing radar will remain operational during ongoing Lake Effect Snow Study which is expected to be completed in May 1998. Schedules for related activities will be determined when funding is appropriated.

STATE OF MICHIGAN (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
MARQUETTE, MI (WSO to WFO)	**08/95**	**88D 02/96** AWIPS 03/98	06/96	*		05/97	**07/95**	01/97				
•WSO Sault Ste. Marie, MI					**05/95**				04/97	10/97	04/97	#
NORTH CENTRAL LOWER MICHIGAN, MI (New WFO)	**04/96**[4]	88D 08/96 AWIPS 03/98		*		04/97	**04/96**	10/96				
•WSO Alpena, MI		**ASOS 04/96**	12/96		**04/96**				07/97	07/97	07/97	#
•WSO Houghton Lake, MI		**ASOS 04/96**	12/96		**04/96**				07/97	07/97	07/97	#
•WSO Muskegon, MI		**ASOS 05/96**	06/96		**04/96**				04/97	04/97	04/97	#
•WSO Sault Ste. Marie, MI[4]					**04/96**				04/97	10/97	04/97	#

4. Upper air function transfered from WSO Sault Ste. Marie to the site of WFO North Central Lower Michigan on April 24 1996.

STATE OF MINNESOTA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve nine counties in Wisconsin.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
DULUTH, MN (WSO to WFO)	**04/96**	**ASOS 04/96** **88D 05/96** AWIPS 02/98	09/96	*		01/97	**07/95**	07/96				
•WSO International Falls, MN[1]		ASOS 08/96			**03/96**				04/98	04/98	04/98	#
MINNEAPOLIS, MN (WSFO to WFO)	**03/95[2,3]**	**88D 11/95** AWIPS 02/98		*		01/97	**08/94**		**03/95[2]**			
•Res WSO Minneapolis, MN[2]		ASOS 06/96	**04/96**						07/96	01/98	07/96	#
•WSO Fargo, ND		**ASOS 11/95**	11/96		**04/95**				04/97	04/97	04/97	#
•WSO Rochester, MN		ASOS 06/96	01/97		**04/95**				07/97	10/97	07/97	#
•WSO St. Cloud, MN[3]		**ASOS 06/95**			**04/95**				01/97	01/97	01/97	#

1. Upper air function at WSO International Falls will be contracted out in July 1996 and be redesignated a WSCMO.
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 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
MINNEAPOLIS, MN **North Central RFC**	**03/95**	NPUP 07/96 AWIPS 02/98					**02/94**					
WFOs Out Of State:												
ABERDEEN, SD **(WSO to WFO)**	**11/94**	**ASOS 11/94** **88D 09/95** AWIPS *		*		*	**09/95**	04/98				
•WSO St. Cloud, MN		**ASOS 06/95**			**04/95**				01/97	01/97	01/97	#
EASTERN NORTH DAKOTA, ND **(New WFO)**	**03/96**	88D 07/96 AWIPS *		*		*	06/96	04/98				
•WSO International Falls, MN		ASOS 08/96			**03/96**				04/98	04/98	04/98	#
LA CROSSE, WI **(WSO to WFO)**	**08/95**	88D 09/96 AWIPS *		*		06/98	**03/96**	01/98				
•WSO Rochester, MN		ASOS 06/96	01/97		08/96				07/97	10/97	07/97	#
SIOUX FALLS, SD **(WSFO to WFO)**	**09/93**	**88D 10/95** **ASOS 04/96** AWIPS *	06/96	*		04/98	**08/94**					

STATE OF MISSISSIPPI (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
JACKSON, MS (WSFO to WFO)	**04/93[1]**	**ASOS 07/93 88D 02/95 AWIPS ***	**06/95**	*		06/98	**03/94**					
•WSO Baton Rouge, LA		**ASOS 05/93**	**05/96**		**04/95**				11/96	11/96	11/96	#
•WSO Meridian, MS		**ASOS 07/95**	09/96		**04/95**				01/97	01/97	01/97	#
•WSO Tupelo, MS		**ASOS 06/93**	**12/95**		**04/95**				06/96	11/96	06/96	#
•WSO Vicksburg, MS[2]									10/97			#
WFOs Out Of State:												
MEMPHIS, TN (WSFO to WFO)	**08/93**	**88D 01/95 APUP 12/95 AWIPS ***	**06/95**	*		04/98	**06/94**					
•WSO Tupelo, MS		**ASOS 06/93**	**12/95**		**04/95**				06/96	11/96	06/96	#

1. Upper air function remains at its current location which is located at the site of WFO Jackson.
2. 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
MOBILE, AL (WSO to WFO)	**02/94**	**88D 04/95 ASOS 02/96 AWIPS ***	**10/95**	*		06/98	**10/94**	01/98				
•WSO Meridian, MS		**ASOS 07/95**	09/96		**04/95**				01/97	01/97	01/97	#
NEW ORLEANS/BATON ROUGE, LA (WSFO to WFO)	02/94	**88D 02/95** AWIPS 03/98		*		02/97	**10/94**		**02/94**			

STATE OF MISSOURI (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve three counties in Kansas; and WFO St. Louis will serve 17 counties in Illinois.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
KANSAS CITY/PLEASANT HILL, MO (WSO to WFO)	12/93[1]	88D 02/95 AWIPS 01/98		*		08/96	06/93	10/95	12/93[1]			
•Res WSO Kansas City, MO		ASOS 07/95	11/95						06/96	11/96	06/96	#
•WSO Columbia, MO		ASOS 09/95	06/96		09/94				11/96	11/96	11/96	#
KANSAS CITY/PLEASANT HILL, MO Missouri Basin RFC	10/91	NPUP 07/96 AWIPS 01/98					09/93					
SPRINGFIELD, MO (WSO to WFO)	11/94	88D 09/95 ASOS 11/95 AWIPS 05/98		*		07/97	01/95	02/97				
•WSO Columbia, MO		ASOS 09/95	06/96		09/95				11/96	11/96	11/96	#
•WSMO Monett, MO[2]			02/96						02/96			

1. 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.
2. Upper air function transferred in April 1995 from WSMO Monett to the site of WFO Springfield. This WSMO closed in February 1996. No certification required.

STATE OF MISSOURI (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
ST. LOUIS, MO (WSFO to WFO)	**09/90[3]**	**88D 07/94** AWIPS 05/98		*		07/97	**11/92**		**09/90[3]**			
•Res WSO St. Louis, MO[3]			06/96						11/96		11/96	#
•WSO Columbia, MO		**ASOS 09/95**	06/96		**09/94**				11/96	11/96	11/96	#
•WSO Springfield, IL		**ASOS 12/95**	06/96		**09/94**				11/96	01/97	11/96	#
•WSCMO St. Louis, MO[4]		ASOS 06/96										
WFOs Out Of State:												
MEMPHIS, TN (WSFO to WFO)	08/93	**88D 01/95 APUP 12/95** AWIPS *	**06/95**	*		04/98	**06/94**					
PADUCAH, KY (WSO to WFO)	02/95	**ASOS 08/95 88D 09/95** AWIPS 09/98	02/96	*		11/97	**12/94**	07/97				

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. This WSCMO is scheduled to close in October 1996. No certification required.

STATE OF MONTANA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve four counties in Idaho.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BILLINGS, MT (WSO to WFO)	08/95[1]	88D 04/96 AWIPS *		*		*	06/96	04/98	08/95[1]			
•Res WSO Billings, MT[1]		ASOS 05/95	05/96						11/96	11/96	11/96	#
•WSO Sheridan, WY		ASOS 06/96			10/95				01/97	10/97	01/97	#
GLASGOW, MT (WSO to WFO)	08/95[2]	ASOS 04/94 88D 08/96 AWIPS *		*		*	05/96	04/98				
GREAT FALLS, MT (WSFO to WFO)	06/94[3]	88D 04/95 AWIPS *		*		09/98	09/94					
•WSO Havre, MT		ASOS 04/94			04/95				06/96	11/96	06/96	#
•WSO Helena, MT		ASOS 11/94			04/95				06/96	11/96	06/96	#
•WSCMO Great Falls, MT[4]		ASOS 08/94										

1. Forecast and warning services of the WSO transferred to facility of future WFO. Surface and radar observation functions retained at original WSO location and office redesignated a residual WSO.
2. Upper air function moved locally to be closer to WFO Glasgow in August 1995.
3. Upper air function moved to location of WFO Great Falls in September 1994.
4. This WSCMO closed in September 1994. No certification required.

STATE OF MONTANA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
MISSOULA, MT (WSO to WFO)	**07/94**	**88D 06/95** ASOS 06/96 AWIPS *	**12/95**	*	[redacted]	09/98	**12/94**	04/98	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Helena, MT	[redacted]	**ASOS 11/94**	[redacted]	[redacted]	**04/95**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
•WSO Kalispell, MT	[redacted]	**ASOS 02/94**	[redacted]	[redacted]	**03/96**	[redacted]	[redacted]	[redacted]	*	10/97	10/97	#
•WSO Lewiston, ID	[redacted]	**ASOS 07/95**	[redacted]	[redacted]	**10/95**	[redacted]	[redacted]	[redacted]	04/97	04/97	04/97	#

STATE OF NEBRASKA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
HASTINGS, NE (New WFO)	11/92	88D 12/94 AWIPS *		*		01/98	03/94	07/97				
•WSO Concordia, KS		ASOS 09/92	11/95		09/94				06/96	11/96	06/96	#
•WSO Grand Island, NE		ASOS 10/92	01/96		09/94				06/96	11/96	06/96	#
NORTH PLATTE, NE (WSO to WFO)	06/95[1]	ASOS 02/96 88D 08/96 AWIPS *	12/96	*		01/98	02/96	07/97				
•WSO Norfolk, NE		ASOS 04/96	12/96		03/96				07/97	07/97	07/97	#
•WSO Scottsbluff, NE		ASOS 06/95			03/95				04/97	04/97	04/97	#
•WSO Valentine, NE		ASOS 10/95			08/95				11/96	11/96		#
•WSMO Alliance, NE[2]			11/96						11/96			

1. Upper air function remains in place and is collocated with WFO North Platte.
2. This WSMO is scheduled to close in November 1996. No certification required.

STATE OF NEBRASKA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
OMAHA, NE (WSFO to WFO)	**04/94**[3,4]	**88D 07/95 AWIPS ***		*		01/98	**07/94**		**04/94**[3]			
•Res WSO Omaha, NE[3,4]			06/96						01/97		01/97	#
•WSO Lincoln, NE		**ASOS 11/92**			**03/95**				11/96	11/96	11/96	#
•WSO Norfolk, NE		**ASOS 04/96**	12/96		**03/95**				07/97	07/97	07/97	#
•WSO Sioux City, IA		**ASOS 06/95**			**03/95**				11/96	11/96	11/96	#
WFOs Out Of State:												
CHEYENNE, WY (WSFO to WFO)	08/93	**ASOS 11/95 88D 11/95 AWIPS ***	**04/96**	*		08/98	**01/95**					
•WSO Scottsbluff, NE		**ASOS 06/95**			**03/95**				04/97	04/97	04/97	#
•WSMO Alliance, NE			11/96						11/96			
GOODLAND, KS (WSO to WFO)	03/90	**ASOS 09/92 88D 04/95 AWIPS 01/98**	**10/95**	*		08/96	**12/93**	**01/96**				

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 NEBRASKA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
SIOUX FALLS, SD (WSFO to WFO)	09/93	88D 10/95 ASOS 04/96 AWIPS *	06/96	*		04/98	08/94					

STATE OF NEVADA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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, two counties in California; and WFO Reno will serve eight counties in California.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
ELKO, NV (WSO to WFO)	**08/95**[1]	**88D 04/96** AWIPS 07/98		*		09/97	**10/95**	04/97				
•WSO Ely, NV[1]		**ASOS 06/94**			**09/95**[2]				11/96	11/96		#
•WSO Winnemucca, NV[3]		**ASOS 10/94**			**09/95**[2]				11/96	11/96		#
LAS VEGAS, NV[4,5] **(WSO to WFO)**	**03/95**[6]	**88D 09/95** AWIPS 07/98		*		09/97	**05/95**	04/97	**03/95**[6]			
•Res WSO Las Vegas, NV[6]		**ASOS 09/95**	**09/95**						07/96	11/96	07/96	#
•WSO Riverside(AG & FW), CA					07/98[7]				*			*

1. Upper air function transferred from WSO Ely to the site of WFO Elko in August 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.
3. Upper air function was transferred from WSO Winnemucca to the site of WFO Reno in October 1994.
4. An ASOS was commissioned at unstaffed Bishop Airport, Bishop, California, (May 1995) in the administrative area of WFO Las Vegas.
5. An ASOS will be commissioned in July 1996 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 Office.
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.
7. 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
RENO, NV (WSFO to WFO)	**07/94**[8,9]	**88D 06/95** AWIPS 07/98		*		09/97	**07/94**		**07/94**[8]			
•Res WSO Reno, NV[8]		**ASOS 09/95**							11/96	11/96		#
•WSO Redding, CA		ASOS 07/96			**05/96**				*	*	*	*

8. 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.
9. 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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BOSTON, MA (WSFO to WFO)	**11/93**	88D 12/94 AWIPS 12/97		*		03/97	**07/94**		**11/93**			
•WSO Concord, NH		**ASOS 03/96**			**11/94**				06/96	11/96	06/96	#
PORTLAND, ME (WSFO to WFO)	**09/94**	88D 05/95 88D 02/96[1] AWIPS *		*		04/98	**10/94**		**09/94**			
•WSO Concord, NH		**ASOS 03/96**			**11/94**				06/96	11/96	06/96	#

1. This WSR-88D, located in the vicinity of Houlton, ME, is also operated by Portland WFO.

STATE OF NEW JERSEY (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
NEW YORK CITY, NY (WSFO to WFO)	**10/93**[1]	**88D 01/95** AWIPS 03/98		*		03/97	**01/95**		**10/93**			
•WSO Newark, NJ		ASOS 09/96							07/97	07/97		#
PHILADELPHIA, PA[2] **(WSFO to WFO)**	**08/93**	**88D 02/95** AWIPS 04/98		*		06/97	**01/95**					
•WSO Atlantic City, NJ[1]		**ASOS 09/95**	**09/95**		**09/94**				06/96	11/96	06/96	#

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 in May 1996 at an unstaffed site at Northeast Philadelphia Airport, Philadelphia, Pennsylvania, in the administrative area of WFO Philadelphia.

