Appendix A-4
Department of Defense (DOD)

DOD-1	CDFS II	Cloud Depiction and Forecast System
DOD-2	AMS	Automatic Meteorological Station
DOD-3	TMOS	Tactical Meteorological Observing System
DOD-4	TWR	Tactical Weather Radar
DOD-5	OPUP	Open Principal User Processor (NEXRAD)
DOD-6	N-TFS	New-Tactical Forecast System
DOD-7	JET	Joint Environmental Toolkit
DOD-8	AOS	Automated Observing System
DOD-9	OPS II	Operational Weather Squadron Production System II
DOD-10	WWx	War Weather (Electro-optical Weapons Decision Aid)
DOD-11	GTWAPS	Global Theater Weather Analysis and Prediction System
DOD-12	REIP	Reengineered Enterprise Infrastructure Program
DOD-13	SWAFS	Space Weather Analysis and Forecast System
DOD-14	PUFF	Volcanic Ash Dispersion Model
DOD-15	JWIS	Joint Weather Impacts System
DOD-16	ISOON	Improved Solar Observing Optical Network
DOD-17	DISS	Digital Ionospheric Sounding System
DOD-18	RSTN	Radio Solar Telescope Network
DOD-19	IMS	Ionospheric Measuring System
DOD-20	WDAC	Weather Data Analysis Capabilities
DOD-21	MWFM	Mountain Wave Forecast Model
DOD-22	NAAPS	Navy Aerosol Analysis and Prediction System
DOD-23	ASOS	Automated Surface Observing System
DOD-24	SWR	Supplemental Weather Radar
DOD-25	NITES	Naval Integrated Tactical Environmental Subsystem
DOD-26	TEDS	Tactical Environmental Data Services
DOD-27	METOC	Meteorology and Oceanography Portal
DOD-28	RAWS	Remote Automated Weather Sensor
DOD-29	NFWB	Navy Flight Weather Briefer Web
DOD-30	NSDS-E	Naval Satellite Display System-Enhanced
DOD-31	METMF	Meteorological Mobile Facility Next Generation
DOD-32	OPUP	Open Principal User Processor
DOD-33	NWP	Numerical Weather Prediction
DOD-34	ESID	Electrical Storm Identification Device
DOD-35	LPATS	Lightning Position and Tracking System
DOD-36	MIDDS	Meteorological Integrated Data Display System
DOD-37	IRP	Icing Research Program
DOD-38	MMS-P	Meteorological Measuring Set – Profiler
DOD-39	IMETS	Integrated (Mobile) Meteorological System

Cloud Depiction and Forecast System (CDFS II)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Mr. Chris Finnigsmier, 402-294-5700, Christopher.Finnigsmier@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  1: 5

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development/Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *real-time cloud analyses and forecasts supporting Air Force, Army, National Intelligence Community, and other processing centers including the National Weather Service and Navy. CDFS II performs real-time data fusion from multiple sources.*
- ***How operations have been changed/improved*****:** *improved support (finer scale resolution) to decision makers that require cloud cover information.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Operational Requirements Document for Cloud Depiction and Forecast System (CDFS) II, USAF ORD 005-92-I/II/III (3 Sep 1993, approved by CSAF 3 Dec 1993)
  HQ USAF Mission Needs Statement (MNS) 005-92, Cloud Depiction & Forecast System II (10 Sep 1992)
- ***Program's verification process:*** CDFS II followed a 4-build spiral development evolutionary acquisition strategy where in each build identified requirements are tested.
- ***Method used for end product validation:*** AFWA staff experts made comparisons between raw satellite imagery, the old RTNEPH analysis algorithm output, and the CDFS II SERCAA output. Continual evaluation and product quality improvement mechanisms and system capabilities exist.
- ***Operational training for the user:*** Operator training was provided prior to system delivery. Follow-on training will be provided by the contractor on an as-needed basis at additional cost. The formal courses were specifically designed for operators, programmers, and data base administration courses.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** CDFS II transitions from Air Force Space Command to the Air Force Weather Agency for operations and maintenance in FY04.
- ***Program becomes operational:*** CDFS II was operational on June 24, 2002.
- ***Plans for Further improvements:*** Technology refreshments are planned for FY04 and Hardware refresh for FY05.

AN/FMQ-19 Automatic Meteorological Station (AMS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Maj. David Beberwyk, Air Force Weather Agency, AFWA/XPFC, 402-294-9559, DSN 271-9559, david.beberwyk@afwa.af.mil; Mr. John Kennedy, ESC/ACW, 781-271-9144, DSN 845-9144 John.Kennedy@hanscom.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  1: 5,7 **2:** 5 **4:** 2 **6:** 6

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Decision Support

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *an automated observing system that samples, measures/calculates, and reports free air and dew point temperatures, wind speed and direction, lightning, thunderstorms, visibility, runway visual range, cloud base height and amount of coverage, pressure, liquid equivalent precipitation accumulation, type of precipitation, and ice accretion during freezing precipitation*. The heart of the system is the Federal Standard Meteorological Algorithms used in the Automated Surface Observing System (ASOS) ensuring weather observations from AF bases and Army posts will be as representative as those at FAA and NWS ASOS locations.
- ***How operations will be changed/improved:*** *automated observations at approximately 217 worldwide Air Force locations will contribute to improved aviation forecasts.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Requirements for this program are documented in the Air Force Observing System 21st Century (OS-21) Operational Requirements Document (ORD)
- ***Program's verification process:*** Spiral development acquisition strategy where each spiral consists of a 12-month period at which time the government and contractor test against identified requirements. This program is currently undergoing source selection. Configuration and functional audits will be completed at Final Operational Capability (FOC)
- ***Method used for end product validation:*** System testing will be performed. The government shall perform a Functional Configuration Audit (FCA) on the system at McChord AFB to substantiate that the system, as installed, satisfies the functional requirements of the Technical Requirements Document (TRD). The government shall perform a Physical Configuration Audit (PCA) on the weather components installed at McChord AFB and Spangdahlem AB to establish a physical configuration baseline at each site.
- ***Operational training for the user:*** Both hands-on and text training materials are provided by the contractor to users to allow the government to make effective use of the system.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** FMQ-19/NTFS Interface by Nov05
- ***Program becomes operational:*** IOC expected by early in FY06 – waiting on interface with NTFS.
- ***Plans for further improvements:*** Follow-on improvements through technology refreshments and incremental technology insertions are planned through FY09.

AN/TMQ-53 Tactical Meteorological Observing System (TMOS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Maj. David Beberwyk, Air Force Weather Agency, AFWA/XPFF, 402-294-9559, DSN 271-9559, david.beberwyk@afwa.af.mil ; Mr John Kennedy, ESC/ACW, 781-271-9144, john kennedy@hanscom.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  1: 5, 7 **2:** 5 **6:** 6

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Decision Support

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *a suite of automated, tactical weather sensors to replace legacy systems.* TMOS provides for the automated collection of weather elements in a deployed environment and formats aviation meteorological observations (METAR and SPECI) for manual or automatic transmission into the worldwide weather telecommunications network. Eighty-nine complete systems will be purchased to satisfy 100% of worldwide Air Force Weather requirements.
- ***How operations will be changed/improved:*** *automated, scaleable observations will improve support to tactical Air Force and Army operations.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Requirements for this program are documented in the Air Force TACMET Mod Technical Requirements Document (TRD) and Operational System-21 (OS-21) Operational Requirements Document.
- ***Program's verification process:*** Spiral development acquisition strategy, each spiral consists of a 12-month period when the government and contractor test against identified requirements. INCO has been completed and systems are currently being delivered.
- ***Method used for end product validation:*** OT&E completed Jun 99. Physical and functional configuration audits were accomplished in FY99 during the qualification testing.
- ***Operational training for the user:*** Both hands-on and text training materials are provided by the contractor to users to allow the government to make effective use of the system. Mobile training teams conducted training when the first systems where delivered in Sep 00.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Deployment of an Iridium SatCom solution to push observations back from austere locations
- ***When program will become operational:*** TMOS is an operational system.
- ***Plans for further improvements:*** Follow-on advanced development is anticipated as sensor improvements are realized and computer resources continue to improve. Follow-on improvements through technology refreshments and incremental technology insertions are planned through FY07.

Tactical Weather Radar (TWR)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Mr. Buzz Kandler, Air Force Weather Agency, AFWA/XPFC, 618-256-9734, DSN 576-9734, raymond.kandler@afwa.af.mil ; Mr. Tony Talbot, OO-ALC/LHW, DSN 586-2194, Anthony.Talbot@hill.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  2: 5, 9

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Decision Support

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *fixed and semi-fixed Tactical (doppler) Weather Radars (TWR).* A total of 7 fixed, 2 semi-fixed and 1 depot radar are being procured to provide resource protection at overseas locations.
- ***How operations will be changed/improved:*** *provide weather information for resource protection at fixed and deployed environments (overseas).*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Combat Air Force (CAF) USAF Mission Needs Statement (CAF MNS) 301-93, Tactical Weather Radar (TWR), 1 Nov 93. Operational Requirements Document (ORD), USAF (CAF) 301-92-I/III, 4 June 97,
- ***Program's verification process:***
- ***Method used for product validation:*** Product validation based on certified manufacturers test data. Factory and field system acceptance testing accomplished for each production system delivered.
- ***Operational training for the user:*** Both hands-on and text initial training materials were provided by the contractor during installation to allow the government to make effective use of the system. Computer based follow-on training is also available.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***When program will become operational:*** TWR is an operational system.
- ***Plans for further improvements:*** Follow-on system modifications are anticipated as improvements to the radar system are developed by the prime equipment manufacturer. Follow-on improvements through incremental technology insertions are planned through FY07.

