

**Fiscal Year 2011
IMPLEMENTATION PLAN FOR
NATIONAL WEATHER SERVICE TRAINING AND EDUCATION**

FINAL UPDATE #2 – JULY, 2011

**In Support of
NOAA and National Weather Service Human Capital Strategic Plans and Goals
(07/11/11)**

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**Fiscal Year (FY) 2011 Implementation Plan for Training and Education
July, 2011 Update**

i. Summary of Changes

This June, 2011 update to the Fiscal Year (FY) 2011 (hereafter referred to as FY11) Implementation Plan for Training and Education (IP11) was necessitated by further budgetary changes in FY11 Base funding and funding provided by the Advanced Weather Interactive Processing System (AWIPS) program. This update will be the final update to IP11.

1. FY11 Base Funding Change. When IP11 was originally released on September 13, 2010, the National Weather Service (NWS) Assistant Administrator (AA) / Office of the Chief Financial Officer (CFO) had committed to provide an additional \$2M to augment FY11 Base funding. In March, 2011, the AA/CFO notified the Office of Climate, Water, and Weather Services (OCWWS) Director that due to a NWS FY11 budget shortfall, they could only commit to a \$1M increase for FY11. It was also mandated that each NWS Headquarters office reduce its staff travel by 20 percent, which results in an additional \$39K in cuts. These changes resulted in the following cuts to the original September, 2010 version of IP11, summarized in the table below.

IP11 - \$1,039,000 Funding Cut (\$1M funds + 20% Travel Cut of \$39K) – March 2011				
PNS ID	HOTG	Course/Item Name	Cost/Cut	Comments
LE08	COMET®	Seasonal Readiness Assessment – Winter Weather	\$230K	
LE08	WDTB	Seasonal Readiness Assessment – Convective Weather	\$100K	
-	OS6	Service Assessment Response	\$72K	
-	FDTB	Virtual Institute for Satellite Integration & Training (VISIT) Salaries	\$65K	\$65K reduction (20% cut)
SS01a	COMET®	Social Science Training	\$100K	Was \$117K in IP11. \$17K already spent on WAS*IS workshop
LE10	NWSTC	Human Factors Training	\$246K	
IN01	NWSTC	LMS Support at NWSTC	\$67K	
-	OS6	MIC/HIC Actions	\$40K	
EE02	NWSTC	ART Maintenance Res Course	\$23K	Class was Cancelled
	WDTB	Hazardous Weather Testbed	\$14K	
	OS6	Operating Budget Cut	\$9K	
	WDTB	DOC/NOAA Support	\$18K	
	NWSTC	Operating Budget Cut	\$8K	
-	FDTB	Operating Budget Cut	\$8K	
		Total Cut to Base/AA Funds	\$1M	
-	OS6	OS6 Operating Budget Cut	\$9K	Travel Cut
-	NWSTC	NWSTC Admin Budget Cut	\$20K	Travel Cut
-	FDTB	FDTB Admin Budget Cut	\$10K	Travel Cut
		Total Travel Cut	\$39K	

In May 2011, the AA/CFO notified the OCWWS Director that due to continuing NWS FY11 budget shortfalls, they would not be able to fulfill their prior commitment of the additional \$1M increase in Base funds. These cuts caused the following additional reductions in IP11:

Training Division –Additional FY11 Funding Cuts (June, 2010)			
Branch	Reduce Partnering Staff	Amount	Impacts
COMET®	COMET® Base Funds	\$370,000	4 staff layoff Delayed updates to modules
WDTB	Cooperative Institute for Meteorological & Mesoscale Studies (CIMMS) Salaries	\$158,500	2 CIMMS layoff Training for GPRA terminated
FDTB	Virtual Institute for Satellite Integration and Training (VISIT) Salaries	\$100,000	1 staff layoff 40% reduction in Satellite training
Rescheduled / Canceled Classes			
NWSTC	Field Operations Management (8/1-8/5) (24 Lead Forecasters not trained)	\$48,000	Travel
NWSTC	Management and Supervision (8/22-9/1) (Required 80 hour training for new supervisors)	\$30,000	Travel
COMET®	Advanced Climate Variability and Change (8/30-9/1)	\$52,000	Now November 14-18
FDTB	Advanced Climate Variability Course (8/30-9/1)	\$31,000	Student Travel-November 14-18
COMET®	Boundary Layer Virtual Course (6/7-6/10)	\$19,000	Canceled
COMET®	Climate Variability Workshop (6/13-6/17)	\$18,000	Now October 24-27
WDTB	AWOC Facilitation Workshop (6/6-10)	\$23,500	Now October 24-28
Offsets			
OS6	IMET Workshop	\$29,000	Under budget
OS6	LMS Charges	\$28,000	Under budget
OS6	HOTG/NSTEP Meetings	\$30,000	Canceled/Under budget
WDTB	Tornado and Severe Thunderstorm Warning Best Practices - Super Tuesday Service Assessment	\$18,000	Overestimate / Double Counting
FDTB	Virtual Advanced Hydro Sciences	\$40,000	Residence portion converted to virtual
FDTB	FDTB Admin Budget	\$5,000	

NOTE: In the supporting tables, changes are denoted in red, with cuts denoted in strikethrough text.

3. Other Impacts. The aforementioned cuts created other impacts to IP11 deliverables because of staffing decreases (CIMMS), and a surge in developing training to support the Advanced Weather Interactive Processing System (AWIPS) II Field Operational Testing and Evaluation (OT&E). These impacts are detailed below.

NWS Training Center

Performance Need Statement (PNS) LE04 - Leadership Foundations Field Requirements Team: No advances in FY11 due to short staffing (expected CIMMS staff not hired) and cuts from original \$2M.