STATE OF NEW MEXICO (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
ALBUQUERQUE, NM[1] **(WSFO to WFO)**	**03/94**[2]	**88D 08/95** **APUP 12/95**[3] **ASOS 03/96** AWIPS *		*		02/98	**04/94**					
•WSO Roswell, NM		ASOS 07/96			**10/95**							#
WFOs Out Of State:												
EL PASO, TX (WSO to WFO)	**08/95**	88D 07/96 AWIPS *		*		02/98	**02/96**	10/97	**08/95**			
MIDLAND/ODESSA, TX (WSO to WFO)	**12/94**	**88D 09/95** **ASOS 03/96** AWIPS *	06/96	*		11/97	**11/94**	07/97				
•WSO Roswell, NM		ASOS 07/96			**12/94**							#

1. An ASOS is scheduled to be commissioned in June 1996 at Clayton Memorial Airpark, Clayton, New Mexico, in the adminstrative area WFO Albuquerque.
2. Upper air function at WSFO Albuquerque moved locally in March 1994 to be closer to site of WFO Albuquerque.
3. Albuquerque also uses, 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 1996-1998

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 one county in Connecticut, one county in Massachusetts, two counties in Vermont; WFO Binghamton will serve seven counties in Pennsylvania; and WFO New York City will serve four counties in Connecticut and five counties in New Jersey.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
ALBANY, NY (WSFO to WFO)	04/97[1,2]	**88D 04/95** AWIPS *		*		07/98	**12/94**		04/97[1]			
•Res WSO Albany, NY[1,2]		**ASOS 08/95**	**11/95**						07/97	01/98	07/97	#
•WSO Hartford, CT		**ASOS 04/96**	**11/95**		**09/94**				06/96	11/96	06/96	#
BINGHAMTON, NY (WSO to WFO)	**09/93**	**88D 03/95 ASOS 11/95** AWIPS *	**09/95**	*		07/98	**10/94**	01/98				
•WSO Allentown, PA		**ASOS 11/95**			**08/94**				07/96	04/97	07/96	#
•WSO Rochester, NY		ASOS 08/96			**06/94**				01/97	07/97	01/97	#
•WSO Syracuse, NY		**ASOS 11/93**			**06/94**				10/97	04/98	10/97	#
•WSO Wilkes-Barre, PA		**ASOS 04/96**			**08/94**				07/96	04/97	07/96	#
•WSO Williamsport, PA		**ASOS 09/95**			**08/94**				06/96	01/97	06/96	#

1. Forecast and warning services of transitioning WSFO will be transferred to facility of future WFO. Surface observation functions will be retained at original WSFO location and office redesignated a residual WSO.
2. Upper air function will transfer locally in April 1997.

STATE OF NEW YORK (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
BUFFALO, NY (WSFO to WFO)	04/95[3]	88D 04/96 AWIPS *	02/96	*		07/98	09/95					
•WSO Rochester, NY		ASOS 08/96			06/94				01/97	07/97	01/97	#
•WSO Syracuse, NY		ASOS 11/93			06/94				10/97	04/98	10/97	#
•WSCMO Buffalo, NY[3]		ASOS 12/95										
NEW YORK CITY, NY[4] (WSFO to WFO)	10/93[5,6]	88D 01/95 AWIPS 03/98		*		03/97	01/95		10/93[6]			
•Res WSO New York, NY[6]			09/95						06/96		06/96	#
•WSO Bridgeport, CT		ASOS 05/96			09/94				07/96	11/96	07/96	#
•WSO Hartford, CT		ASOS 04/96	11/95		09/94				06/96	11/96	06/96	#
•WSO Newark, NJ		ASOS 09/96							07/97	07/97		#
•WSCMO New York/Kennedy, NY[7]		ASOS 05/96										
•WSCMO New York/La Guardia, NY[8]		ASOS 05/96										

3. Upper air function moved locally to be collocated with the site of WFO Buffalo in October 1995. This WSCMO closed in February 1996. No certification required.
4. 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 September 1996.
5. Upper air function transferred in September 1994 from WSO Atlantic City to the site of WFO New York City.
6. 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.
7. This office is scheduled to close in April 1997. No certification required.
8. This office is scheduled to close in December 1996. No certification required.

STATE OF NEW YORK (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BURLINGTON, VT (WSO to WFO)	**01/96**	**ASOS 02/96** **APUP 02/96**[9] 88D 03/97 AWIPS *	07/97[10]	*		07/98	**01/95**	01/98				
•WSO Syracuse, NY		**ASOS 11/93**			**06/94**				10/97	04/98	10/97	#

9. WFO Burlington also uses by means of an Associated PUP(APUP), data from the DOD WSR-88D at Griffiss AFB.
10. WSR-74C will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction.

STATE OF NORTH CAROLINA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
MOREHEAD CITY, NC[1] (New WFO)	**05/94[2]**	**88D 05/95 AWIPS ***		*		12/97	**08/94**	07/97				
•WSO Cape Hatteras, NC[2]			12/95		12/94				06/96		06/96	#
•WSMO Patuxent River, MD[3]			11/95						11/95			
RALEIGH/DURHAM, NC (WSFO to WFO)	**01/94[4,5]**	**88D 07/95 AWIPS ***		*		12/97	**08/94**		**01/94[4]**			
•Res WSO Raleigh, NC[4]		**ASOS 02/96**	12/95						06/96	11/96	06/96	#
•WSO Charlotte, NC		ASOS 07/96	07/96		09/94				01/97	04/97	01/97	#
•WSO Greensboro, NC[5]		**ASOS 10/95**			09/94				11/96	04/97	11/96	#
•WSMO Volens, VA[6]			12/95						12/95			

1. An ASOS was commissioned at an unstaffed site at Mitchell Field, Cape Hatteras, North Carolina, in the administrative area of WFO Morehead City in July 1995.
2. Upper air function transferred from WSO Cape Hatteras to the site of WFO Morehead City in July 1994.
3. This WSMO closed in November 1995. No certification required.
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 June 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.
6. This WSMO closed in December 1995. No certification required.

STATE OF NORTH CAROLINA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WILMINGTON, NC (WSO to WFO)	**07/94**	**88D 07/95 ASOS 11/95** AWIPS *	**11/95**	*		12/97	**09/94**	07/97				
WFOs Out Of State:												
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	**05/95**	**88D 03/96 ASOS 04/96** AWIPS *		*		04/98	**10/94**	10/97				
•WSO Asheville, NC		ASOS 06/96			**10/95**				11/96	04/97	11/96	#
•WSO Charlotte, NC		ASOS 07/96	07/96		**01/96**				01/97	04/97	01/97	#
•WSO Greensboro, NC[7]		**ASOS 10/95**			**10/95**				11/96	04/97	11/96	#
KNOXVILLE/TRI-CITIES, TN (New WFO)	**07/94**	**88D 06/95** AWIPS *		*		04/98	**12/94**	10/97				
•WSO Asheville, NC		ASOS 06/96			**06/95**				11/96	04/97	11/96	#

7. Upper air function will transfer in June 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
ROANOKE, VA (New WFO)	**09/94**	**88D 08/95 AWIPS ***	[redacted]	*	[redacted]	03/98	**10/94**	10/97	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Asheville, NC	[redacted]	ASOS 06/96	[redacted]	[redacted]	**04/95**	[redacted]	[redacted]	[redacted]	11/96	04/97	11/96	#
•WSO Greensboro, NC[8]	[redacted]	**ASOS 10/95**	[redacted]	[redacted]	**02/95**	[redacted]	[redacted]	[redacted]	11/96	04/97	11/96	#
WAKEFIELD, VA (New WFO)	**05/94**	**88D 08/95 APUP 11/95 AWIPS ***	[redacted]	*	[redacted]	02/98	**12/94**	10/97	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Cape Hatteras, NC[9]	[redacted]	[redacted]	**12/95**	[redacted]	**02/95**	[redacted]	[redacted]	[redacted]	06/96	[redacted]	06/96	#

8. Upper air function will transfer in June 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.
9. 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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BISMARCK, ND (WSFO to WFO)	**08/94**[1]	**APUP 10/95**[2] **88D 10/95 ASOS 05/96** AWIPS *	**02/96**	*		03/98	**11/94**					
•WSO Fargo, ND		**ASOS 11/95**	11/96		**04/95**				04/97	04/97	04/97	#
•WSO Williston, ND[3]		**ASOS 04/96**	TBD		**04/96**				TBD	TBD	TBD	TBD
EASTERN NORTH DAKOTA, ND (New WFO)	**03/96**	88D 07/96 AWIPS *		*		*	06/96	04/98				
•WSO Fargo, ND		**ASOS 11/95**	11/96		**03/96**				04/97	04/97	04/97	#
•WSO International Falls, MN[4]		ASOS 08/96			**03/96**				04/98	04/98	04/98	#

1. Upper air function remains in place and is collocated with WFO Bismarck.
2. WFO Bismarck also uses, by means of an associated PUP (APUP), data from the DOD WSR-88D located at Minot AFB.
3. Existing WSO and radar will remain in service during two year operational evaluation of the adequacy of WSR-88D coverage scheduled to end in November 1997; schedule for related activities will be determined based on results of the study.
4. Upper air function at WSO International Falls will be contracted out in July 1996 and be redesignated a WSCMO.

STATE OF OHIO (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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, 12 counties in Kentucky; and WFO Cleveland will serve two counties in Pennsylvania.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
CINCINNATI, OH (New WFO)	**06/94**[3]	**88D 06/95** AWIPS 06/98		*		08/97	**07/94**	04/97				
•WSO Cincinnati, OH		**ASOS 10/95**	06/96		**10/94**				01/97	04/97	01/97	#
•WSO Columbus, OH		**ASOS 02/96**	**12/95**		**10/94**				06/96	11/96	06/96	#
•WSO Dayton, OH		**ASOS 11/95**			**10/94**				06/96	11/96	06/96	#
•WSO Fort Wayne, IN[1]		ASOS 06/96	TBD		**10/94**				TBD	TBD	TBD	TBD
•WSO Huntington, WV[2]		ASOS 09/96			**10/94**				07/96	07/98	07/96	#
•WSO Lexington, KY		**ASOS 03/96**			**10/94**				11/96	04/98	11/96	#
•WSO Toledo, OH		**ASOS 12/95**			**10/94**				06/96	11/96	06/96	#
•WSCMO Dayton, OH[3]												

1. Funding requested for the approved new WFO and WSR-88D for northern Indiana/northwest Ohio; schedules for related activities will be determined when funding is appropriated.
2. Upper air function transferred from WSO Huntington to the site of WFO Roanoke in October 1995.
3. Upper air function transferred from WSCMO Dayton to the site of WFO Cincinnati in September 1995. This WSCMO closed in October 1995. No certification required.