Open Principal User Processor (OPUP)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Maj. David Beberwyk, Air Force Weather Agency, AFWA/XPFC, 402-294-9559, DSN 271-9559, david.beberwyk@afwa.af.mil; Mr. Mike Spaulding, AFWA/XPFC, 618-256-9733, DSN 576-9733

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *replacement of WSR-88D Principal User Processors at Air Force units.* It is being implemented in three spiral phases in support of Air Force Weather's reengineering. Spiral 1 installs four large OPUPs in the Air Force's four Operational Weather Squadrons (regional weather hubs) in the continental United States and two additional units for system development and a support hot line capability established at the NEXRAD Operational Support Facility (OSF). Spiral II will install three medium sized OPUPs and three small OPUPs (OSF, Patrick AFB and Vandenberg AFB) and a system at the weather training school at Keesler AFB. Spiral III will install 90 small OPUPs at 90 Combat Weather Team (unit level) locations worldwide.
- ***How operations will be changed/improved:*** *an improved graphical user interface and a capability to provide multiple dedicated connections from a common workstation and rapid access to convective hazard information.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Requirements for this program are documented in the Air Force AF Form 1067, approved by Weather Weapon System Product Improvement Working Group (PIWG) 16 Jul 96.
- ***Program's verification process:*** Developmental Test and Evaluation during Spiral I & II, critical design review, and full system testing.
- ***Method used for product validation:*** ROC will evaluate system performance against specified requirements.
- ***Operational training for the user:*** Both hands-on and text training materials are provided by the contractor to users to allow the government to make effective use of the system.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Spiral II and III are scheduled for completion in Mar 06.
- ***When program will become operational:*** OPUP is an operational system.
- ***Plans for further product improvements:*** N/A

New-Tactical Forecast System (N-TFS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Maj. Steve Renner, AFWA/XPFT, 402-294-4233, DSN 271-4233, steven.renner@afwa.af.mil;; Mr Tod Kunschke, HQ AFWA/XPFT, 402-294-5124, DSN 271-5124, tod.kunschke@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  1: 9 **2:** 8 **5:** 7 **6:** 5 **7:** 6

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *a tactical weather workstation for receiving, tailoring, and producing weather products.* The New-Tactical Forecast System (N-TFS) is being procured in 4 increments. N-TFS 1.0 was fielded at 168 Air Force weather units worldwide for use in preparing weather products supporting Army and Air Force ground and air operations. N-TFS 2.0 was a client/server replacement with a significant software upgrade to improve the graphical user interface. N-TFS 3.1 replaced in-garrison servers, implement deployable servers and client hardware, and includes a minor software upgrade. N-TFS 3.2 will be a major software upgrade with open architecture compliant modules improving commonality and interoperability with similar weather information production systems.
- ***How operations will be changed/improved:*** *provides a capability to obtain, analyze, tailor and disseminate mission specific weather information* (focused on service unique mission areas) *using web-enabled technologies. Provides a capability to receive products from both strategic and operational levels and transmit information to supported locations and other N-TFS sites.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Operational Requirements Document USAF 001-94-I/II/III-B, Forecast System – 21st Century, 25 Mar 99; USAF Mission Need Statement (MNS) 001-94.
- ***Program's verification process:*** Acquisition is via a spiral development strategy. Each spiral consists of a 12-month period when the government and contractor test against identified requirements. N-TFS 3.1 Force Development Evaluation (FDE) occurred in Sep 2002.
- ***Method used for end product validation:*** Products received from other production systems are assumed to be valid. Units conduct periodic review of mission execution forecasts and collect metrics on relevancy and accuracy to mission accomplishment.
- ***Operational training for the user:*** Trained government personnel will perform hands-on training of the users while the contractor will supply text formatted training materials.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Fielding of N-TFS 3.2, Nov 05.
- ***Program becomes operational:*** N-TFS is an operational system and will be subsumed by JET in FY06.
- ***Plans for further product improvements:*** Periodic hardware and software refresh will occur throughout the life of N-TFS.

Joint Environmental Toolkit (JET)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Maj. Steve Renner, AFWA/XPFT, 402-294-4233, DSN 271-4233, steven.renner@afwa.af.mil;; Mr Tod Kunschke, HQ AFWA/XPFT, 402-294-5124, DSN 271-5124, tod.kunschke@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  1: 9 **2:** 8 **5:** 7 **6:** 5 **7:** 6

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *a combination of four of the AFWWS current systems: NTFS(CWT), IMETS (Army CWT weather system), OPS-II (OWS), and JWIS (C2 Integration).* JET combines these systems to create efficiencies in the Human-Machine Interface for like forecasting requirements and provides a robust presence in C4ISR systems.
- ***How operations will be changed/improved:*** *JET provides automated, web and data-centric capabilities as well as a common HMI across all levels of AFW operations and support Joint and Coalition Operations World-Wide.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** USAF Operational Requirements Document (ORD) 001-94-I/II/III-A, Tactical Observing and Forecasting System, 14 Nov 96; USAF ORD 001-94-I/II/III-B, Forecast System – 21st Century, 25 Mar 99; USA ORD for Integrated Meteorological System (IMETS), 12 Jul 03; USAF Mission Need Statement (MNS) 001-94, Meteorological Operational Capability, 20 Mar 95; USAF MNS 003-94, Centralized Aerospace Weather Capability, 12 Jun 95; Global Command and Control System (GCCS) METOC CONOPS 18 Aug 97; USAF ORD 006-00, Air Operations Center Modernization Program, 21 May 01.
- ***Program's verification process:*** Acquisition is via a increment development strategy after an initial fly-off competition between two contractors, Raytheon and Northrup-Grumman, due for down-select in 1FY06. Each increment consists of a 12-18-month period when the government and contractor test against identified requirements.
- ***Method used for end product validation:*** Products received from other production systems are assumed to be valid. Units conduct periodic review of mission execution forecasts and collect metrics on relevancy and accuracy to mission accomplishment.
- ***Operational training for the user:*** Initial Training will be contractor provided. Trained government personnel will perform hands-on training of the users while the contractor will supply text formatted training materials.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Down-select to winning contractor 1FY06.
- ***Program becomes operational:*** IOC 3FY06, FOC FY11.
- ***Plans for further product improvements:*** Periodic hardware and software refresh will occur throughout the life of JET to advance toward AFWWS FY11 End-State Architecture.

Automated Observing System (AOS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, scats.xowr@pentagon.af.mil
PROGRAM POC: Maj. Steve Renner, AFWA/XPFT, 402-294-4233, DSN 271-4233, steve.renner@afwa.af.mil, Mr Todd Kunschke, AFWA/XPFT, 402-294-5124, DSN 271-5124, tod.kunschke@afwa.af.mil, Mr Barry Mareiro, ESC/ACW, (781) 271-5458, DSN 478-1186, (pause) ext.15458, barry.mareiro@hanscom.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  6: 6

FUNDING

- ***Programmed/Planned ($'s/FY):*** /FY03 /FY04

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *a capability to remotely conduct a meteorological watch by monitoring weather sensors via the internet.* AOS is commercial software that runs on a low-end Pentium based PC that collects data from various weather sensors. The data is then sent via the internet to client software resident at various Air Force weather facilitates.
- ***How operations will be changed/improved:*** *allows meteorological watch of many locations remotely from one work position using minute-by-minute data vice waiting for hourly or special weather observations.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** The guidance for this system is outlined in the Air Force's Strategic Plan for Air Force Weather Reengineering.
- ***Program's verification process:*** Purchased as a commercial item.
- ***Method used for end product validation:*** Comparison of the output from stand-alone weather sensors against the AOS observation.
- ***Operational training for the user:*** Operators are trained during installation. On line help is also provided with commercial software.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** AOS is an operational system.
- ***Plans for further product improvements***: None.

Operational Weather Squadron Production System II (OPS II)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
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SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Dissemination

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *a weather information production system to support the Air Force's new regional Operational Weather Squadrons (OWS).* OPS II consists of a suite of servers, workstations, networking equipment, and application software.
- ***How operations will be changed/improved:*** *enables OWS forecasters to produce and disseminate products to weather units supporting operations. It uses strategic level and indigenous weather information and data to produce standardized and on-demand forecast products.* OPS II enables the OWS to prepare terminal aerodrome forecasts and point weather warnings for AF bases and Army posts in its area of responsibility.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program*:** Strategic Plan for Air Force Reengineering and OPS II Program Development Plan (PDP). Operational Requirements Document USAF 001-94-I/II/III-B, Forecast System – 21st Century, 25 Mar 99.
- ***Program's verification process:*** Spiral development acquisition strategy. Each spiral consists of a 12-18 month period where the government and contractor test against identified requirements. Configuration and functional audits have been completed. A Qualification Operational Test & Evaluation (QOT&E) was conducted in Dec 99 on the Spiral 1B1 hardware and software. In Dec 01, a Force Development Evaluation (FDE) was conducted on the Increment 3.2.2 hardware and software. An FDE will be conducted before each incremental delivery.
- ***Method used for end product validation:*** All products created by the forecasters in the different OWS functions (flight weather briefer, TAF/WW/METWATCH, regional graphics, etc) must go through the chief forecaster before being released to the OWS web page. The OWS also keeps monthly metrics on the accuracy of their forecasts.
- ***Operational training for the user:*** Both hands-on and text training materials are provided by the contractor to users to allow the government to make effective use of the system. Additional training is provided on request.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** OPS II reached Final Operational Capability (FOC) 4QFY02.
- ***Plans for further product improvements:*** Follow-on advanced development is anticipated as improvements to numerical modeling are developed and computer resources continue to improve. Follow-on improvements through technology refreshments and incremental technology insertions are planned throughout the incremental deliveries.

War Weather (WWx)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters, Air Force Weather Agency (HQ AFWA)
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PROGRAM POC: Mr. Leandro Delgado, HQ AFWA/XPFT, (618) 256-9735, DSN 576-9735, Leandro.Delgado@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Decision Support

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *an electro-optical weapons decision aid capability consisting of decision aid product software*: *Target Area Weather Software (TAWS), Night Vision Goggle Operational Weather Software (NOWS), Infrared Target Scene Simulation Software (IRTSS), and others.*
- ***How operations will be changed/improved:*** Operational forces will use the decision aid outputs for command and control, mission planning, mission execution, training, and simulation support. This capability automates decision aid performance to minimize operational workload and maximize decision aid performance.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** ROC 508-78 Pre-strike Reconnaissance and Surveillance System.
- ***Program's verification process:*** Spiral development acquisition strategy. Each spiral consists of a 12-month period at which time the government and contractor test against identified requirements. This program is undergoing operational test and evaluation. Configuration and functional audits will be completed at Final Operational Capability (FOC). Spiral deliverables consist of software releases to operators.
- ***Method used for product validation:*** Operational validation by AFCCC and other users.
- ***Operational training for the user:*** Training included in software help file. VCR tape provided with each delivered version. Distance Learning Course available from Air Force Schoolhouse. The products are taught at the AF Fighter Weapons School at Nellis AFB. NOWS training is being included in the Night Vision Goggles Instructor School at Williams AFB. Annual Instrument Refresher Course (IRC) training in development.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** This capability is currently operational.
- ***Plans for further product improvements:*** Follow-on advanced development is required to include additional weapons systems, command and control systems and operators as they request support. Follow-on improvements are planned through FY07.

Global Theater Weather Analysis and Prediction System (GTWAPS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Mr. Chris Finnigsmier, Air Force Weather Agency, AFWA/XPSI, 402-294-5700, DSN 271-5700, Christopher.finnigsnier@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What is being developed, procured, etc.:*** *fine-scale visualization products depicting weather impact variables in support of operations.* The GTWAPS provides an open, expandable system for advanced target-scale numerical weather modeling capability consisting of a suite of IBM hardware running the Mesoscale Model 5 (MM5) model.
- ***How operations will be changed/improved:*** *GTWAPS produces a wide variety of visualization products in support of Air Force and Army aviation and ground operations -- improved decision making from resource protection to combat and training operations.* GTWAPS replaces the Advanced Weather Analysis and Prediction System (AWAPS).

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Requirements for this program are documented in the Air Force GTWAPS Program Development Plan (PDP).
- ***Program's verification process:*** Spiral development acquisition strategy. Each spiral consists of a 12-month period at which time the government and contractor test against identified requirements. Configuration and functional audits were completed at Final Operational Capability (FOC).
- ***Method used for end product validation:*** Daily product verification takes place in-house. Operational Utility Evaluation which measures effectiveness and performance issues was performed prior to Initial Operational Capability (IOC).
- ***Operational training for the user:*** Both hands-on and text training materials are provided by the contractor to users to allow the government to make effective use of the system.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** GTWAPS is an operational system.
- ***Plans for further improvements:*** Follow-on advanced development is anticipated as improvements to numerical modeling are developed and computer resources continue to improve. Follow-on improvements through technology refreshments and incremental technology insertions are planned through FY05 when MM5 will be replaced by the Weather Research and Forecasting Model (WRF).

Reengineered Enterprise Infrastructure Program (REIP)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOWR, 703-696-4930, DSN 426-4930, scats.xowr@pentagon.af.mil
PROGRAM POC: Mr. Robert (Gene) Monroe, HQ AFWA/XPSI 402-294-9669, DSN 271-9669, robert.Monroe@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):*** /FY03 /FY04

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *strategic weather production support for Air Force's Operational Weather Squadrons.* REIP accomplishes the modernization of the Air Force Weather Agency (AFWA) Strategic Center. It provides infrastructure reuse components that can be used by other weather programs and the AF Weather Weapons System and establishes the framework for AFWA to support the Air Force's Operational Weather Squadrons. It modernizes system interoperability and common user communications, upgrades/reengineers hardware and software, and delivers a separate development, test, and production environment. REIP maximizes the use of COTS and resources from other METOC centers. It is consistent with the Joint Technical Architecture standards and provides Defense Information Infrastructure Common Operating Environment compliant architecture.
- ***How operations will be changed/improved:*** M*odernization of the Air Force Weather Agency (AFWA) Strategic Center's data processing and communications infrastructure in order to reduce overhead to sustain the system and time to meet customer need.* It will be interoperable with other METOC centers and with command and control systems, and will eliminate duplication across Air Force weather systems.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** USAF Mission Needs Statement 003-94, 15 May 95. Centralized Aerospace Weather Capability (CAWC) Operational Requirements Document, 29 Mar 01.
- ***Program's verification process:*** Design reviews and testing; Developmental Test & Evaluation; and FDE.
- ***Method used for end product validation***: See above.
- ***Operational training for the user:*** Both hands on and text training manuals (user's manual, etc) are provided by the contractor. For software developers, program instructions are provided on software use and development tools, standard documentation approaches, and the process of receiving a requirement to implementing software.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***When program will become operational:*** System became operational on 31 Jul 02.
- ***Plans for further improvements:*** Product and system improvements through FY11 will be handled through the Weather Data Analysis Capabilities (WDAC) and/or Joint Environmental Toolkit (JET) programs.

Space Weather Analysis and Forecast System (SWAFS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Mr. Jerry Reif, 402-294-9645, DSN 271-9645, gerald.reif@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *integration of space weather analysis and forecast capability into the Air Force Weather Agency (AFWA) strategic processing center.* SWAFS Initial Spiral (IS) re-hosted software from the 55th Space Weather Squadron to AFWA platforms during FY 00-02.
- ***How operations will be changed/ improved:*** *Integrates space weather into the AFWA infrastructure and upgrades capabilities in space weather product production and dissemination.* Provides capability to produce classified space weather products for dissemination.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** USAF Operational Requirements Document (USAF 003-94-I/II/III-C), 1 May 97.
- ***Program's verification process:*** System/Software Design and Test Readiness Reviews conducted for each delivery. Configuration and functional audits completed after each software delivery.
- ***Method used for end product validation:*** Verification and Validation of models and algorithms performed prior to turn-over to contractor for development and integration. Contractor conducts Qualification Test & Evaluation (QT&E) and HQ AFWA conducts Force Development Evaluation (FDE).
- ***Operational training for the user:*** Both hands-on and text training materials provided by the contractor to users to allow the government to make effective use and sustainment of the system. AFWA Help Desk personnel receive training provided by the contractor.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** SWAFS Initial Spiral is currently operational.
- ***Plans for further improvements:*** The follow-on program provides incremental enhancements and upgrades for existing models and algorithms using current technology FY03-05 (Spiral 2) and future models and algorithms using new technology beginning FY06 (Spiral 3).

Volcanic Ash Dispersion Model (PUFF)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POCS: Lt Col Gene Layeski, AFWA/XOG 402-294-6004,DSN 271-6004, Eugene.Layeski@afwa.af.mil; Mr. Robert Dodson, 402-294-9681, DSN 271-9681, Robert.Dodson@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  8: 5, 6

FUNDING

- ***Programmed/Planned ($'s/FY):*** Funds provided by NCEP in Washington DC VAAC

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *volcanic ash dispersion modeling for the DoD, coupled with man-in-the-loop satellite interpretation; also provides backup services for the Washington, D.C. regional Volcanic Ash Advisory Centers (VAAC).* Developed under the University Partnering for Operational Support (UPOS), this numerical model was developed jointly by University of Alaska and Johns Hopkins University. Presently, only the Washington, D.C. VAAC will receive back-up support.
- ***How operations will be changed/improved:*** *provides up-to-date, three-dimensional, ash plume and propagation information with enhanced forecast accuracy and an intuitive graphical user interface.* This will provide aircrews three dimensional ash cloud information allowing them to avoid hazardous areas during times of volcanic activity.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Cooperative Plan for Operational Support and agreement among FAA, NOAA, USGS, and USAF.
- ***Program's verification process:*** Model output verified against satellite imagery. Systems and development testing accomplished by the UPOS team. AFWA conducted integration and security testing.
- ***Method used for end product validation:*** See above.
- ***Operational training for the user:*** Both hands on and text training manuals (user's manual, etc) are provided by the contractor.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** PUFF is an operational model.
- ***Plans for further improvements:*** Migrating to WRAPS-2 hardware platform in FY05.

Joint Weather Impacts System (JWIS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POCS: Maj. Steve Renner, HQ AFWA/XPFT, 402-294-4233, DSN 271-4233, steven.renner@afwa.af.mil, Mr Jim Reardon, AFWA/XPFT, 402-292-4150, DSN 272-4150, james.reardon@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *web-based system that summarizes weather-driven performance predictions of various weapon systems against a range of targets*. JWIS is designed to exploit advances in information technology while satisfying war fighter demand for specialized, timely, and accurate weather information.
- ***How operations will be changed/improved:*** *enables predictive battle space awareness and allows for the display of war fighter impacts*. JWIS will serve as the primary weather information link between all elements of an Aerospace Expeditionary Force (AEF).

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Requirements for this program are documented in Mission Needs Statement, USAF 001-94, Meteorological Operations Capability, 7 Mar 95 the Operational Requirements Document, USAF 006-00.
- ***Program's verification process:*** Developmental Test & Evaluation followed by Final Acceptance Testing of the software deliverable, and an Operational Assessment thereafter. Developmental software is demonstrated at the Joint Expeditionary Force Experiment (JEFX) and the Mission Planning User Conference (MPUC).
- ***Method used for end product validation:*** Standard Air Force weather models are the source of data. The threat rules are submitted by the services and incorporated into the software.
- ***Operational training for the user:*** Hands-on training is being provided by the JWIS contractor team to users/operators to allow the government to make effective use of the system.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Integration into the Air Operations Center (AOC) Weapon System
- ***Program becomes operational:*** Provides interim capability for the AOC until subsumed by JET in FY05-07
- ***Plans for further improvements:*** Follow-on improvements through technology refreshments and incremental technology insertions are planned through FY09.