STATE OF OHIO (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
CINCINNATI, OH **Ohio RFC**	02/94	NPUP 07/96 AWIPS 06/98					04/94					
CLEVELAND, OH **(WSFO to WFO)**	04/93	88D 02/95 ASOS 12/95 AWIPS 07/98	11/95	*		08/97	11/94					
•WSO Akron, OH		ASOS 09/95	11/95		08/94				06/96	11/96	06/96	#
•WSO Columbus, OH		ASOS 02/96	12/95		08/94				06/96	11/96	06/96	#
•WSO Erie, PA[4]		ASOS 10/95	TBD		08/94				TBD	TBD	TBD	TBD
•WSO Mansfield, OH		ASOS 02/96			08/94				06/96	11/96	06/96	#
•WSO Toledo, OH		ASOS 12/95			08/94				06/96	11/96	06/96	#
•WSO Youngstown, OH		ASOS 09/95			08/94				06/96	11/96	06/96	#
WFOs Out Of State:												
CHARLESTON, WV **(WSFO to WFO)**	05/95	88D 08/95 AWIPS 07/98		*		08/97	12/94		05/95			
•WSO Akron, OH		ASOS 09/95	11/95		10/94				06/96	11/96	06/96	#
•WSO Columbus, OH		ASOS 02/96	12/95		10/94				06/96	11/96	06/96	#

4. Existing RADAR will remain operational during ongoing LAKE EFFECT SNOW STUDY which is expected to be completed in May 1998; schedule for related activities will be determined based on results of the study.

STATE OF OHIO (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
GRAND RAPIDS, MI (WSO to WFO)	**08/95**	**ASOS 08/95** **88D 02/96** AWIPS 03/98	[redacted]	*	[redacted]	04/97	**09/95**	10/96	[redacted]	[redacted]	[redacted]	[redacted]
PITTSBURGH, PA (WSFO to WFO)	**05/93**	**88D 01/95** AWIPS 12/97	**05/95**	*	[redacted]	08/97	**09/94**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Akron, OH	[redacted]	**ASOS 09/95**	**11/95**	[redacted]	**10/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
•WSO Columbus, OH	[redacted]	**ASOS 02/96**	**12/95**	[redacted]	**10/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#
•WSO Youngstown, OH	[redacted]	**ASOS 09/95**	[redacted]	[redacted]	**10/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#

STATE OF OKLAHOMA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve six counties in Arkansas.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
OKLAHOMA CITY, OK (WSFO to WFO)	05/87[1,2]	88D 02/94 APUP 01/96[3] AWIPS *		*		01/98	02/93		05/87[2]			
•Res WSO Oklahoma City, OK[2]		ASOS 10/92	07/94						02/96	11/96	03/96	#
•WSO Wichita Falls, TX		ASOS 05/93	06/96		03/93				11/96	04/97	11/96	#
TULSA, OK (WSO to WFO)	03/92[4]	88D 05/94 AWIPS 12/97		*		01/98	06/94	06/94	03/92[4]			
•Res WSO Tulsa, OK[4]		ASOS 10/92	04/95						02/96	11/96	03/96	#
•WSO Fort Smith, AR[5]		ASOS 08/94	TBD		07/94				TBD	TBD	TBD	TBD

1. Upper air function transferred to the site of WFO Oklahoma City in March 1989.
2. 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.
3. WFO Oklahoma City also uses, by means of an associated PUP (APUP), data from the DOD WSR-88D at Vance AFB.
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. Funding requested for the approved new WSR-88D for northwest Arkansas/eastern Oklahoma; schedule for related activities will be determined when funding is appropriated.

STATE OF OKLAHOMA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
TULSA, OK **Arkansas-Red Basin RFC**	**03/92**	NPUP 07/96 AWIPS 09/98					**04/92**					
WFOs Out Of State:												
AMARILLO, TX **(WSO to WFO)**	**03/90**	**ASOS 11/92** **88D 03/94** AWIPS 08/98	**09/94**	*		11/97	**08/94**	**08/94**				
SHREVEPORT, LA **(WSO to WFO)**	**02/95**	**ASOS 10/95** **88D 10/95** AWIPS *	06/96	*		02/98	**06/95**	10/97				

STATE OF OREGON (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve seven counties in Washington; and WFO Portland will serve six counties in Washington.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
MEDFORD, OR[1] (WSO to WFO)	**06/95[2]**	**88D 04/96** ASOS 06/96 AWIPS *	08/96[3]	*		05/98	**05/96**	01/98				
•WSO Eugene, OR		**ASOS 09/95**			**07/95**				01/97	01/97	01/97	#
•WSO Klamath Falls, OR									#			#
•WSO Redding, CA		ASOS 07/96			06/96				*	*	*	*
•WSCMO Sexton Summit, OR		**ASOS 12/92**										
PENDLETON, OR (WSO to WFO)	**05/95**	**ASOS 06/95** 88D 07/96 AWIPS *		*		05/98	**05/96**	01/98				
•WSO Lewiston, ID		**ASOS 07/95**			**06/95**				04/97	04/97	04/97	#
•WSO Wenatchee (AG & FW), WA					*[4]				*			*
•WSO Yakima, WA		**ASOS 04/96**			**12/95**				01/97	10/97	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 August 1996.
2. Upper air function will remain at its current location which is collocated with site of WFO Medford.
3. WSR-57 was dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction.
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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
PORTLAND, OR (WSFO to WFO)	08/94[5]	88D 07/95 AWIPS *		*		05/98	06/95		08/94[5]			
•Res WSO Portland, OR[5]		ASOS 11/95	01/96						07/96	11/96	07/96	#
•WSO Astoria, OR		ASOS 03/93			01/96				11/96	04/97	11/96	#
•WSO Eugene, OR		ASOS 09/95			07/95				01/97	01/97	01/97	#
•WSO Olympia (FW), WA					*[6]				*			*
•WSO Olympia, WA		ASOS 11/95			04/95				01/97	01/97	01/97	#
•WSO Salem (FW), OR									#			#
•WSO Salem, OR[7]		ASOS 07/95			09/95				07/96	11/96	07/96	#
PORTLAND, OR Northwest RFC	08/94	NPUP 07/96 AWIPS *					06/93					
WFOs Out Of State:												
BOISE, ID (WSFO to WFO)	07/93	88D 01/95 ASOS 12/95 AWIPS *		*		08/98	05/94					
•WSMO Burns, OR[8]		ASOS 07/95							10/96			

5. 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.
6. Service will be transferred upon commissioning of an AWIPS at WFO Portland.
7. Upper air function will be contracted at Salem location until roof launch capability is available at WFO Portland.
8. This WSMO is scheduled to close in October 1996. No certification required.

STATE OF PENNSYLVANIA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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, five counties in Maryland, 17 counties in New Jersey; and WFO Pittsburgh will serve one county in Maryland, nine counties in West Virginia and 11 counties in Ohio.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
CENTRAL PENNSYLVANIA, PA (New WFO)	**09/93**	**88D 04/95** AWIPS 04/98		*		06/97	**09/94**	01/97				
•WSO Allentown, PA		**ASOS 11/95**			**08/94**				07/96	04/97	07/96	#
•WSO Erie, PA[1]		**ASOS 10/95**	TBD		**08/94**				TBD	TBD	TBD	TBD
•WSO Harrisburg, PA			**01/96**		**08/94**				06/96		06/96	#
•WSO Wilkes-Barre, PA		**ASOS 04/96**			**08/94**				07/96	04/97	07/96	#
•WSO Williamsport, PA		**ASOS 09/95**			**08/94**				06/96	01/97	06/96	#
CENTRAL PENNSYLVANIA, PA Middle Atlantic RFC	**01/93**	NPUP 07/96 AWIPS 04/98					**08/94**					

1. Existing RADAR will remain operational during ongoing LAKE EFFECT SNOW STUDY which is expected to be completed in May 1998; schedule for related activities will be determined based on results of the study.

STATE OF PENNSYLVANIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
PHILADELPHIA, PA[2] (WSFO to WFO)	**08/93**	**88D 02/95** AWIPS 04/98		*		06/97	**01/95**					
•WSO Allentown, PA		**ASOS 11/95**			**08/94**				07/96	04/97	07/96	#
•WSO Atlantic City, NJ[3]		**ASOS 09/95**	**09/95**		**09/94**				06/96	11/96	06/96	#
•WSO Baltimore, MD		**ASOS 04/96**			**10/94**				06/96	01/97	06/96	#
•WSO Reading, PA									#			#
•WSO Wilmington, DE		**ASOS 10/94**			**10/94**				06/96	11/96	06/96	#
•WSCMO Philadelphia, PA[4]		**ASOS 12/95**										
PITTSBURGH, PA (WSFO to WFO)	**05/93[5]**	**88D 01/95** AWIPS 12/97	**05/95**	*		08/97	**09/94**					
•WSO Akron, OH		**ASOS 09/95**	**11/95**		**10/94**				06/96	11/96	06/96	#
•WSO Columbus, OH		**ASOS 02/96**	**12/95**		**10/94**				06/96	11/96	06/96	#
•WSO Elkins, WV		**ASOS 05/96**			**09/94**				07/96	11/96	07/96	#
•WSO Erie, PA[6]		**ASOS 10/95**	TBD		**08/94**				TBD	TBD	TBD	TBD
•WSO Youngstown, OH		**ASOS 09/95**			**10/94**				06/96	11/96	06/96	#
•WSCMO Pittsburgh, PA[7]		ASOS 07/96										

2. An ASOS will be commissioned in May 1996 at an unstaffed site at Northeast Philadelphia Airport, Philadelphia, Pennsylvania, in the administrative area of WFO Philadelphia.
3. Upper air function transferred in September 1994 from WSO Atlantic City to the site of WFO New York City.
4. This WSCMO is scheduled to close in July 1996. No certification required.
5. Upper air function remains and is collocated with WFO Pittsburgh.
6. Existing RADAR will remain operational during ongoing LAKE EFFECT SNOW STUDY which is expected to be completed in May 1998; schedule for related activities will be determined based on results of the study.
7. This WSCMO is scheduled to close in March 1997. No certification required.

STATE OF PENNSYLVANIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BINGHAMTON, NY (WSO to WFO)	09/93	88D 03/95 ASOS 11/95 AWIPS *	09/95	*		07/98	10/94	01/98				
•WSO Allentown, PA		ASOS 11/95			08/94				07/96	04/97	07/96	#
•WSO Wilkes-Barre, PA		ASOS 04/96			08/94				07/96	04/97	07/96	#
•WSO Williamsport, PA		ASOS 09/95			08/94				06/96	01/97	06/96	#
CLEVELAND, OH (WSFO to WFO)	04/93	88D 02/95 ASOS 12/95 AWIPS 07/98	11/95	*		08/97	11/94					
•WSO Erie, PA[8]		ASOS 10/95	TBD		08/94				TBD	TBD	TBD	TBD

8. Existing RADAR will remain operational during ongoing LAKE EFFECT SNOW STUDY which is expected to be completed in May 1998; schedule for related activities will be determined based on results of the study.

TERRITORY OF PUERTO RICO (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

Modernized weather services in Puerto Rico will be provided by one in-state WFO--San Juan.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
SAN JUAN, PR (WSFO to WFO)	**04/94**[1]	**ASOS 05/96**, APUP 11/96[2] AWIPS *	04/97	*		09/98	**11/94**					

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 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BOSTON, MA (WSFO to WFO)	**11/93**	**88D 12/94** AWIPS 12/97	[redacted]	*	[redacted]	03/97	**07/94**	[redacted]	**11/93**	[redacted]	[redacted]	[redacted]
•WSO Providence, RI	[redacted]	**ASOS 09/95**	[redacted]	[redacted]	**09/94**	[redacted]	[redacted]	[redacted]	06/96	11/96	06/96	#

STATE OF SOUTH CAROLINA (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 will serve five counties in Georgia; and WFO Greenville/Spartanburg will serve 28 counties in North Carolina and six counties in Georgia.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
CHARLESTON, SC (WSO to WFO)	**11/94**[1]	**ASOS 10/95** 88D 06/96 AWIPS *	10/96	*		05/98	**07/94**	01/98				
•WSO Augusta, GA		**ASOS 05/94**	06/96		**06/95**				01/97	01/97	01/97	#
•WSO Savannah, GA		**ASOS 04/96**	10/96		**06/95**				04/97	04/97	04/97	#
•WSMO Waycross, GA[2]			**01/96**						**01/96**			
COLUMBIA, SC (WSFO to WFO)	**09/93**	**88D 06/95 ASOS 12/95** AWIPS *	**10/95**	*		05/98	**08/94**					
•WSO Augusta, GA		**ASOS 05/94**	06/96		**12/94**				01/97	01/97	01/97	#

1. Upper air function remains at its current location.
2. Upper air function transferred from WSMO Waycross to the site of WFO Jacksonville in January 1995. This WSMO closed in January 1996. No certification required.