Improved Solar Observing Optical Network (ISOON)

PROGRAM/PROJECT: http://www.nso.edu/nsosp/isoon/description.html
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930
PROGRAM POC: Jim Manley, Air Force Weather Agency, AFWA/XPFC, 402-294-9680, DSN 271-9680, james.manley@afwa.af.mil; David Edgington, SMC/Det 11, DSN 834-2877, david.edgington@cisf.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):*** /FY03 /FY04

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *ISOON is a semi-autonomous, remotely commandable patrol telescope designed for studies of solar activity in support of space weather specifications and forecasts. ISOON is designed to replace the existing Solar Observing Optical Network (SOON), which USAF currently operates as a world-wide network of 4 telescopes for monitoring solar activity. Both SOON and ISOON provide data that support a wide variety of users of space weather specifications and forecasts.*
- ***How operations will be changed/improved:*** *ISOON detects solar flares as well as magnetic field signatures and sunspot groups that are known to lead to flares and other eruptive activity. Numerous communication, navigation, and surveillance systems operated by DOD and civilian agencies are adversely affected by solar activity.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** N/A
- ***Program's verification process:*** N/A
- ***Method used for product validation:*** N/A
- ***Operational training for the user:*** Operator & maintenance courses conducted at Holloman AFB.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Program completed, no further development projected
- ***Program becomes operational:*** The prototype instrument was completed and demonstrated in 2002. Due to programmatic decisions, ISOON is presently planned to be operated by Air Force Research Laboratory at a single site (Sacramento Peak) for research and limited support to space weather operations.
- ***Plans for further improvements:*** Program completed, no further development projected

Digital Ionospheric Sounding System (DISS)

PROGRAM/PROJECT:
LEAD AGENCY*:* Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC*:* HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC*:* Jim Manley, Air Force Weather Agency, AFWA/XPFC, 402-294-9680, DSN 271-9680, james.manley@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** upgrades to the existing Digital Ionospheric Sounding System that collects real-time Ionospheric data used to prepare specifications and forecasts for communications, navigation, and surveillance systems.
- ***How operations will be changed/improved:*** *improved system availability and consequently improved specification of ionospheric parameters affecting DOD communication, navigation, and surveillance systems*.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Environmental Sensing Mission Need Statement (MNS) and Program Management Directive (PMD) 6250 (3), 16 Jun 88.
- ***Program's verification process:*** N/A.
- ***Method used for product validation:*** N/A.
- ***Operational training for the user:*** N/A.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Initiation of modification in FY04.
- ***Program becomes operational:*** DISS is currently operational.
- ***Plans for further improvements***:

Radio Solar Telescope Network (RSTN)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Jim Manley, Air Force Weather Agency, AFWA/XPFC, 402-294-9680, DSN 271-9680, james.manley@afwa.af.mil; Trinidad Medel, SMC/Det 11, DSN 834-9478, Trinidad.medel@cisf.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *prototype replacement for fixed frequency component of system.*
- ***How operations will be changed/improved:*** *potential increase in capability to monitor/report solar radio frequency interference affecting DoD communications and surveillance.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** USAF Statement of Need (SON) 015-85, USAF System Operational Requirements Document (SORD) 015-85-1A, HQ AFSPC 035-92 Environmental Sensing Mission Need Statement (MNS), 8 Jan 93, HQ AFSPC/DRF Operational Requirements Document for the Solar Radio Burst Locator (SRBL), 3 Sep 99. Program Management Directive (PMD 6250 (3), 16 Jun 88, Program Directive: Air Force Weather Weapons Systems (AFWWS), PMD 2326(5)/ PE0305111F, dated 19 Jan01.
- ***Program's verification process:*** Engineering drawing verification. Field testing using comparisons with original prototype.
- ***Method used for product validation:*** Comparison with other sources of solar radio burst observations.
- ***Operational training for the user:*** Initial hands on training with installed prototype.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** Following successful test and procurement of remaining network ~ FY06
- ***Plans for further improvements:*** Potential antenna replacements to reduce system costs.

Ionospheric Measuring System (IMS)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOO-W)
LEAD AGENCY POC: HQ USAF/XOO-WR, 703-696-4930, DSN 426-4930, afxoowr@pentagon.af.mil
PROGRAM POC: Jim Manley, Air Force Weather Agency, AFWA/XPFC, 402-294-9680, DSN 271-9680, james.manley@afwa.af.mil; SMC/Det 11, DSN 834-2089,William.bascue@cisf.af.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):***

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *L-Band and UHF satellite receivers to measure ionospheric total electron content (TEC) and scintillation.*
- ***How operations will be changed/improved:*** *improved identification of areas of degraded GPS signal reception and degraded satellite communication signal receipt.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** MAC Statement of Need (SON) 2-80, (updated 16 Feb 86); HQ AFSPC 035-92, Environmental Sensing Mission Need Statement (MNS), 8 Jan 93. Program Management Directive (PMD) 6250 (3), 16 Jun 88, Program Directive: Air Force Weather Weapons Systems (AFWWS), PMD 2326(5)/ PE0305111F, dated 19 Jan01.
- ***Program's verification process:*** N/A
- ***Method used for product validation:*** N/A
- ***Operational training for the user:*** N/A.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***Program becomes operational:*** TBD
- ***Plans for further improvements:*** N/A

Weather Data Analysis Capabilities (WDAC)

PROGRAM/PROJECT:
LEAD AGENCY: Headquarters United States Air Force, Directorate of Weather (HQ USAF/XOW)
LEAD AGENCY POC: HQ USAF/XOWR, 703-696-4930, DSN 426-4930, scats.xowr@pentagon.af.mil
PROGRAM POC: Maj. Steven Christy, HQ AFWA/XPSA 402-294-4175, DSN 271-4175, Steven.Christy@afwa.af.mil

SERVICE AREA(S)/INITIATIVE(S)
- ***National Aviation Weather Initiatives:*** N/A

FUNDING
- ***Programmed/Planned ($'s/FY):*** /FY03 /FY04

TYPE OF PROGRAM/APPLICATION
Product Development

SCOPE OF PROGRAM/PROJECT
- ***What's being developed, procured, etc.:*** *modernization of strategic weather center production support for Air Force's Operational Weather Squadrons.* It modernizes system interoperability and common user communications, upgrades/reengineers hardware and software, and delivers a separate development, test, and production environment. WDA capabilities must be able to receive and process worldwide information in support of the analysis, forecasting, tailoring, and dissemination of strategic center products. Ultimately, WDAC provides a fused analysis of the atmosphere for theater and tactical customers, and it provides infrastructure components for reuse across the entire AF Weather Weapon System (AFWWS).
- ***How operations will be changed/improved*:** *a modernization of the Air Force Weather Agency (AFWA) Strategic Center's data processing and communications infrastructure will reduce overhead to sustain the system and to meet customer needs.* WDA will create an open, distributed virtual Joint Meteorological and Oceanographic (METOC) database to provide users access to weather-related information anywhere in the world, and will form the cornerstone of the future AFW architecture. It will also develop and reengineer software to an object-oriented environment (leveraging additional data sources) and upgrade dissemination/ ingest hardware.

PROGRAM/PROJECT MANAGEMENT
- ***Basic guidance document for this program:*** USAF Mission Needs Statement 003-94, 15 May 95. Centralized Aerospace Weather Capability (CAWC) Operational Requirements Document, 12 March 01.
  Program's verification process: Will use design reviews, COTS Usage Risk Evaluation (CURE), and testing (DT/QT, FDE, etc).
- ***Method used for end product validation:*** (See above).
- ***Operational training for the user:*** Both hands-on and text training manuals (user's manual, etc.) are provided by the contractor.

SCHEDULE/IMPLEMENTATION
- ***Next major program milestone:*** Increment 2 FDE begins Nov 04; Increment 3 on contract May 04.
- ***Program becomes operational:*** First operational date was Sep 03.
- ***Plans for further improvements:*** Product and system improvements through FY11. Next major improvements in increment 3 and beyond: Development and implementation of the Consolidated Dissemination Capability, completion of all Joint METOC database segments, creation of a System Health and Monitor System, and developing a Common Satellite Ingest System.

Mountain Wave Forecast Model (MWFM)

PROGRAM/PROJECT: Mountain Wave Forecast Model (MWFM)
LEAD AGENCY: United States Navy (USN – Naval Research Laboratory)
LEAD AGENCY POINT OF CONTACT: Dr. Stephen Eckermann, Naval Research Laboratory, 202-404-1299, Stephen.Eckermann@nrl.navy.mil
PROGRAM POINT OF CONTACT: Dr. Stephen Eckermann, Naval Research Laboratory, 202-404-1299, Stephen.Eckermann@nrl.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives***:
  7: 10

FUNDING

- ***Programmed/Planned ($'s/FY):*** FY05 Funding to be determined.

TYPE OF PROGRAM/APPLICATION

Research and Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc*:** a numerical model that uses developmental algorithms to forecast fine-scale zones of turbulence caused by breaking wind flow waves due to mountainous terrain. The current model, MWFM 2.0, includes better descriptions of 3D wave propagation, breakdown, and improved wave field descriptions near the topographic source.
- ***How operations will be changed/improved:*** fine scale turbulence forecasts will enable aircraft to avoid turbulent areas with greater accuracy. The success of this program is expected to result in significant reductions in personal injury and aircraft damage attributed to turbulence encounters.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** http://uap-www.nrl.navy.mil/dynamics/html/mwfm.html: see also Eckermann, S. D., Climatology for mountain wave-induced turbulence in the stratosphere over Central Asia: October-December 1994-2001, Naval Research Laboratory Technical Memorandum. NRL/MR/7640-02-8594, May 24, 2002.
- ***Program/Project verification process:*** Validation with PIREPS and in situ aircraft data acquired during mission flights.
- ***Method used for end product validation:*** Post-analysis of forecast case studies using data collected from aircraft and satellites. Also, conducting comparisons of forecasts with reports of turbulence from selected flights.
- ***Operational training for the user:*** Being conducted at Air Force Institute of Technology in test formulations.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** To be determined.
- ***Program becomes operational:*** MWFM has been run in campaign support for NASA airborne missions and for Air Force during Operations Enduring Freedom and Iraqi Freedom. Several forecast/assessment tests of MWFM have been performed at the Air Force Institute of Technology, in collaboration with Air Force Weather Agency, and code has been recommended in latest report for transition to AFWA.
- ***Plans for further improvements:*** Working on new 3D Fourier-ray code was next-generation dynamical core for use with arbitrary topography.

Navy Aerosol Analysis and Prediction System (NAAPS)

PROGRAM/PROJECT: Navy Aerosol Analysis and Prediction System (NAAPS)
LEAD AGENCY: United States Navy (USN - Naval Research Laboratory)
LEAD AGENCY POINT OF CONTACT: Dr. Douglas L. Westphal, Naval Research Laboratory, 831-656-4743, westphal@nrlmry.navy.mil
PROGRAM POINT OF CONTACT: Dr. Douglas L. Westphal, Naval Research Laboratory, 831-656-4743, westphal@nrlmry.navy.mil

SERVICE AREA (S):INITIATIVE (S)

- ***National Aviation Weather Initiatives:*** **1:** 1 **8:** 1

FUNDING

- ***Programmed/Planned ($'s/FY):*** FY05/$550K FY06/$500K FY07/$500K

TYPE OF PROGRAM/APPLICATION

Research and Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** A global, multi-component analysis and forecast capability will produce aerosol products from model forecasts, satellite data and surface-based aerosol measurements.
- ***How operations will be changed/improved*:** Improve the forecast and nowcast of visibility restrictions caused by aerosols including those related to dust, smoke and pollutants. The success of this program is expected to result in a significant increase in the effectiveness of strike warfare and a significant increase in the safety of aircraft operations and ship navigation.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Overall guidance comes from a scientific and technical team from NRL as well as feedback from operators
- ***Program/Project verification process:*** Annual and semi-annual reviews by sponsoring agencies.
- ***Method used for end product validation:*** Post-analysis of forecast case studies and statistical comparison with data from satellite and surface site; publication in peer-reviewed literature.
- ***Operational training for the user:*** The Naval Research Laboratory/Monterey web site provides details on interpreting the aerosol products. Operational training will be addressed when NAAPS transitions to operations.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Will be transitioned to Milestone II in FY05.
- ***Program becomes operational:*** Expected to become operational at FNMOC in FY05.
- ***Plans for further improvements:*** Continued ONR 6.2 funding will allow further improvements such as addition of salt and organic carbon aerosol components and increased resolution.

Automated Surface Observing System (ASOS)

PROGRAM/PROJECT: Automated Surface Observing System (ASOS)
LEAD AGENCY: United States Navy (USN - Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR William Nisley, CNO N61R, 703-601-5094, william.nisley@navy.mil
PROGRAM POINT OF CONTACT: Mr. Carl Robbins, PEO C4I & Space, ISR/IO (PMW-180), 619-524-7700; Mr. Tim Kimbrell, SPAWARSYSCEN CHAS J665, 843-218-5813

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  1: 5, 7 **2:** 5 **4:** 2 **6:** 6

FUNDING

- ***Programmed/Planned ($'s/FY):*** Funded through FY05.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc***: The Automatic Surface Observing System (ASOS) was developed by the National Weather Service (NWS) and the Federal Aviation Administration (FAA) as a cost- effective way of replacing human weather observers without diminishing the capability to provide pilots and other end users with critical near-real time weather observation data. There are currently 71 operational units installed at Navy and Marine Corps facilities around the world. Pre-Planned Product Improvements (P^3I) are scheduled to include a new ACU processor, dew point sensor, ice-free wind sensor, enhanced precipitation sensor and ceilometer from FY04 through FY09.
- ***How operations will be changed/improved:*** Supporting Commander Naval Meteorology and Oceanography Command's Guidance on CONUS Aviation Realignment, Naval ASOS configuration will be normalized with NWS/FAA in order to allow unattended observations at selected sites. Maintainability of the system will be improved through higher MTBF and reduced periodic maintenance.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Engineering Change Proposals based on the NWS ASOS Product Improvement Master Implementation Plan will guide the upgrades**.** Basic requirements for this program are documented in the Navy's Operational Requirements of May 91.
- ***Program/Project verification process:*** This program has completed milestone III and is currently undergoing post-production improvements. The NWS ASOS Program Management Committee (APMC) has overall responsibility for program verification and all Requests for Change (RC) will be managed through the subordinate ASOS Configuration Control Board (ACCB).
- ***Method used for end product validation:*** NWS will conduct system testing (ST) and operational acceptance testing (OAT) for all upgrades.
- ***Operational training for the user:*** Hands-on training and/or text training materials will be provided to users.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Deployment of the processor upgrade, dew point replacement and ice-free wind sensor will begin FY05. Normalization with NWS/FAA configuration is expected by FY06.
- ***Program becomes operational:*** ASOS is an operational system.
- ***Plans for further improvements:*** Future improvements are planned according to the NWS ASOS Product Improvement Program.

Supplemental Weather Radar (SWR)

PROGRAM/PROJECT: Supplemental Weather Radar (SWR)
LEAD AGENCY: United States Navy (USN - Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR William Nisley, CNO N61R, 703-601-5094, william.nisley@navy.mil
PROGRAM POINT OF CONTACT: Mr. Carl Robbins, PEO C4I & Space, ISR/IO (PMW-180), 619-524-7700; Mr. Tim Kimbrell, SPAWARSYSCEN CHAS J665, 843-218-5813

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  2: 5, 9

FUNDING

- ***Programmed/Planned ($'s/FY):*** Funded through FY05.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** The AN/FPS-131 Meteorological Data Radar Set (or Supplemental Weather Radar; SWR) is a shore station Doppler weather radar. The SWR provides real-time surveillance and advanced warning of potentially severe weather systems. A total of 10 SWRs have been procured and installed. Pre-Planned Product Improvements (P^3I) scheduled include: replacement of the aging Enterprise Doppler Graphics Environment (EDGE) workstation, purchase of additional end products for users and replacement of the analog Radar Controller Processor.
- ***How operations will be changed/improved:*** SWR is designed for use by Department of Navy facilities that lie outside the umbrella of, or require an alternative to, the Next Generation Radar (NEXRAD; WSR-88D). Upgrades are required due to parts obsolescence and will improve maintainability of the system.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** **Requirements Document:** CNO Mission Needs Statement (MNS) M041-096-93 of 1 Oct 93. Operational Requirements Document (ORD) 431-096-96 of 12 Mar 96.
- ***Program/Project verification process:*** This program has received milestone III production decision in 1997 and Full Operational Capability (FOC) was completed in Aug 2002.
- ***Method used for end product validation:*** Factory and Site Acceptance Testing (FAT and SAT) is conducted for each production system delivered.
- ***Operational training for the user:*** The contractor provided both hands-on and textual initial training during installation. Factory training is available on a cost-reimbursement basis.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** The program is at FOC and post-production support is ongoing. EDGE workstation replacement will be complete by FY05 Q2.
- ***Program becomes operational:*** SWR is an operational system.
- ***Plans for further improvements:*** Replacement of the analog Radar Control Processor (RCP) with a digital RCP is planned for FY06-FY07.

Naval Integrated Tactical Environmental Subsystem (NITES)

PROGRAM/PROJECT: Tactical Environmental Support System/Navy Integrated Tactical Environmental Subsystem, AN/UMK-4(V)
LEAD AGENCY: United States Navy (USN – Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR Steve Rutherford, CNO N61R, 703-601-1287, steven.j.rutherford@navy.mil
PROGRAM POINT OF CONTACT: Ms. Martha Yacoub, PEO C4I & Space, ISR/IO (PMW-180) 858-537-8635, martha.yacoub@navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):*** Funded through FY05.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Improvements for data receiving, storing, processing, display, and communication. GOTS/COTS hardware upgrades. NITES II Object-Oriented Re-design and upgrades to all the Meteorological/Oceanographic (MetOc) Tactical Decision Aids. Data services aligned with DoD netcentric initiatives (e.g. Global Information Grid – Enterprise Services (GIG-ES).
- ***How operations will be changed/improved:*** Improved support to detect, monitor and assess the conditions of the physical environment from the bottom of the seabed to the top of the atmosphere. This includes decision tools to aid decision-makers' (warfighters') weapon, sensor, communication, and ISR systems performance.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Operational Requirements Document for TESS/NITES (369(01)-096-99). Acquisition Decision Memorandum (2) 22 Dec 99 and 08 Apr 00.
- ***Program/Project verification process:*** Annual Program Reviews. SPAWAR System Center San Diego Code 2642: MetOc System Lab Integration & Testing, METOC Systems Knowledge Center (MSKC) 24/7 support.
- ***Method used for end product validation:*** Standardized Systems Operation and Verification Test (SOVT) (ashore/afloat), and mobile system, METOC Systems Knowledge Center (MSKC) provides 24/7 support and receives customer service requests.
- ***Operational training for the user:*** NITES System Operators Course and Operator training the Professional Development Detachments San Diego, CA and Norfolk, VA

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Post Milestone **C** (Production, Fielding/Deploying and Operational Support) to continue and ECP HW obsolescence and SW upgrades. Upgrade demonstration in NETWARCOM/SPAWAR Trident Warrior 04 (TW04), Oct 2004
- ***Program becomes operational:*** NITES variants are operational systems.
- ***Plans for further improvements:*** Web-services technology for applications and data services (TEDServices) to improve METOC data acquisition, assimilation, application and distribution. Continue upgrade of GOTS/COTS hardware and software applications.