STATE OF SOUTH CAROLINA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
GREENVILLE/SPARTANBURG, SC (WSO to WFO)	**05/95**	**88D 03/96 ASOS 04/96 AWIPS ***		*		04/98	**10/94**	10/97				
•WSO Asheville, NC		ASOS 06/96			**10/95**				11/96	04/97	11/96	#
•WSO Athens, GA[3]		**ASOS 02/96**	07/96		**10/95**				01/97	01/97	01/97	#
•WSO Charlotte, NC		ASOS 07/96	07/96		**01/96**				01/97	04/97	01/97	#
•WSO Greensboro, NC[4]		**ASOS 10/95**			**10/95**				11/96	04/97	11/96	#
WFOs Out Of State:												
WILMINGTON, NC (WSO to WFO)	**07/94**	**88D 07/95 ASOS 11/95 AWIPS ***	**11/95**	*		12/97	**09/94**	07/97				

3. Upper air function was transferred from WSO Athens to the site of WFO Atlanta in August 1994.
4. Upper air function will transfer in June 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 1996-1998

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 will serve three counties in Wyoming; and WFO Sioux Falls will serve 11 counties in Iowa, eight counties in Minnesota and two counties in Nebraska.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
ABERDEEN, SD (WSO to WFO)	11/94[1]	ASOS 11/94 88D 09/95 AWIPS *		*		*	09/95	04/98				
•WSO Fargo, ND		ASOS 11/95	11/96		09/95				04/97	04/97	04/97	#
•WSO Huron, SD[1]		ASOS 07/96	11/96		09/95				04/97	04/97	04/97	#
•WSO St. Cloud, MN		ASOS 06/95			04/95				01/97	01/97	01/97	#
RAPID CITY, SD (WSO to WFO)	11/95[2,3]	88D 07/96 AWIPS *		*		*	10/95	04/98	11/95[2]			
•Res WSO Rapid City, SD[2,3]		ASOS 09/95	11/96						04/97	04/97	04/97	#
•WSO Casper, WY		ASOS 04/96			04/96				04/97	10/97	04/97	#
•WSMO Alliance, NE[4]			11/96						11/96			

1. Upper air function transferred in November 1994 from WSO Huron to the site of WFO Aberdeen.
2. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Radar and surface observation functions retained at original WSO location and office redesignated a residual WSO.
3. Upper air function transfered locally in November 1995 to be collocated with WFO Rapid City.
4. This WSMO is scheduled to close in November 1996. No certification required.

STATE OF SOUTH DAKOTA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
SIOUX FALLS, SD (WSFO to WFO)	**09/93**	**88D 10/95 ASOS 04/96** AWIPS *	06/96	*	[redacted]	04/98	**08/94**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
•WSO Huron, SD	[redacted]	ASOS 07/96	11/96	[redacted]	**09/95**	[redacted]	[redacted]	[redacted]	04/97	04/97	04/97	#
•WSO Sioux City, IA	[redacted]	**ASOS 06/95**	[redacted]	[redacted]	**03/95**	[redacted]	[redacted]	[redacted]	11/96	11/96	11/96	#

STATE OF TENNESSEE (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 two counties in North Carolina, five counties in Virginia; and WFO Memphis will serve 12 counties in Arkansas, 24 counties in Mississippi and two counties in Missouri.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
KNOXVILLE/TRI-CITIES, TN (New WFO)	07/94	88D 06/95 AWIPS *		*		04/98	12/94	10/97				
•WSO Asheville, NC		ASOS 06/96			06/95				11/96	04/97	11/96	#
•WSO Bristol, TN		ASOS 10/95	01/96		06/95				06/96	11/96	06/96	#
•WSO Chattanooga, TN[1]		ASOS 09/95	TBD		06/95				TBD	TBD	TBD	TBD
•WSO Knoxville, TN		ASOS 10/95			06/95				06/96	11/96	06/96	#
MEMPHIS, TN (WSFO to WFO)	08/93	88D 01/95 APUP 12/95[2] AWIPS *	06/95	*		04/98	06/94					
•WSO Tupelo, MS		ASOS 06/93	12/95		04/95				06/96	11/96	06/96	#

1. Funding requested for the approved new WSR-88D for northern Alabama/southeast Tennessee; schedule for related activities will be determined when funding is appropriated.
2. 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
NASHVILLE, TN (WSO to WFO)	**10/94**[3]	**88D 07/95 AWIPS ***	**01/96**	*		04/98	**11/94**	10/97				
•WSO Chattanooga, TN[4]		**ASOS 09/95**	TBD		**06/95**				TBD	TBD	TBD	TBD
•WSO Knoxville, TN		**ASOS 10/95**			**06/95**				06/96	11/96	06/96	#
•WSCMO Nashville, TN[5]		ASOS 06/96										

3. Upper air function remains at its current location, which is collocated with the site of WFO Nashville.
4. Funding requested for the approved new WSR-88D for northern Alabama/southeast Tennessee; schedule for related activities will be determined when funding is appropriated.
5. This WSCMO is scheduled to close in September 1996. No certification required.

STATE OF TEXAS (Page 1 of 5)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

Modernized weather services in Texas will be provided by ten 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 will serve six counties in New Mexico; and WFO Midland/Odessa will serve two counties in New Mexico.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
AMARILLO, TX (WSO to WFO)	03/90[1]	ASOS 11/92 88D 03/94 AWIPS 08/98	09/94	*		11/97	08/94	08/94				
AUSTIN/SAN ANTONIO, TX (WSFO to WFO)	04/94[2]	88D 01/95 APUP 12/95[3] AWIPS 06/98		*		08/97	06/94		04/94[2]			
•Res WSO San Antonio, TX[2]		ASOS 06/95							11/96	11/96		#
•WSO Austin, TX		ASOS 07/95	10/95		03/95				04/97	04/97	04/97	#
•WSO Del Rio, TX[4]		ASOS 04/96[5]			03/95				06/96		06/96	#
•WSO Victoria, TX		ASOS 12/95	02/97		03/95				07/97	01/98	07/97	#
•WSMO Hondo, TX[6]			03/96						03/96			

1. Upper air function remains at its current site, which is collocated with WFO Amarillo.
2. Forecast and warning service of the transitioning WSFO transferred to facility of future WFO. Surface observation function retained at original WSFO location and office redesignated a residual WSO.
3. WFO Austin/San Antonio also uses, by means of an associated PUP (APUP), data from the DOD Laughlin AFB WSR-88D.
4. Upper air function contracted out at its current location in March 1995.
5. This ASOS will replace a currently automated system, AUTOB, at this site.
6. This office closed in March 1996. No certification required.

STATE OF TEXAS (Page 2 of 5)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
BROWNSVILLE, TX (WSO to WFO)	03/95[7]	ASOS 05/94 88D 09/95 AWIPS 09/98	02/96	*		11/97	07/95	07/97				
CORPUS CHRISTI, TX (WSO to WFO)	10/95[8]	ASOS 12/95 88D 09/96 AWIPS 06/98	02/97	*		08/97	02/96	04/97				
•WSO Victoria, TX		ASOS 12/95	02/97		05/96				07/97	01/98	07/97	#
DALLAS/FORT WORTH, TX (WSFO to WFO)	11/93[9]	88D 12/94 APUP 10/95[10] APUP 10/95[10] AWIPS 02/98		*		02/97	10/94					
•WSO Abilene, TX		ASOS 05/96	12/96		01/95				07/97	01/98	07/97	#
•WSO Austin, TX		ASOS 07/95	10/95		01/95				04/97	04/97	04/97	#
•WSO Waco, TX		ASOS 07/93	09/95		01/95				06/96	11/96	06/96	#
•WSO Wichita Falls, TX		ASOS 05/93	06/96		03/93				11/96	04/97	11/96	#
•WSMO Longview, TX[11]			03/96						03/96			
•WSMO Stephenville, TX[9]			08/95						08/95			
•WSCMO Dallas/Fort Worth, TX[12]		ASOS 12/95										

7. Upper air function transferred to the site of WFO Brownsville in July 1995.
8. Upper air function transferred to the site of WFO Corpus Christi in November 1995.
9. Upper air function transferred from WSO Stephenville to the site of WFO Dallas/Fort Worth in July 1994. This WSMO closed in August 1995. No certification required.
10. WFO Dallas/Fort Worth also uses, by means of APUPs, the data from the DOD WSR-88Ds at Dyess AFB and Central Texas.
11. Upper air function transferred from WSMO Longview to the site of WFO Shreveport in February 1995. This WSMO closed in March 1996. No certification required.
12. This WSCMO closed in April 1996. No certification required.

STATE OF TEXAS (Page 3 of 5)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
DALLAS/FORT WORTH, TX West Gulf RFC	**11/93**	NPUP 07/96 AWIPS 02/98					**01/94**					
EL PASO, TX[13] (WSO to WFO)	**08/95[14,15]**	88D 07/96 AWIPS *		*		02/98	**02/96**	10/97	**08/95[14]**			
•Res WSO El Paso, TX[14,15]		**ASOS 06/95**							11/96	11/96		#
HOUSTON/GALVESTON, TX (WSO to WFO)	**10/90**	**88D 03/94** AWIPS 04/98		*		05/97	**04/94**	02/97				
•WSO Austin, TX		**ASOS 07/95**	**10/95**		**04/94**				04/97	04/97	04/97	#
•WSO Galveston, TX			**05/95**		**04/94**				**11/95**		**11/95**	#
•WSO Victoria, TX		**ASOS 12/95**	02/97		**04/94**				07/97	01/98	07/97	#
•WSO Waco, TX		**ASOS 07/93**	**09/95**		**04/94**				06/96	11/96	06/96	#
•WSCMO Houston, TX[16]		ASOS 06/96										

13. An ASOS is scheduled to be commissioned in July 1996 at unstaffed Truth or Consequences Airport, NM in the administrative area of WFO El Paso.
14. Forecast and warning service of the transitioning WSO transferred to facility of future WFO. Surface observation function retained at original WSO location and office redesignated a residual WSO.
15. Upper air function transferred from WSO El Paso to the site of WFO El Paso in September 1995.
16. This WSCMO is scheduled to close in August 1996. No certification required.

STATE OF TEXAS (Page 4 of 5)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
LUBBOCK, TX (WSFO to WFO)	**12/93**[17]	**88D 09/95** AWIPS *		*		11/97	**06/94**		**12/93**[17]			
•Res WSO Lubbock, TX[17]		**ASOS 09/95**	**04/96**						07/96	11/96	07/96	#
•WSO Abilene, TX		**ASOS 05/96**	12/96		**10/95**				07/97	01/98	07/97	#
MIDLAND/ODESSA, TX (WSO to WFO)	**12/94**[18]	**88D 09/95** **ASOS 03/96** AWIPS *	06/96	*		11/97	**11/94**	07/97				
•WSO Roswell, NM		ASOS 07/96			**12/94**				#			#
SAN ANGELO, TX (WSO to WFO)	**02/96**	**ASOS 02/96** 88D 07/96 AWIPS *	12/96	*		12/97	**02/96**	07/97				
•WSO Abilene, TX		**ASOS 05/96**	12/96		08/96				07/97	01/98	07/97	#
•WSO Austin, TX		**ASOS 07/95**	**10/95**		**03/95**				04/97	04/97	04/97	#

17. 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.
18. Upper air function remains at its current location, which is collocated with the site of WFO Midland/Odessa.

STATE OF TEXAS (Page 5 of 5)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
LAKE CHARLES, LA (WSO to WFO)	02/96	88D 05/95 ASOS 01/96 APUP 01/96 AWIPS *	10/95	*		02/98	10/94	10/97				
•WSO Port Arthur, TX		ASOS 07/95			05/95				06/96	11/96	06/96	#
OKLAHOMA CITY, OK (WSFO to WFO)	05/87	88D 02/94 APUP 01/96 AWIPS *		*		01/98	02/93		05/87			
•WSO Wichita Falls, TX		ASOS 05/93	06/96		03/93				11/96	04/97	11/96	#
SHREVEPORT, LA (WSO to WFO)	02/95[19]	ASOS 10/95 88D 10/95 AWIPS *	06/96	*		02/98	06/95	10/97				
•WSO Port Arthur, TX		ASOS 07/95			05/95				06/96	11/96	06/96	#
•WSMO Longview, TX[19]			03/96						03/96			

19. Upper air function transferred from WSMO Longview to the site of WFO Shreveport in February 1995. This WSMO closed in March 1996. No certification required.