Tactical Environmental Data Services (TEDServices)

PROGRAM/PROJECT: Tactical Environmental Data Services (TEDServices)
LEAD AGENCY: United States Navy (USN – Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR Steve Rutherford, CNO N61R, 703-601-1287, steven.j.rutherford@navy.mil
PROGRAM POINT OF CONTACT: Mr. Carl Robbins, PEO C4I & Space, ISR/IO (PMW-180), 619-524-7700, carl.robbins@navy.mil; Mr. John J. Shea, PEO C4I & Space, ISR/IO (PMW-180), APM Data Services, 619-524-7880, john.shea@teds.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):*** Funded through FY05.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** TEDServices is a revolutionary new, scaleable and modular web services environmental data repository (4D Cube) designed to support joint warfighters, weapon systems, and expert Meteorology and Oceanography (MetOc) data users. It includes a middleware infrastructure that enables the bi-directional interoperable transport and transform of data, consistent with WGS84 datum and Universal Time Coordinate (UTC) facilitated by a MetOc/Mission Rules Based Relevant Data Ordering scheme.
- ***How operations will be changed/improved:*** TEDServices operational objective is to reduce bandwidth consumption by 70% by employing improvements in data representation/organization, data transport and data ordering.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** N096 Operational Concept dated April 2002.
- ***Program/Project verification process:*** TEDServices is currently being developed under the NITES/TESS(NC) program of record, and a product improvement effort.
- ***Method used for end product validation:*** TEDServices is currently in development and is slated for transition (as part of NITES) in FY05 as an embedded data services for NITES-Next, Undersea Warfare – Decision Support System (USW-DSS), Tactical Undersea Warfare (TUSW) and ASQ-20 Rapid Transition Proposals (RTPs).
- ***Operational training for the user:*** A contractor will be selected to perform project/product transition in FY05. The contractor will provide training during installation. Post installation support and training will be provided by the NITES ISEA, SPAWAR-SSC (Code S2642).

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Operational testing with Trident Warrior 04 (TW04), Undersea Dominance 04 (UD04), and transitioned into NITES-Next and USW-DSS during FY05.
- ***Program becomes operational:*** Fourth quarter, FY05.
- ***Plans for further improvements:*** TEDServices will continue to evolve; incorporating new data sources and data types and support netcentric tenets of FORCEnet and Global Information Grid – Enterprise Services (GIG-ES).

Meteorology and Oceanography (METOC) Portal

PROGRAM/PROJECT: Meteorology and Oceanography (METOC) Portal
LEAD AGENCY: United States Navy (USN - Commander, Naval Meteorology and Oceanography Command (CNMOC))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Bill Kerr, FNMOC, 831-656-4420, william.kerr@fnmoc.navy.mil

SERVICE AREA(S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):*** FY05/$300K FY06/$300K FY07/$150K

TYPE OF PROGRAM/APPLICATION

Product Dissemination

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Development and hosting environment to support the Navy Enterprise Portal. Infrastructure services, including authentication, and user customization will be provided. Will host a METOC Professional Portal for the integrated presentation of METOC information on the Web from different Centers and sources. The METOC Professional Portal will also serve as a testing and proving ground for migration of applications to the Navy Enterprise Portal.
- ***How operations will be changed/improved:*** A critical element in the development of FORCEnet is the implementation of the Web-Enabled Navy. The Navy Enterprise Portal provides the enterprise infrastructure for accessing Web services using technologies, which enable users to access applications and data from any computer with a Web browser such as Internet Explorer or Netscape Navigator.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Navy Enterprise Application Developers Guide (V 2.0 draft).
- ***Program/Project verification process:*** N/A
- ***Method used for end product validation:*** Customer feedback and iterative development is planned for product validation.
- ***Operational training for the user:*** Operation will be intuitive and not require specialized training. Individual applications may require training but this will be the responsibility of the application owner.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Beta testing Nov 2004.
- ***Program becomes operational:*** Jan 2005.
- ***Plans for further improvements:*** Iterative improvements based on customer feedback.

Remote Automated Weather Sensor (RAWS)

PROGRAM/PROJECT: Remote Automated Weather Sensor (RAWS)
LEAD AGENCY: United States Navy (USN – Commander, Naval Meteorology and Oceanography Command (CNMOC)/Naval Oceanographic Office (NAVO))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Charleston Simms, 228-688-4485, simmsc@navo.navy.mil; Mr. Sam Naquin, 228-688-5708, naquins@navo.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  1: 7

FUNDING

- ***Programmed/Planned ($'s/FY):*** FY05/100K FY06/$106K FY07/$113K

TYPE OF PROGRAM/APPLICATION

Product development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Fixed, shore-based sensor suite to collect remote environmental data that communicates back to regional site that will store and process the data.
- ***How operations will be changed/improved:*** Improves the ability of a weather office to forecast for a remote, data-sparse area.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Sponsor (CNMOC) and NAVO approved Project Management Plan. Future install locations are determined from sponsor's requirement collection.
- ***Program/Project verification process:*** Requirement Trace Matrix (RTM) used to ensure that requirements that were designated for the system are included within the implementation phase of the project.
- ***Method used for end product validation:*** A Systems Operation and Verification Test (SOVT) is performed at completion of installation to ensure that all that was intended to be installed is functioning and is what was originally planned.
- ***Operational training for the user:*** A combination of training during installation and system administrator training occurs after the installation. Additional training materials are included in distribution media (i.e. vendor documentation).

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Explore new telemetry options.
- ***Program becomes operational:*** RAWS is an operational system.
- ***Plans for further improvements:*** Centralized data collection and transmission to local web servers, thereby eliminating most of the system administrative tasks at the RAWS sites. Cellular technology to improve data communication in European Theater. Also, inclusion of camera system to give a visual, panoramic, representation of the surroundings.

Naval Flight Weather Briefer (NFWB) Web

PROGRAM/PROJECT: Naval Flight Weather Briefer (NFWB) Web
LEAD AGENCY: United States Navy (USN - Commander, Naval Meteorology and Oceanography Command (CNMOC))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Greg Noll, NAVO N641, 228-688-4054, nollg@navo.navy.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:*** TBD

FUNDING

- ***Programmed/Planned ($'s/FY):***
  FY05/ $260K (Three-Phased Release Project)
  FY06/ $50K (Transition to SPAWAR PMW-180 by Second Quarter FY06)
  FY07/ $0 (Transitioned to SPAWAR PMW-180)

TYPE OF PROGRAM/APPLICATION

Product Development, Life Cycle Engineering, and Maintenance.

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Web-based aviation flight weather briefing applications accessible through Internet or NIPRNet connections. NFWB-Web includes a function in which the forecaster can designate web links to aviation products that are viewable simultaneously by pilot and forecaster resulting in a common set of products viewed remotely during telephonic briefings.
- ***How operations will be changed/improved:*** NFWB-Web provides a totally electronic and remote means of providing aviation flight weather briefings to pilots worldwide through three CONUS regional web and data servers. Additionally, NFWB-Web will soon interface with AISR to allow Base Operations offices to electronically transfer flight plan data directly to the FAA.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Sponsor (COMNAVMETOCCOM) approved Project Management Plan. Technical guidance provided through NAVMETOCCOM Instruction 3140.14E, *Procedures Governing Flight Weather Briefings* and OPNAV Instruction 3710.7T, *NATOPS General Flight and Operating Instructions*.
- ***Program/Project verification process:*** Requirements Specifications and Trace matrix validation and verification by ISEA (NAVO) with concurrence from both the Sponsor (COMNAVMETOCCOM) and the end user.
- ***Method used for end product validation:*** End product validation is accomplished via requirements tracking and validation, development, integration, system testing, configuration management processes, documentation, baseline validation, and system and software life cycle support. NAVO N64 follows Industry Software Engineering processes and practices in accordance with their Capability Maturity Model Level 3 Certification.
- ***Operational training for the user:*** Operational training for all end users (to include System Administrator and Operator training) at international sites was conducted during initial system deployment. Additional training is conducted upon each system hardware/software upgrade. Training materials, User's Guides, System Administrator Guides and other documentation are provided on CD-ROM with each version release and can be downloaded from the METOC Systems Knowledge Center (MSKC) web site.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** The next release (NFWB-Web Version 5) is expected to be deployed in a three-phased *"Spiral"* software engineering process as follows:
  - Phase I (December 2005) New Policy and Functionality
  - Phase II (June 2005) Security and Interoperability Issues
  - Phase III (November 2005) Standards Compliance Issues
- ***Program becomes operational:*** NFWB-Web is currently operational. Anticipate CNAF concurrence, expanding the NFWB-Web mandate to Navy pilots by October 2004.
- ***Plans for further improvements:***
  - Continue 6-month upgrade cycle through FY05.

Naval Satellite Display System-Enhanced (NSDS-E)
(AN/FMQ-17)

PROGRAM/PROJECT: Naval Satellite Display System-Enhanced (NSDS-E)/AN/FMQ-17
LEAD AGENCY: United States Navy (USN - Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR Steve Rutherford, CNO N61, 703-601-1287, steven.j.rutherford@navy.mil
PROGRAM POINT OF CONTACT: CDR Eric Gottshall, PEO C4I & Space, ISR/IO (PMW-180), 301-713-4809, eric.gottshall@noaa.gov and Mr. Michael R. Fisher, PEO C4I & Space, SATCOMMS (PMW-170), 619-524-7153, michael.fisher@navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

- ***Programmed/Planned ($'s/FY):*** Funded through FY05.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Upgrades to an operational system that include new algorithms for satellite data. Specific products include dust storm tracking and forecasting, fire detection, cloud phase, atmospheric sounding, and a tropical storm analysis tool. Additionally, new satellite feeds for selected OCONUS systems to support new data rates at Yokosuka - Japan, Bahrain, Diego Garcia and Rota - Spain.
- ***How operations will be changed/improved:*** Improve environmental support to Navy operations.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Abbreviated System Decision Paper (ASDP).
- ***Program/Project verification process:*** Annual program reviews.
- ***Method used for end product validation:*** Standardized Systems Operations and Verification Testing (SOVT) for the AN/FMQ-17.
- ***Operational training for the user:*** Users are provided training at the Navy Technical Training Unit, Keesler AFB and by contractor. On-the-job training is also conducted at shore facilities.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Installation of next minor software release is scheduled for Second Quarter, FY05.
- ***Program becomes operational:*** NSDS-E/AN/FMQ-17 is an operational system.
- ***Plans for further improvements:*** X-band enhancement at selected sites. Currently at Rota and Bahrain. Future installations TBD per METOC CONOPS. Selected sites also to receive (pending funding) LINIX upgrades to SUN-Blade CPU's. JTWC is currently jointly funded by AF and CNMOC for this upgrade in FY 05.