STATE OF UTAH (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 one county in Wyoming and three counties in Idaho.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
SALT LAKE CITY, UT[1] **(WSFO to WFO)**	**08/94**[2]	**88D 06/95** ASOS 06/96 88D 03/97[3] AWIPS 12/97		*		08/98	**05/94**					
SALT LAKE CITY, UT Colorado Basin RFC	**08/94**	NPUP 07/96 AWIPS 12/97					**03/93**					
WFOs Out Of State:												
GRAND JUNCTION, CO (WSO to WFO)	**06/95**	**ASOS 04/96** 88D 06/96 AWIPS *		*		08/98	**10/95**	04/98				

1. An ASOS also will be commissioned in July 1996 at an unstaffed site at Milford Municipal Airport, Milford, Utah, in the administrative area of WFO Salt Lake City.
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.

STATE OF VERMONT (Page 1 of 1)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BURLINGTON, VT (WSO to WFO)	**01/96**	**ASOS 02/96,** **APUP 02/96**[1] 88D 03/97 AWIPS *	07/97[2]	*		07/98	**01/95**	01/98				
•WSO Syracuse, NY		**ASOS 11/93**			**06/94**				10/97	04/98	10/97	#
WFOs Out Of State:												
ALBANY, NY (WSFO to WFO)	04/97	**88D 04/95** AWIPS *		*		07/98	**12/94**		04/97			

1. WFO Burlington also uses by means of an Associated PUP(APUP), data from the DOD WSR-88D at Griffiss AFB.
2. WSR-74C will be dismantled upon delivery of the WSR-88D to clear the area for the 88D's construction.

STATE OF VIRGINIA (Page 1 of 3)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 one county in District Of Columbia, 13 counties in Maryland, eight counties in West Virginia; WFO Roanoke will serve four counties in West Virginia, nine counties in North Carolina; and WFO Wakefield will serve four counties in Maryland and nine counties in North Carolina.

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	04/90	88D 06/94 AWIPS *		*		02/98	05/93					
•WSO Baltimore, MD		ASOS 04/96			04/94				06/96	01/97	06/96	#
•WSO Elkins, WV		ASOS 05/96			04/94				07/96	11/96	07/96	#
•WSO Richmond, VA		ASOS 10/95			03/94				06/96	01/97	06/96	#
•WSMO Patuxent River, MD[1]			11/95						11/95			
•WSMO Volens, VA[2]			12/95						12/95			
•WSCMO Washington-Dulles, DC[3]		ASOS 05/96										
•WSCMO Washington-National, DC[4]		ASOS 07/96										

1. This WSMO closed in November 1995. No certification required.
2. This WSMO closed in December 1995. No certification required.
3. Upper Air Function at WSCMO Washington - Dulles moved to the location of WFO Baltimore MD/Washington DC in July 1992. This WSCMO is scheduled to close in July 1996. No certification required.
4. This WSCMO is scheduled to close in October 1996. No certification required.

STATE OF VIRGINIA (Page 2 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
ROANOKE, VA (New WFO)	09/94[5]	88D 08/95 AWIPS *		*		03/98	10/94	10/97				
•WSO Asheville, NC		ASOS 06/96			04/95				11/96	04/97	11/96	#
•WSO Beckley, WV		ASOS 02/96	01/96		02/95				07/96	01/97	07/96	#
•WSO Bristol, TN		ASOS 10/95	01/96		02/95				06/96	11/96	06/96	#
•WSO Greensboro, NC[6]		ASOS 10/95			02/95				11/96	04/97	11/96	#
•WSO Lynchburg, VA		ASOS 06/96			02/95				06/96	01/97	06/96	#
•WSO Richmond, VA		ASOS 10/95			02/95				06/96	01/97	06/96	#
•WSO Roanoke, VA		ASOS 05/96			02/95				06/96	11/96	06/96	#
•WSMO Volens, VA[7]			12/95						12/95			

5. Upper air function transferred from WSO Huntington to the site of WFO Roanoke in October 1995.
6. Upper air function will transfer in June 1996 from WSO Greensboro to the site of WFO Raleigh/Durham.
7. This WSMO closed in December 1995. No certification required.

STATE OF VIRGINIA (Page 3 of 3)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WAKEFIELD, VA (New WFO)	05/94	88D 08/95 APUP 11/95[8] AWIPS *		*		02/98	12/94	10/97				
•WSO Baltimore, MD		ASOS 04/96			02/95				06/96	01/97	06/96	#
•WSO Cape Hatteras, NC			12/95		02/95				06/96		06/96	#
•WSO Norfolk, VA		ASOS 03/96			02/95				06/96	01/97	06/96	#
•WSO Richmond, VA		ASOS 10/95			02/95				06/96	01/97	06/96	#
•WSMO Patuxent River, MD			11/95						11/95			
•WSCMO Wallops Island, VA[9]		ASOS 08/96										
WFOs Out Of State:												
CHARLESTON, WV (WSFO to WFO)	05/95	88D 08/95 AWIPS 07/98		*		08/97	12/94		05/95			
KNOXVILLE/TRI-CITIES, TN (New WFO)	07/94	88D 06/95 AWIPS *		*		04/98	12/94	10/97				

8. WFO Wakefield also uses, by means of an associated PUP (APUP), data from the DOD Dover AFB WSR-88D.
9. Upper air function remains at WSCMO Wallops Island.

STATE OF WASHINGTON (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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 seven 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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes			Automate	Consolidate	Close
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease			
WFOs In State:												
SEATTLE/TACOMA, WA (WSFO to WFO)	10/93	88D 02/95 AWIPS *		*		07/98	06/94					
•WSO Olympia (FW), WA					*[1]				*			*
•WSO Olympia, WA		ASOS 11/95			04/95				01/97	01/97	01/97	#
•WSCMO Quillayute, WA[2]		ASOS 06/96										
•WSCMO Seattle/Tacoma, WA[3]		ASOS 06/96										
•WSCMO Stampede Pass, WA		ASOS 02/94										
SPOKANE, WA (WSO to WFO)	09/95[4,5]	88D 07/96 AWIPS *		*		07/98	10/95	01/98	09/95[4]			
•Res WSO Spokane, WA[4]		ASOS 09/95								11/96		#
•WSO Lewiston, ID		ASOS 07/95			01/96				04/97	04/97	04/97	#
•WSO Wenatchee (AG & FW), WA					*[6]				*			*

1. Service will be transferred upon commissioning of an AWIPS at WFO Seattle/Tacoma.
2. Upper air function will remain at WSCMO Quillayute.
3. This WSCMO is scheduled to close in October 1996. No certification required.
4. Forecast and warning services of transitioning WSO transferred to facility of future WFO. Surface observation functions retained at original WSO location and office redesignated a residual WSO.
5. Upper air function transferred locally to the WFO site in September 1995.
6. Service will be transferred upon commissioning of an AWIPS at WFO Spokane.

STATE OF WASHINGTON (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
PENDLETON, OR (WSO to WFO)	05/95	ASOS 06/95 88D 07/96 AWIPS *		*		05/98	05/96	01/98				
•WSO Wenatchee (AG & FW), WA					*[7]				*			*
•WSO Yakima, WA		ASOS 04/96			12/95				07/97	10/97	01/97	#
PORTLAND, OR (WSFO to WFO)	08/94	88D 07/95 AWIPS *		*		05/98	06/95		08/94			
•WSO Olympia (FW), WA					*[8]				*			*
•WSO Olympia, WA		ASOS 11/95			04/95				01/97	01/97	01/97	#

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 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
CHARLESTON, WV (WSFO to WFO)	05/95[1]	88D 08/95 AWIPS 07/98		*		08/97	12/94		05/95[1]			
•Res WSO Charleston, WV[1]		ASOS 10/94	01/96						07/96	11/96	07/96	#
•WSO Akron, OH		ASOS 09/95	11/95		10/94				06/96	11/96	06/96	#
•WSO Beckley, WV		ASOS 02/96	01/96		10/94				07/96	01/97	07/96	#
•WSO Bristol, TN		ASOS 10/95	01/96		10/94				06/96	11/96	06/96	#
•WSO Columbus, OH		ASOS 02/96	12/95		10/94				06/96	11/96	06/96	#
•WSO Elkins, WV		ASOS 05/96			10/94				07/96	11/96	07/96	#
•WSO Huntington, WV[2]		ASOS 09/96			10/94				07/96	07/98	07/96	#
WFOs Out Of State:												
BALTIMORE, MD/ WASHINGTON, DC (WSFO to WFO)	04/90	88D 06/94 AWIPS *		*		02/98	05/93					
•WSO Elkins, WV		ASOS 05/96			04/94				07/96	11/96	07/96	#

1. 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.
2. Upper air function transferred from WSO Huntington to the site of WFO Roanoke in October 1995.

STATE OF WEST VIRGINIA (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
PITTSBURGH, PA (WSFO to WFO)	**05/93**	**88D 01/95** AWIPS 12/97	**05/95**	*		08/97	**09/94**					
•WSO Elkins, WV		**ASOS 05/96**			**09/94**				07/96	11/96	07/96	#
ROANOKE, VA (New WFO)	**09/94**	**88D 08/95** AWIPS *		*		03/98	**10/94**	10/97				
•WSO Beckley, WV		**ASOS 02/96**	**01/96**		**02/95**				07/96	01/97	07/96	#

STATE OF WISCONSIN (Page 1 of 2)
Actions to Change Operations and to Certify Field Offices
FY 1996-1998

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

Shown below are notifiable actions scheduled to occur in fiscal years 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
GREEN BAY, WI (WSO to WFO)	04/94[1]	88D 07/95 ASOS 07/96 AWIPS *		*		06/98	11/94	02/98				
•WSO Madison, WI		ASOS 04/96	05/96		12/94				07/97	07/97	07/97	#
•WSMO Neenah, WI[2]			11/95						11/95			
LA CROSSE, WI (WSO to WFO)	08/95	88D 09/96 AWIPS *		*		06/98	03/96	01/98				
•WSO Madison, WI		ASOS 04/96	05/96		04/96				07/97	07/97	07/97	#
•WSO Rochester, MN		ASOS 06/96	01/97		08/96				07/97	10/97	07/97	#
•WSO Waterloo, IA		ASOS 04/96	08/96		08/96				07/97	10/97	07/97	#

1. Upper air function remains at current location and is collocated with WFO Green Bay.
2. This WSMO closed in November 1995. No certification required.

STATE OF WISCONSIN (Page 2 of 2)

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
MILWAUKEE, WI (WSFO to WFO)	**12/89**[3]	**88D 09/95** AWIPS *		*		06/98	**12/94**		**12/89**[3]			
•Res WSO Milwaukee, WI[3]		**ASOS 07/95**							11/96	11/96		#
•WSO Dubuque, IA		**ASOS 09/95**			**12/94**				07/96	10/97	07/96	#
•WSO Madison, WI		**ASOS 04/96**	**05/96**		**12/94**				07/97	07/97	07/97	#
WFOs Out Of State:												
DULUTH, MN (WSO to WFO)	**04/96**	**ASOS 04/96** **88D 05/96** AWIPS 02/98	09/96	*		01/97	**07/95**	07/96				
MINNEAPOLIS, MN (WSFO to WFO)	**03/95**	**88D 11/95** AWIPS 02/98		*		01/97	**08/94**		**03/95**			
QUAD CITIES, IA (WSO to WFO)	**02/95**	**88D 09/95** AWIPS *		*		03/98	**09/95**	10/97	**02/95**			

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 1996-1998

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 1996-1998. Actions anticipated to occur after fiscal year 1998 are identified by an asterisk(*).