Meteorological Mobile Facility - Next Generation (METMF-NG)

PROGRAM/PROJECT: Meteorological Mobile Facility – Next Generation (METMF-NG)
LEAD AGENCY: United States Navy (USN - Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR Steve Rutherford, CNO N61R, 703-601-1287, steven.j.rutherford@navy.mil
PROGRAM POINT OF CONTACT: Captain Jay Haley, USMC, PEO C4I & Space, ISR/IO (PMW-180), 858-537-0168, jay.haley@navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

Programmed/Planned ($'s/FY): TBD.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Meteorological Mobile Facility – Replacement (METMF-R) replaced legacy four-van system with a one-van system (on-site footprint reduced by 75%). However, METMF-R is not easily relocatable and does not provide the "On the Move" capability USMC desires. FY05 resources provided to complete an analysis of alternatives for potential rapid prototyping. Joint service solution is sought.
- ***How operations will be changed/improved:*** Improved environmental support to the deployed Marine Air Ground Task Force (MAGTF) and increased flexibility to develop a more complete theater environmental sensing strategy.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Mission area initial capabilities document (ICD) for Department of Defense Meteorology and Oceanography (MetOc) support operations needs to be developed. Operational Requirements Document #441-096-96 (METMF-R) may provide prerequisite baseline information for a "system specific" capability development document (CDD) and capability program document (CPD) for METMF-NG.
- ***Program/Project verification process:*** TBD.
- ***Method used for end product validation:*** Operational Test and Evaluation conducted as part of development process.
- ***Operational training for the user:*** Training provided at system delivery.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** TBD.
- ***Program becomes operational:*** TBD.
- ***Plans for further improvements:*** TBD.

Open Principal User Processor (OPUP)

PROGRAM/PROJECT: Next Generation Radar (NEXRAD) Open Principal User Processor (OPUP)
LEAD AGENCY: United States Navy (USN - Office of the Oceanographer of the Navy (CNO N61))
LEAD AGENCY POINT OF CONTACT: CDR William Nisley, CNO N61R, 703-601-5094, william.nisley@navy.mil
PROGRAM POINT OF CONTACT: Mr. Carl Robbins, PEO C4I & Space, ISR/IO (PMW-180), 619-524-7700; Mr. Tim Kimbrell, SPAWARSYSCEN CHAS J665, 843-218-5813

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

Programmed/Planned ($'s/FY): Funded through FY05.

TYPE OF PROGRAM/APPLICATION

Product Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Replacement of the WSR-88D Principal User Processor (PUP) at Navy and Marine Corps air stations. Additionally, three medium OPUPs and one large OPUP will be installed at Navy and Marine Corps regional aviation hubs.
- ***How operations will be changed/improved:*** An improved graphical user interface and a capability to provide multiple dedicated connections from a common workstation and rapid access to convective hazard information.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Requirements for this upgrade are documented in the SPAWAR Engineering Change Proposal N65236-315-0301 based upon NWS ECP 0163.
- ***Program/Project verification process:*** Spiral development acquisition strategy through the Air Force Weather Agency (AFWA) as lead DOD agency. This includes Developmental Test and Evaluation, System Testing, and Field Testing.
- ***Method used for end product validation:*** NWS Radar Operations Center (ROC) will evaluate system performance against specified requirements under Air Force management.
- ***Operational training for the user:*** Hands-on and text training are provided as well as on-site instruction during installation.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Three medium and one large OPUPs will become operational during Second Quarter, FY05.
- ***Program becomes operational:*** OPUP is an operational system. Deployment of navy small OPUPs was completed during Nov 03 to Jul 04.
- ***Plans for further improvements:*** Investigate alternate means of communications to Radar Product Generators (RPGs) to lower recurring costs.

Numerical Weather Prediction (NWP)

PROGRAM/PROJECT: Numerical Weather Prediction (NWP)
LEAD AGENCY: United States Navy (USN - Commander, Naval Meteorology and Oceanography Command (CNMOC))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Mike Clancy, FNMOC, 831-656-4414, mike.clancy@fnmoc.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

Programmed/Planned ($'s/FY): FY05/$5.2M FY06/$5.3M FY07/$5.4M

TYPE OF PROGRAM/APPLICATION

Product Development/Improvement

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** A new gravity-wave drag formulation and an improved representation of terrain were implemented in the Navy Operational Global Atmospheric Prediction System (NOGAPS) model. The Navy Atmospheric Variational Data Assimilation System (NAVDAS), which accomplishes 3D-VAR data assimilation for NOGAPS, was upgraded to assimilate satellite radiance data. Work is progressing to assimilate additional upper-air and surface wind observations from satellite sensors into NOGAPS, and to upgrade the horizontal and vertical resolution of NOGAPS.
- ***How operations will be changed/improved:*** These new developments will improve the forecast skill of sensible weather, flight-level winds, and tropical cyclone tracks.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Implementation Plan for the Oceanographer of the Navy's R&D Strategy
- ***Program/Project verification process:*** Periodic work unit reviews by resource sponsors and Administrative Model Oversight Panel
- ***Method used for end product validation:*** Well-established statistical and event-based model verification procedures
- ***Operational training for the user:*** Recurring training for Navy METOC professionals

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Upgrade NOGAPS from ~55 km horizontal resolution and 36 levels in the vertical to ~30 km horizontal resolution with 48 levels in the vertical in FY06.
- ***Program becomes operational:*** Implementation of new gravity-wave drag formulation and improved terrain in NOGAPS took place in November of 2003. Addition of radiance assimilation to NAVDAS/NOGAPS occurred in June of 2004.
- ***Plans for further improvements:*** Assimilation of upper-air satellite wind observations from the MODIS sensor and surface satellite wind observations from the QuikSCAT sensor. Upgrade in horizontal and vertical resolution for NAVDAS and NOGAPS. Continual implementation of incremental upgrades to NAVDAS and NOGAPS.

Electrical Storm Identification Device (ESID)

PROGRAM/PROJECT: Electrical Storm Identification Device (ESID)
LEAD AGENCY: United States Navy (USN - Commander, Naval Meteorology and Oceanography Command (CNMOC))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Charleston Simms, 228-688-4485, simmsc@navo.navy.mil; Mr. Leo Garner, 228-688-4396, garnerl@navo.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  N/A

FUNDING

Programmed/Planned ($'s/FY):	FY05/$8K	FY06/$8K	FY07/$0K (Replaced by NITES-III mid FY07)

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Standalone, deployable hardware system that detects lighting strikes (cloud to cloud/cloud to ground) within an adjustable radius.
- ***How operations will be changed/improved:*** ESIDS allows lighting strike data to be gathered at remote locations.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Sponsor (CNMOC) approved Project Management Plan.
- ***Program/Project verification process:*** Requirements Trace matrix validation and verification by ISEA (NAVO) with concurrence from both the Sponsor (CNMOC) and end users at the selected Operational field-testing facilities/sites.
- ***Method used for end product validation:*** End product validation was accomplished via requirements validation, and integration testing conducted at selected operational sites.
- ***Operational training for the user:*** Operational training for all end users and operational sites was conducted during initial system deployment. Additional training materials can be found in the ESID user's guide.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Program is in the lifecycle management phase, no additional milestones exist.
- ***Program becomes operational:*** ESIDS is currently an operational system.
- ***Plans for further improvements:*** NO further improvements are planned; program is strictly a lifecycle management program. Lifecycle management will continue until functionality can be assumed by future system, NITES III in the mid FY07.

Lightning Position and Tracking System (LPATS)

PROGRAM/PROJECT: Lightning Position and Tracking System (LPATS)
LEAD AGENCY: United States Navy (USN - Commander, Naval Meteorology and Oceanography Command (CNMOC))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Charleston Simms, 228-688-4485, simmsc@navo.navy.mil; Ms. Shelli Ladner, 228-688-4686, ladners@navo.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:***
  2: 5, 9

FUNDING

Programmed/Planned ($'s/FY):	FY05/ $194K	FY06/$203K	FY07/$105K (Replaced by NITES-III mid FY07.)

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** Commercially available system for lightning detection that can be deployed at remote locations.
- ***How operations will be changed/improved:*** Accurate location of lightning strikes is important for safe aviation ground operations during convective storms.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Sponsor (CNMOC) approved Project Management Plan.
- ***Program/Project verification process:*** Requirements Trace matrix validation and verification by ISEA (NAVO) with concurrence from both the Sponsor (CNMOC) and end users at the selected Operational field-testing facilities/sites.
- ***Method used for end product validation:*** End product validation was accomplished via requirements validation, and integration testing conducted at selected operational sites.
- ***Operational training for the user:*** Operational training for all end users and operational sites was conducted during initial system deployment. Additional training materials can be found in the LPATS user's guide.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Program is in the lifecycle management phase, no additional milestones exist.
- ***Program becomes operational:*** LPATS is currently an operational commercial system.
- ***Plans for further improvements:*** NO further improvements are planned; program is strictly a lifecycle management program. Lifecycle management will continue until functionality can be assumed by future system, NITES III in mid FY07.