OFFICES	CHANGE OF OPERATIONS									CERTIFICATIONS		
	Facility Occupancy	Systems Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs In State:												
CHEYENNE, WY (WSFO to WFO)	**08/93**	**ASOS 11/95 88D 11/95 AWIPS ***	**04/96**	*		08/98	**01/95**					
•WSO Casper, WY		**ASOS 04/96**			**03/95**				04/97	10/97	04/97	#
•WSO Scottsbluff, NE		**ASOS 06/95**			**03/95**				04/97	04/97	04/97	#
•WSMO Alliance, NE[1]			11/96						11/96			
RIVERTON, WY (New WFO)	**08/95[2]**	**ASOS 12/95 88D 04/96 AWIPS ***		*		08/98	**10/95**	04/98				
•WSO Casper, WY		**ASOS 04/96**			**04/96**				04/97	10/97	04/97	#
•WSO Lander, WY[2]					**08/95**				01/97	10/97	01/97	#
•WSO Sheridan, WY		ASOS 06/96			**04/96**				01/97	10/97	01/97	#

1. This WSMO is scheduled to close in November 1996. No certification required.
2. Upper air function transferred in August 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 Commission	Decommissionings		Service Transfer		Signf. Staff Changes					
			Radar	AFOS	Warnings	Forecasts	Increase Stage 1	Increase Stage 2	Decrease	Automate	Consolidate	Close
WFOs Out Of State:												
BILLINGS, MT (WSO to WFO)	**08/95**	**88D 04/96** AWIPS *	[redacted]	*	[redacted]	*	06/96	04/98	**08/95**	[redacted]	[redacted]	[redacted]
•WSO Sheridan, WY	[redacted]	ASOS 06/96	[redacted]	[redacted]	**10/95**	[redacted]	[redacted]	[redacted]	01/97	10/97	01/97	#
RAPID CITY, SD (WSO to WFO)	**11/95**	88D 07/96 AWIPS *	[redacted]	*	[redacted]	*	**10/95**	04/98	**11/95**	[redacted]	[redacted]	[redacted]
•WSO Casper, WY	[redacted]	**ASOS 04/96**	[redacted]	[redacted]	**04/96**	[redacted]	[redacted]	[redacted]	04/97	10/97	04/97	#
SALT LAKE CITY, UT (WSFO to WFO)	**08/94**	**88D 06/95** ASOS 06/96 88D 03/97[3] AWIPS 12/97	[redacted]	*	[redacted]	08/98	**05/94**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

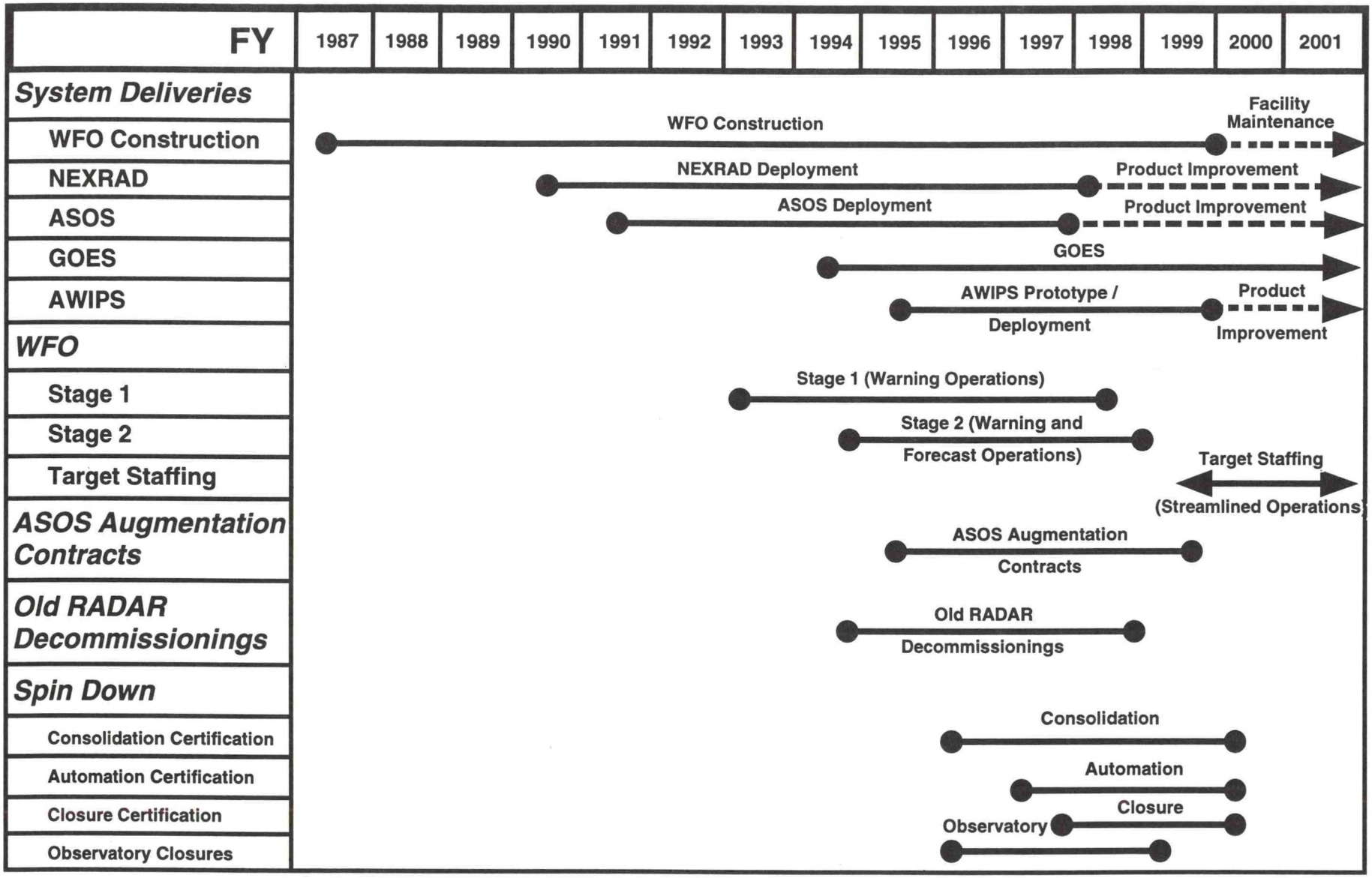
3. A second WSR-88D, located at Cedar City, UT is to be controlled & used by the Salt Lake City WFO.

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.

NWS is revising the current MTS and WBS to focus on WFO operations and services during Stage 2 and AWIPS commissioning. The figure on the next page provides an overview of how NWS will phase in modernization activities.

National Weather Service Phasing of Modernization



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

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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

10 Services

INITIAL STAGE 2 SERVICE IMPLEMENTATION

11 STAGE 1 SERVICE IMPLEMENTATION

VALIDATION AND VERIFICATION

12 Transition Planning

NATIONAL IMPLEMENTATION PLAN NEXT UPDATE

13 SITE IMPLEMENTATION PLAN UPDATES

14 Research Programs

15 RAPID UPDATE CYCLE TESTING AT NMC

RAPID UPDATE CYCLE OPERATIONAL

16 PROFILER ASSESSMENT

17 ADVANCED SUPER COMPUTER INSTALLATION AT NMC

Risk Reduction

18 ISPAN

19 TULSA (PROTEUS) RISK REDUCTION EVALUATION

20 NORMAN RISK REDUCTION EVALUATION

Activity Classification: ACTIVITY TYPE

THE PRINCIPAL PATH | ASOS PROGRAM | AWIPS PROGRAM | NEXRAD PROGRAM

Plot Date 15MAR95
Data Date 6MAR95
Project Start 20DEC87
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
3-17-95	M. Straight		
3-20-95	M. Straight		

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

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	Jun 95
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	Jun 94
Human Resources Plan	Dec 93

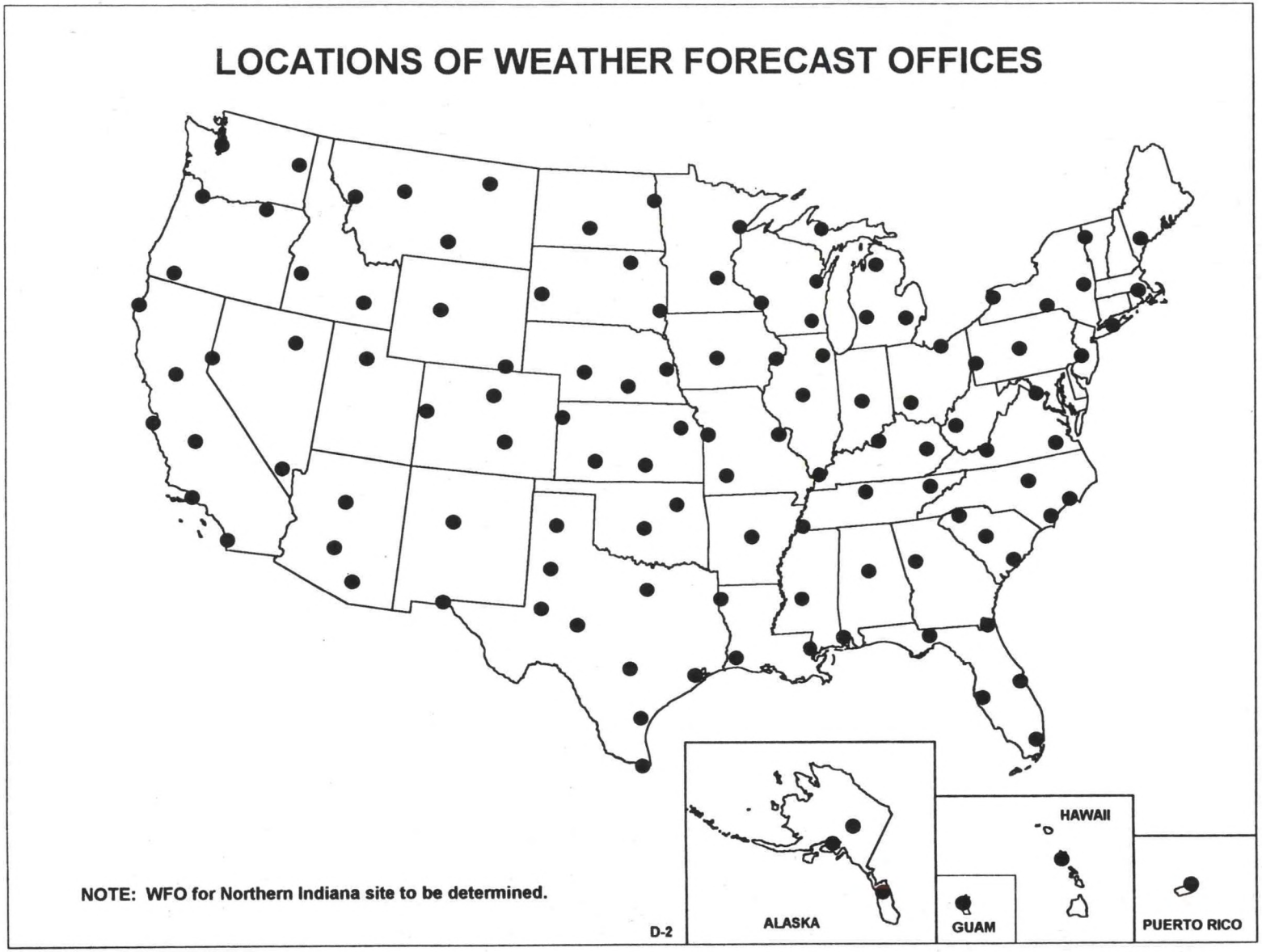
Documents Incorporated in NIP by Reference:

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 WEATHER FORECAST OFFICES



NOTE: WFO for Northern Indiana site to be determined.

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 Drive, Peachtree City
Austin/San Antonio, TX	New Braunfels Municipal Airport, New Braunfels, TX
Baltimore, MD/Washington, DC	Sterling, VA
Billings, MT	Overland Avenue, Billings, MT
Binghamton, NY	Binghamton Regional Airport
Birmingham, AL	Shelby County Airport
Bismarck, ND	Bismarck Municipal Airport
Boise, ID	Boise Interagency Fire Center
Boston, MA	Taunton, MA
Brownsville, TX	Brownsville/South Padre Island International Airport
Buffalo, NY	Greater Buffalo International Airport
Burlington, VT	Burlington International Airport
Central Illinois, IL	Logan County Airport, Lincoln, IL
Central Pennsylvania, PA	Penn State Univesity, State College, PA
Charleston, SC	Charleston International Airport
Charleston, WV	Ruthdale, WV
Cheyenne, WY	Cheyenne Airport
Chicago, IL	Lewis University Airport, Romeoville, IL
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, White Lake, MI
Dodge City, KS	Dodge City Regional Airport
Duluth, MN	Duluth, MN
Eastern North Dakota, ND	near University of North Dakota, Grand Forks, ND
El Paso, TX	Dona Ana County Airport, Santa Theresa, NM
Elko, NV	Elko, NV
Eureka, CA	Woodley Island, Eureka, CA
Fairbanks, AK	University of Alaska, Fairbanks, AK
Flagstaff, AZ	Camp Navajo, Bellmont, AZ

Weather Forecast Office Locations
(continued)

WFO Name—Metropolitan Area	Proposed Office Location
Glasgow, MT	Valley County International Airport
Goodland, KS	Goodland, KS
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	Green Bay, WI
Greenville-Spartanburg, SC	Greenville-Spartanburg Airport, Greer, SC
Guam	Agana, GU
Hastings, NE	Hastings, NE
Honolulu, HI	University of Hawaii, Honolulu, HI
Houston/Galveston, TX,	Dickinson, TX
Indianapolis, IN	Indianapolis International Airport
Jackson, KY	Julian Carroll Airport, Noctor, KY
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, 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	Science Spectrum, Lubbock, TX
Marquette, MI	Marquette County Airport
Medford, OR	Medford-Jackson County Airport
Melbourne, FL	Melbourne Regional Airport
Memphis, TN	Agricenter International Complex, Germantown, TN
Miami, FL	Florida International University, Miami, FL
Midland/Odessa, TX	Midland International Airport
Milwaukee, WI	Dousman, WI
Minneapolis, MN	Chanhassen, MN
Missoula, MT	U.S. Forest Service Aerial Depot
Mobile, AL	Mobile Regional Airport
Morehead City, NC	Newport, NC
Nashville, TN	Old Hickory, TN
New Orleans/Baton Rouge, LA	Slidell Airport, Slidell, LA
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, Gaylord, MI
North Platte, NE	North Platte Regional Airport
Oklahoma City, OK	University of Oklahoma, Norman, OK
Omaha, NE	Valley, NE
Paducah, KY	Barkley Regional Airport
Pendleton, OR	Eastern Oregon Regional Airport
Philadelphia, PA	Mt. Holly, NJ
Phoenix, AZ	Salt River Projects Office, Phoenix, AZ
Pittsburgh, PA	Coraopolis, PA
Pocatello/Idaho Falls, ID	Pocatello Municipal Airport, Pocatello, ID
Portland, ME	Gray, ME
Portland, OR	Portland, OR
Pueblo, CO	Pueblo Memorial Airport
Quad Cities, IA	Davenport Municipal Airport, Davenport, IA
Raleigh/Durham, NC	N.C. State University, Raleigh, NC
Rapid City, SD	South Dakota School of Mines, Rapid City, SD
Reno, NV	Desert Research Institute, 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	San Diego, CA
San Francisco Bay Area, CA	Naval Post Graduate School 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, Seattle, WA
Shreveport, LA	Shreveport Regional Airport
Sioux Falls, SD	Joe Foss Field, Sioux Falls, SD
Spokane, WA	North Rambo Road, Spokane, WA
Springfield, MO	Springfield Regional Airport
St. Louis, MO	Research Park, St. Charles County
Tallahassee, FL	Florida State University, Tallahassee, FL
Tampa Bay Area, FL	Ruskin, FL
Topeka, KS	Philip Billard Municipal Airport
Tucson, AZ	University of Arizona, Tucson, AZ
Tulsa, OK	Guaranty Bank Building, Tulsa, OK
Wakefield, VA	Wakefield, VA
Wichita, KS	Wichita Mid-Continent Airport
Wilmington, NC	New Hanover International Airport

--WFO site for Northern Indiana to be determined

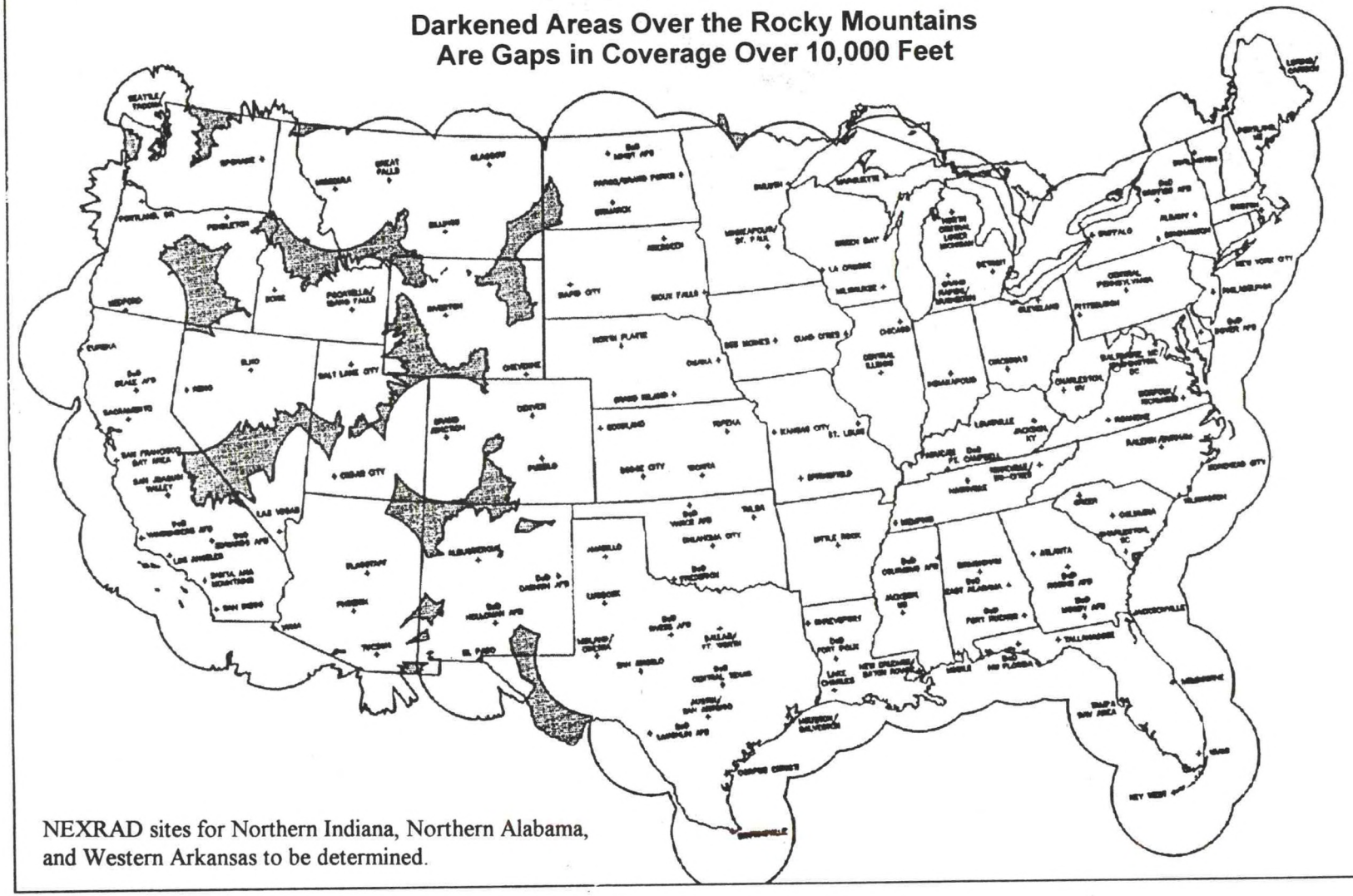
River Forecast Centers

River Forecast Center Name	Co-located Weather Forecast
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.

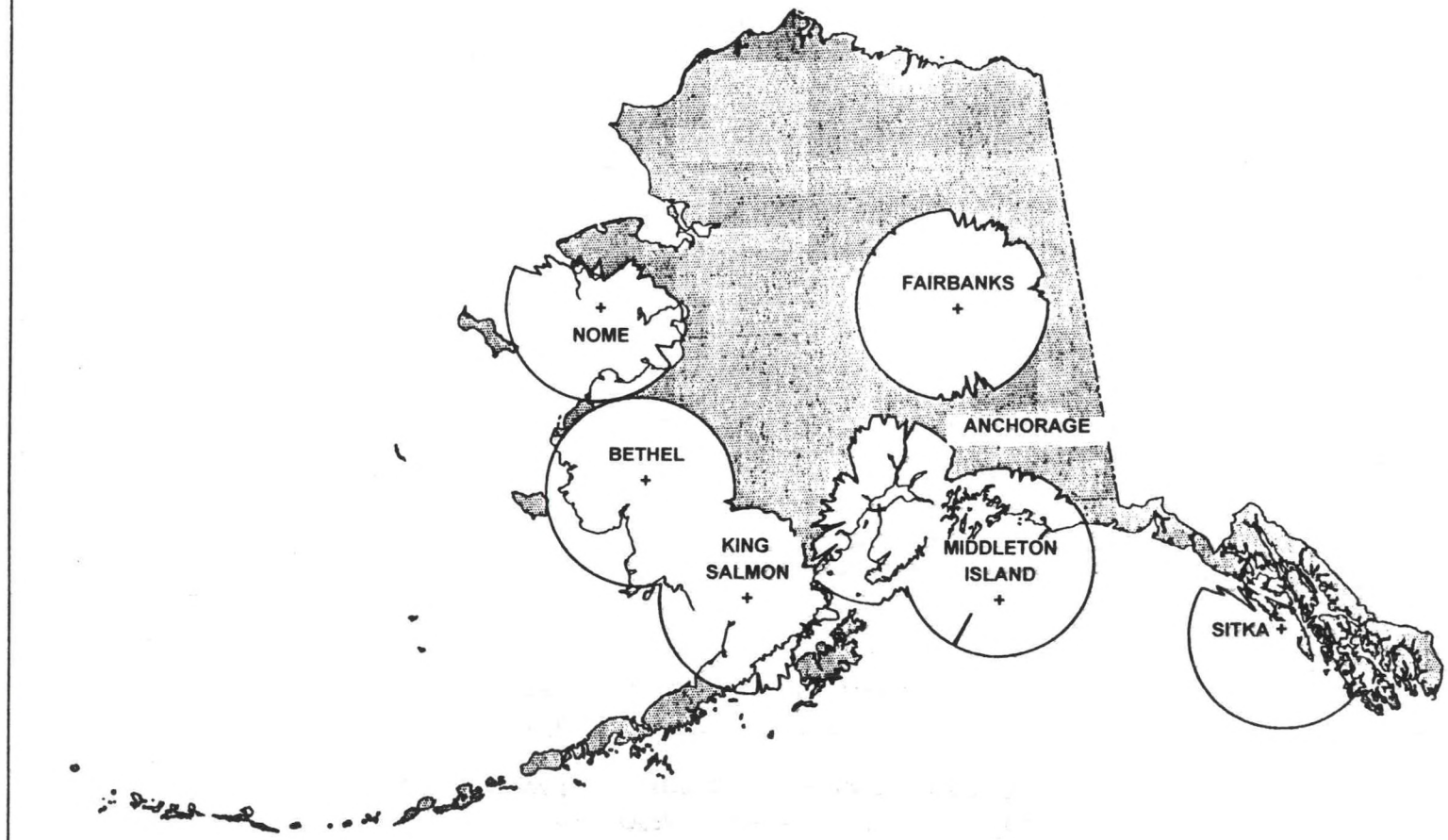
Depiction of the Total Coverage (at 10,000 Feet) Provided by the Completed NEXRAD Network

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

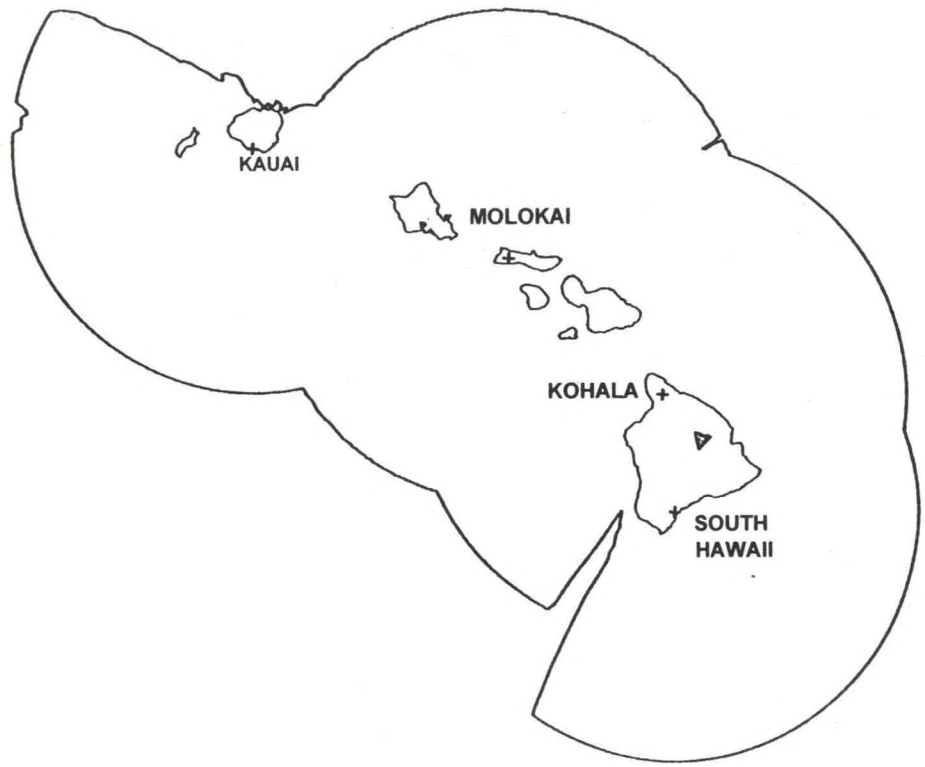


NEXRAD sites for Northern Indiana, Northern Alabama, and Western Arkansas to be determined.