Meteorological Integrated Data Display System-Next (MIDDS-Next)

PROGRAM/PROJECT: Meteorological Integrated Data Display System-Next (Fac) (MIDDS-Next)
LEAD AGENCY: United States Navy (USN - Commander, Naval Meteorology and Oceanography Command (CNMOC))
LEAD AGENCY POINT OF CONTACT: Mr. John Meyer, N6, 228-688-5228, meyerj@cnmoc.navy.mil
PROGRAM POINT OF CONTACT: Mr. Charleston Simms, 228-688-4485, simmsc@navo.navy.mil; Mr. Jim Cranfield, 228-688-4819, cranfieldj@navo.navy.mil

SERVICE AREA (S)/INITIATIVE (S)

- ***National Aviation Weather Initiatives:*** TBD

FUNDING

Programmed/Planned ($'s/FY): FY05/$687K FY06/$537K FY07/$268K

TYPE OF PROGRAM/APPLICATION

Product Development, Integration, Training, Life Cycle Engineering, and Maintenance

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** COTS environmental prediction software and hardware integrated in such a way as to provide for the automated collection, analysis, forecasting, display, and dissemination of weather products and services, primarily focused on the needs of Naval aviation facilities. MIDDS Next (Fac) is capable of multiple data feeds, including, but not limited to, NOAAPort, and METCAST. MIDDS Next (Fac) interfaces with the Non-secure Internet Protocol Network (NIPRNET), Internet, and local sensors such as the Automated Surface Observing System (ASOS). Data is displayed locally on large screen monitors to facilitate briefings and monitoring of weather related events.
- ***How operations will be changed/improved:*** MIDDS-NEXT implements a Net-Centric / Data Reach-Back architecture. This architecture allows the METOC community to realize numerous aviation efficiencies, and cost savings.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Sponsor (CNMOC) approved Project Management Plan.
- ***Program/Project verification process:*** Requirements Trace matrix validation and verification by ISEA (NAVO) with concurrence from both the Sponsor (CNMOC) and end users at the selected Operational field-testing facilities/sites.
- ***Method used for end product validation:*** End product validation is accomplished via requirements tracking and validation, development, integration, system testing, configuration management processes, documentation, baseline validation, and system and software life cycle support. NAVO N64 follows Industry Software Engineering processes and practices in accordance with their Capability Maturity Model Level 3 Certification.
- ***Operational training for the user:*** Operational training for all end users and system administrators at operational sites was conducted during initial system deployment. Training materials, LEADS User's Guides, LEADS System Checklists and Administrator Guides were provided during initial system deployment. Refresher training for MIDDS-Next end users, LEADS scripts writers, and System Administrators is conducted at six-month intervals.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Program is in installation / training phase. With several Navy and USMC sites scheduled for installs in FY05. Once all sites have been installed MIDDS-Next will continue with refresher training, periodic upgrades based on end user requirements, and maintenance life-cycle support.
- ***Program becomes operational:*** MIDDS-Next is currently an operational system.
- ***Plans for further improvements:***
  - Continue software upgrades based on fleet and shore end user requirements through mid FY07.

Icing Research Program (IRP)

PROGRAM/PROJECT:
LEAD AGENCY/COLLABORATING AGENCIES: U. S. Army Corps of Engineers (USACE) Engineer Research and Development Center (ERDC) Cold Regions Research and Engineering Laboratory (CRREL), National Aeronautics and Space Administration (NASA) Glenn Research Center, Federal Aviation Administration (FAA) Aviation Weather Research Program and the FAA Technical Center, National Center for Atmospheric Research (NCAR), and the National Oceanic and Atmospheric Administration (NOAA) Environmental Technology Laboratory.
LEAD AGENCY POINT OF CONTACT: Dave Johnson, DAMI POB, 703-695-2869, david.johnson@hqda.army.mil
PROGRAM POINT OF CONTACT: Dr. Charles C. Ryerson, CRREL, 603-646-4487, charles.c.ryerson@erdc.usace.army.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  5: 11, 14, 15

FUNDING

- ***Programmed/Planned ($'s/FY):*** $420K /FY05 $250K /FY06 $250K/FY07

TYPE OF PROGRAM/APPLICATION

R&D/Product Development

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc:*** *a capability to remotely detect icing conditions ahead of aircraft using radar and microwave radiometers from the air or from the ground, and development of methods to rapidly and safely de-ice Army helicopters during pre-flight preparations.*
- ***How operations will be changed/improved:*** *detection and avoidance of in-flight icing and improved methods of detecting and removing ice. This program is focused on improving the Army's capability for operating in icing conditions.*

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Icing Research Program Development Plan – internally developed at CRREL, and with NASA-Glenn Research Center and AFRL.
- ***Program/Project verification process:*** CRREL Technical Director, CRREL Management Information Office, ERDC, NASA, FAA, AFRL, AMCOM.
- ***Method used for end product validation:*** Field programs.
- ***Operational training for the user:*** Not applicable yet. Hands-on and text materials anticipated.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** N/A
- ***When program will become operational:*** Anticipate operational prototype in FY10.
- ***Plans for further improvements:*** Continued research and development to characterize operational meteorological conditions, development of icing condition retrieval algorithms, and development of simulation techniques for DOD applications.

Meteorological Measuring Set – Profiler (MMS-P)

PROGRAM/PROJECT:
LEAD AGENCY: United States Army (USA)
LEAD AGENCY POINT OF CONTACT: Dave Johnson, DAMI POB, 703-695-2869, david.johnson@hqda.army.mil
PROGRAM POINTS OF CONTACT: MAJ William D. Fischer, SFAE-IEWS-NS-TIMS, 703-704-4228 William.D.Fischer@us.army.mil

SERVICE AREA(S)/INITIATIVE(S)

- ***National Aviation Weather Initiatives:***
  3: 5, 6

FUNDING

- ***Programmed/Planned ($'s/FY):*** $M 4.963/FY05 4.869/FY06 1.600/FY07

TYPE OF PROGRAM/APPLICATION

Acquisition

SCOPE OF PROGRAM/PROJECT

- ***What's being developed, procured, etc.:*** *vehicle mounted system that provides current ("nowcast") meteorological data throughout a defined area. Data can be used for ballistic computation or applied to other decision aids for battlefield operations.*
- ***How operations will be changed/improved***: *improved receipt and processing of weather information from Air Force communications satellites and local sensors, and dissemination of meteorological information for application to ballistic solutions.* This system will provide timely and accurate meteorological effects on munitions and firing solutions to Command and Control (C2) systems.

PROGRAM/PROJECT MANAGEMENT

- ***Basic guidance document for this program:*** Interim DOD 5000.1/5000.2; Operational Requirements Document (ORD) Approved 15 Oct 99. Milestones I/II Approval 12 Apr 00.
- ***Program/Project verification process:*** Preliminary Design Review (PDR); Critical Design Review (CDR); Functional and Physical Configuration Audits.
- ***Method used for product validation:*** Developmental , Functional Validation, Acceptance, Operational, and Regression Testing.
- ***Operational training for the user:*** two weeks of operator training as part of the fielding. Sustainment training available through Computer Based Training (CBT) package fielded with the system. Institutional training provided by the US Army Field Artillery Center, Fort Sill. Complete operators course will be 11 weeks long; maintainers course will be 13 weeks long.

SCHEDULE/IMPLEMENTATION

- ***Next major program milestone:*** Full Rate Production (FRP) (February 2005).
- ***Program becomes operational:*** The Profiler is scheduled for First Unit Equipped in the second quarter of fiscal year 2005 (2Q FY05). (Accelerated fielding potential 1Q FY05).
- ***Plans for further product improvements:*** Enhance capability to receive/process high-resolution weather satellite imagery; ability to respond to data requests while on the move; expand model capability to 500km x 500km area.

Integrated Meteorological System (IMETS)

PROGRAM/PROJECT:
LEAD AGENCY: United States Army (USA)
LEAD AGENCY POINT OF CONTACT: Dave Johnson, DAMI POB, 703-695-2869, david.johnson@hqda.army.mil
PROGRAM POINT OF CONTACT: Bob Dickenscheid, SFAE-C3S-MET, (505) 678-1984, DSN 258-1984, rdickens@arl.army.mil

SERVICE AREA(S)/INITIATIVE(S)
- ***National Aviation Weather Initiatives***:
  1: 9 **2:** 8 **5:** 7 **6:** 5 **7:** 6

FUNDING
- ***Programmed/Planned ($'s/FY):*** $6.1M/FY05 $6.2M/FY06 $6.2M/FY07

TYPE OF PROGRAM/APPLICATION
Acquisition

SCOPE OF PROGRAM/PROJECT
- ***What's being developed, procured, etc.:*** a *system to produce, display, and disseminate tailored mission weather forecasts, warnings, and decision aids for battlefield operations.* There are three system configurations: vehicle-mounted, command post, and light configuration.
- ***How operations will be changed/improved:*** *improved receipt and processing of weather information from a variety of sources and dissemination of weather/environmental information in graphical format to command systems to aid decision making.* This system will provide timely and accurate weather and environmental effects on missions and weapon systems displayed on a Common Tactical Picture/Common Operational Picture (CTP/COP).

PROGRAM/PROJECT MANAGEMENT
- ***Basic Guidance Document for the program:*** As an Army Acquisition Project, guidance is provided in the DOD 5000.1/5000.2. Several documents provide guidance for project execution. These documents include the following: Modified Integrated Program Summary, Acquisition Strategy, Acquisition Program Baseline, Test and Evaluation Master Plan, Operational Requirements Document, Integrated Logistics Support Plan, System Threat Assessment, and associated Safety/Environmental assessments,
- ***Project verification process:*** There are at least four milestone reviews. Additional reviews/audits include the following : Preliminary Design Review, Critical Design Review, Functional and Physical Configuration Audits
- ***Method used for end product validation:*** Developmental , Functional Validation, Acceptance, and Operational and Regression Testing
- ***Operational training for the user:*** Three weeks of operator training and 1 week of maintainer training as part of the fielding. Recurring training is provided by the Weather Squadrons attached to the units to which IMETS has been fielded supplemented by the Air Force Combat Weather Center which conducts Just-In-Time training as needed. At USAIC at Ft. Huachuca, AZ instruction modules on IMETS are taught to AF Staff Weather Officers who are being assigned to Army units. These modules also support MI Officers during formal field exercises.

SCHEDULE/IMPLEMENTATION
- ***Next major program milestone:*** Milestone C IPR (December 04)
- ***Program will become operational:*** The IMETS Vehicle Mounted Configuration (VMC) is fielded and the Light Configuration (LC) IMETS has been fielded to selected high priority units. The Command Post Configuration (CPC) will be fielded beginning in 2005.
- ***Plans for further improvements*:** Integrate common AF/Army developed Joint Environmental Toolkit (JET) software package into IMETS.
- Plan to support development and integration of IMETS weather modules that directly support DCGS-A ORD requirements such as the exploitation of the Weather Running Estimate (WRE) local weather data in the UA to provide inputs to IPB, EO/IR sensors, ISR sensor Control, and mission planning, COP on DCGS-A. Enhance capability to receive/process high-resolution weather satellite imagery.