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 Drive, 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	Alabaster, AL
Bismarck, ND	Bismarck Municipal Airport
Boise, ID	Wild Horse Corral, Ada County
Boston, MA	Taunton, MA
Brownsville, TX	Brownsville/South Padre International Airport
Buffalo, NY	Greater Buffalo Intl. Airport, Cheektowaga, NY
Burlington, VT	Camp Johnson, Colchester, VT
Cedar City, UT	Blowhard Mountain, Iron County
Central Illinois, IL	Logan County Airport, Lincoln, IL
Central Pennsylvania, PA	Moshannon State Forest, Rush, PA
Charleston, SC	Grays, SC
Charleston, WV	Ruthdale, WV
Cheyenne, WY	Cheyenne Airport
Chicago, IL	Lewis University Airport, Romeoville, IL
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, Denver, CO
Des Moines, IA	Camp Dodge Mil Reserve, Johnston, IA
Detroit, MI	Pontiac/Indian Springs Metropark, White Lake, MI
Dodge City, KS	Dodge City Regional Airport
Duluth, MN	Miller Trunk Highway, Duluth, MN
Eastern North Dakota, ND	Mayville, ND
El Paso, TX	Santa Teresa Airport, Santa Teresa, NM
Elko, NV	Sheep Creek Mountain, Lander County
Eureka, CA	Bunker Hill, Humboldt County
Flagstaff, AZ	Blue Ridge Mountain, Coconino, AZ
Glasgow, MT	Valley 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	Great Falls, MT
Green Bay, WI	Green Bay, WI
Greenville/Spartanburg, SC	Greenville/Spartanburg Airport
Guam	Agana, GU
Hastings, NE	Blue Hill, Webster County, NE
Houston/Galveston, TX	Dickinson, TX
Indianapolis, IN	Indianapolis International Airport
Jackson, KY	Julian Carroll Airport, Noctor, KY
Jackson, MS	Jackson Municipal Airport
Jacksonville, FL	Jacksonville International Airport
Kansas City/Pleasant Hill, MO	Pleasant Hill, MO
Key West, FL	Boca Chica Key, FL
Knoxville/Tri Cities, TN	Morristown Airport Indus. District
La Crosse, WI	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, Negaunee, MI
Medford, OR	Mount Ashland, Jackson County
Melbourne, FL	Melbourne Regional Airport
Memphis, TN	Millington Naval Air Station
Miami, FL	Richmond Heights, Miami, FL
Midland/Odessa, TX	Midland International Airport
Milwaukee, WI	Dousman, WI
Minneapolis, MN	Chanhassen, MN
Missoula, MT	Pt. Six Mountain, Missoula County
Mobile, AL	Mobile Regional Airport
Morehead City, NC	Newport, NC
Nashville, TN	Old Hickory, TN
New Orleans/Baton Rouge, LA	Slidell Airport, Slidell, LA
New York City, NY	Brookhaven National Lab, Upton, NY
Norfolk/Richmond, VA	Wakefield, VA
North Central Lower Michigan, MI	Passenheim Road, Gaylord, MI
North Platte, NE	New Thomas County Airport, Thedford, NE

NEXRAD Locations

(Continued)

Metropolitan Area	Proposed NEXRAD Location
Oklahoma City, OK	Twin Lakes Airport, Norman, OK
Omaha, NE	Valley, NE
Paducah, KY	Barkley Regional Airport
Pendleton, OR	Eastern Oregon Regional Airport
Philadelphia, PA	Fort Dix, NJ
Phoenix, AZ	Sossanan Road, Mesa, AZ
Pittsburgh, PA	Coraopolis, PA
Pocatello/Idaho Falls, ID	Springfield, ID
Portland, ME	Gray, ME
Portland, OR	Kangas Farm, Scappoose, OR
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, 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
Santa Ana Mountians, CA	Orange County
Seattle/Tacoma, WA	Camano Island, WA
Shreveport, LA	Shreveport Regional Airport
Sioux Falls, SD	Joe Foss Field, Souix Falls, SD
Spokane, WA	North 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, Alma, KS
Tucson, AZ	Pima County
Tulsa, OK	Shreck Farm, Inola
Wichita, KS	Wichita Mid-Continent Airport
Wilmington, NC	Shallotte, NC
Yuma, AZ	Yuma, AZ

--NEXRAD sites for Northern Indiana, Northern Alabama, and Western Arkansas to be determined.

NEXRAD Locations

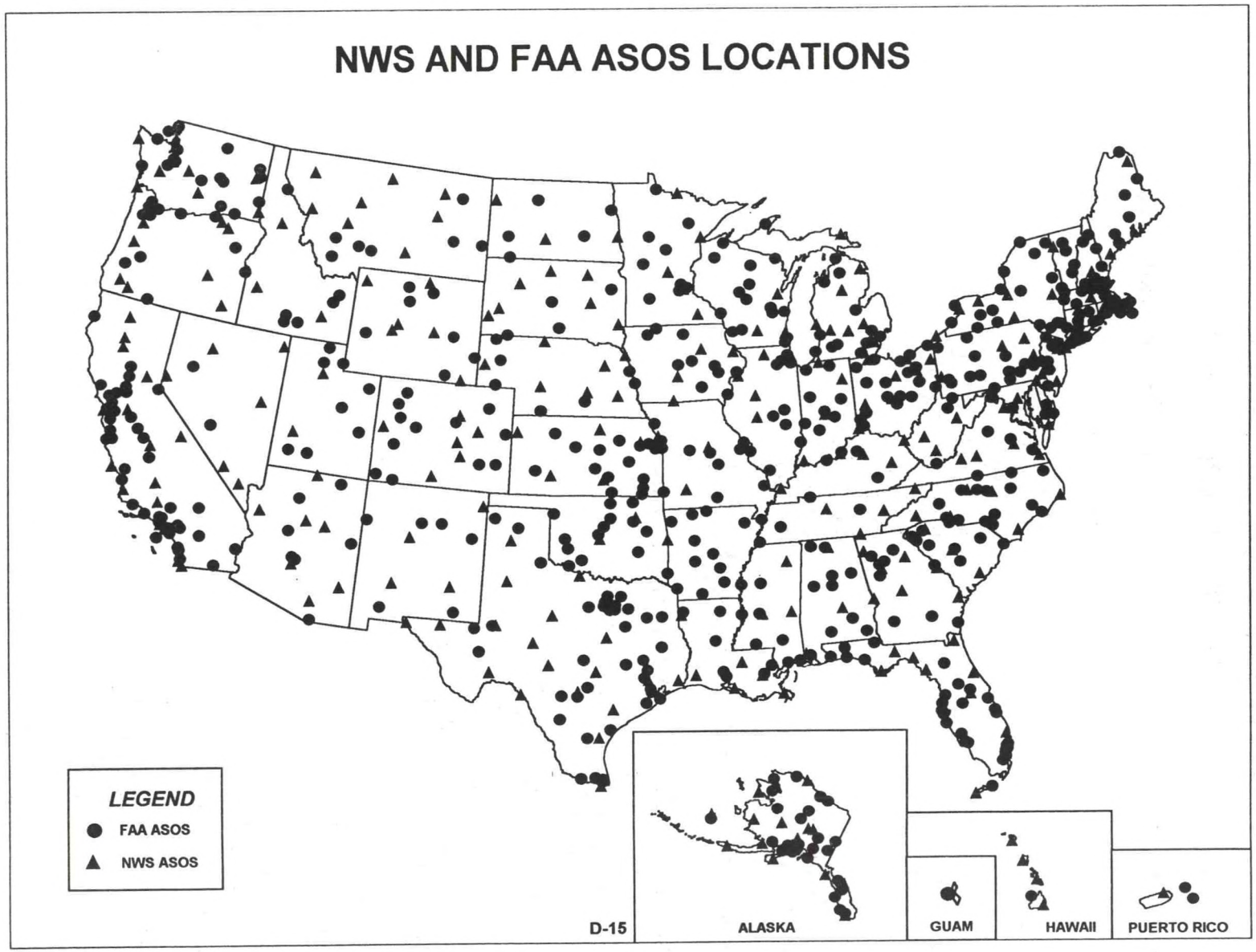
NEXRADs in Alaska and Hawaii

Metropolitan Area	Proposed NEXRAD Location
Anchorage, AK	Nikiski, AK
Bethel, AK	Bethel
Fairbanks, AK	Pedro Dome Road
Kamuela, HI	Puu Mala
King Salmon, AK	Lake Camp Road
Middleton Island, AK	Middleton Island
Molokai, HI	Kukui
Nome, AK	Nome
Sitka, AK	Biorka Island
South Hawaii, HI	Naalehu
South Kauai, HI	Numila

NOTE: Puerto Rico will have NEXRAD coverage.

Department of Defense Supplemental NEXRADs:
Beale Air Force Base, CA
Cannon Air Force Base, NM
Central Texas (Killeen), TX
Columbus Air Force Base, MS
Dover Air Force Base, DE
Dyess Air Force Base, TX
Eastern Alabama (Carrville), AL
Edwards Air Force Base, CA
Frederick, OK
Ft. Campbell, KY
Ft. Polk, LA
Ft. Rucker, AL
Griffiss Air Force Base, NY
Holloman Air Force Base, NM
Laughlin Air Force Base, TX
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
AMS	American Meteorological Society
AOML	Atlantic Oceanographic and Meteorological Laboratory
AOPA	Aircraft Owners and Pilots Association
APD	AWIPS Production Decision
ARSI	Atmospheric Research Systems, Inc.
ASOS	Automated Surface Observing System
AWC	Aviation 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
COSPAS	Space System for Search of Vessels in Distress (Translated from Russian)
CPC	Climate Prediction Center
CPM	Cooperative Program Manager
CPHC	Central Pacific Hurricane Center
CRS	Console Replacement System (NOAA Weather Radio)
CWA	County Warning Area
CWSU	Center Weather Service Unit
DAPM	Data Acquisition Program Manager
DAR^{3}E	Denver AWIPS Risk Reduction and Requirements Evaluation
DOC	Department of Commerce
DCO	Data Collection Office
DOD	Department of Defense
DOH	Development and Operations Hydrologist
EMC	Environmental Modeling Center
ERL	Environmental Research Laboratory
ESA	Electronic Systems Analyst
ET	Electronics Technician
ETL	Environmental Technology Laboratory
FAA	Federal Aviation Administration
FSL	Forecast Systems Laboratory
FW	Fire Weather
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
HMT	Hydrometeorological Technician
HRD	Hurricane Research Division
HPC	Hydrometeorological Prediction Center
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
McIDAS	Man-computer Interactive Data and Analysis System
MHz	Megahertz
MIC	Meteorologist-In-Charge
MOS	Model Output Statistics
MOU	Memorandum of Understanding
MPC	Marine Prediction Center
MTC	Modernization Transition Committee
MTS	Master Transition Schedule
NAOS	North American Atmospheric Observing System
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
NIDS	NEXRAD Information Dissemination System
NIP	National Implementation Plan
NIS	National Implementation Staff
NCO	NCEP Central Operations
NOAA	National Oceanic and Atmospheric Administration
NOAAPORT	Data transmission system in AWIPS environment
NPN	NOAA Profiler Network
NSSFC	National Severe Storms Forecast Center
NSSL	National Severe Storms Laboratory
NTD	National Transition Data Base
NTIA	National Telecommunications and Information Administration
NWR	NOAA Weather Radio
NWS	National Weather Service
NWSFO	NEXRAD Weather Service Forecast Office
NWSMC	National Weather Service Modernization Committee
NWSO	NEXRAD Weather Service Office
NWSRFS	National Weather Service River Forecast System

NWSTC	National Weather Service Training Center
NWSTG	NWS Telecommunications Gateway
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)
RAMM	Research and Application's Regional and Mesoscale Meteorology
RAMSDIS	RAMM Advanced Meteorology Satellite Demonstration and Interpretation System
RASS	Radio Acoustic Sounding System
RDA	Radar Data Acquisition
RFC	River Forecast Center
RPG	Radar Products Generator
RRB	Risk Reduction Branch
RUC	Rapid Update Cycle
SAC	Science Application Computer
SAO	Systems Acquisition Office
SARSAT	Search and Rescue Satellite Aided Tracking
SEC	Space Environment Center
SIP	Site Implementation Plan
SOO	Science and Operations Officer
SPC	Storm Prediction Center
SSM/I	Special Sensor Microwave/Imager
SSM/T	Special Sensor Microwave/Temperature
TCM	Transition Change Management
TDL	Techniques Development Laboratory
TIROS	Television and InfraRed Observation Satellite
TPC	Tropical Prediction Center
UCP	Unit Control Position
USAF	United States Air Force
USCG	United States Coast Guard
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
WSR-88D	Weather Surveillance Radar, 1988 Doppler

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