PNS LE09 - New Hire - NWS New Employee Introduction: One module released in FY11. Limited advances in FY11 due to short staffing (expected CIMMS not hired) and cuts from original \$2M.

PNS HY03 - Advanced Hydrologic Applications Course: The second scheduled AWIPS funded course in FY11 was to be last residence course. Due to AWIPS II delays, this class was postponed and could not be offered in FY11. All future classes (in FY12) will be distance learning.

Weather Radio Improvement Program (WRIP) changes: WRIP was to have given funds in FY11 for training. Those funds have been deferred to FY12.

PNS IT26: AWIPS II Local Applications Field Requirements Team: Deferred to FY12 due to slippages in the AWIPS II deployment.

Warning Decision Training Branch

Funding shortfalls forced WDTB to terminate two of its CIMMS staff. In addition, due to the decision to accelerate development of AWIPS II training to support field OT&E (the “AWIPS Training Surge”), there is an adverse impact on project management of the 12 other WDTB training projects that were not part of AWIPS. These include:

PNS ME01 - Distance Learning Operations Course:

- Development extended into the 1st Quarter FY12.
- Delivery starts in October (vice August).
- Students complete course in late spring (vice early spring).

PNS IN01 – Learning Management System (LMS) Support: 50% of NWS LMS officer function (0.25 staff years) moved out of WDTB.

PNS AV15 – Weather Event Simulator (WES) II Machines for Center Weather Service Units (CWSUs): Not implemented. WDTB could not provide support to this unfunded project.

PNS DE02 - Communicating Risks in High Impact Events: Delayed until 1st Quarter FY12.

Forecast Decision Training Branch / Cooperative Program for Operational Meteorology, Education and Training (COMET®):

COMET® Grant (Operating Costs): Reduce by \$370K to \$1,576K. Impact is four staff layoffs and four voluntary departures, plus a delay in module updates.

Aviation and Numerical Weather Prediction (NWP) Training: With the above reduction to COMET® staffing, it is likely that production in both areas will be slowed.

1. Introduction

This Implementation Plan (IP11) is the guiding document for the national training and education activities within the [National Oceanic and Atmospheric Administration's \(NOAA's\) National Weather Service \(NWS\)](#) for Fiscal Year 2011 (referred to as FY11 herein). The purpose of this plan is to specify the expected national training activities necessary to support the wide range of mission critical operations. It is coordinated and executed by the [Office of Climate, Water, and Weather Services \(OCWWS\), Training Division](#) (TD) for FY11. It includes detailed resource cost analyses including allocations for Division full-time equivalent (FTE) time and course dollar costs, as well as the unfunded training gap requirements.

The FY11 budget of \$9.5 million (M) funded 74 of 169 (44%) National Strategic Training and Education Plan (NSTEP) process derived requirements. The process facilitates both mandated requirements and the highest priority training needs identified. Funding was based on the final FY11 budget.

The demand for training in science and technology and to support Decision Support Services is increasing. Without such training, maintaining a highly trained, professional workforce in the NWS that performs at the required levels to protect life and property will be compromised. Vital training needs are constantly being identified. Program funds only partially mitigate some impacts of continued level Base funding by supporting specific needs for systems such as the Advanced Weather Interactive Processing System (AWIPS), Dual-Polarization (Dual-Pol) radar, Next Generation Weather Radar (NEXRAD), the Automated Surface Observing System (ASOS), Advanced Hydrologic Prediction System (AHPS), Fire Weather, Geostationary Operational Environmental Satellite-R Series (GOES-R+), Weather Radio Improvement Program (WRIP), and the Radiosonde Replacement System (RRS).

In August 2010, the NWS Assistant Administrator (AA) / Chief Financial Officer (CFO) provided an additional \$100,000 (\$100K) to the Training Division Base FY10 budget, and committed to providing \$2M in FY11 to augment Base funds. Due to budget constraints, this \$2M commitment to increase the training budget was not provided in FY11.

2. Plan Assumptions

This IP11 is based on the following:

1. OCWWS Base non-labor funding is \$5,082K.
2. The Office of Science and Technology (OST) AWIPS Program Office will fully fund AWIPS II activities. This requires OST to fund all student travel to AWIPS-funded residence training and meetings, as well as provide support (staff and hardware) for the COMET[®] Numerical Weather Prediction team and for WDTB's Weather Event Simulator (WES).
3. OST Dual-Pol funding only provides for NWS Training Center Maintenance Training of \$239K.

4. Office of Operational Systems (OOS) NEXRAD non-labor funding is cut by \$312.2K from FY10 (\$1,289.2K) to an FY11 estimate of \$977K.
5. OOS continues to provide ASOS funding to the fund maintenance course in that area.

3. Appendices

Appendices 1 through 4 spell out the training deliverables to be accomplished in FY11. These deliverables are delineated by the TD Branch and the Cooperative Program for Operational Meteorology, Education and Training (COMET[®]) which are responsible for coordinating each training activity. References to the appropriate funding tables are also cited, and additional information on many of the activities funded in FY11 can be referenced from hyperlinks (as denoted in blue, underlined text) in the tables. Appendix 5 denotes major training activities planned in FY12. Appendix 6 provides details on the NSTEP process used to prepare training requirements, set priorities and allocate resources to develop IP11.

NOTE: In the supporting tables, changes as of March and July, 2011, are denoted in red, with cuts denoted in strikethrough text.

Appendix 1: OCWWS Training Division (OS6) Managed Funding– Table 1

I. TD Infrastructure Items

- Administrative Budgets for TD Branches (NWS Headquarters, NWS Training Center (NWSTC), Forecast Decision Training Branch (FDTB), and Warning Decision Training Branch (WDTB)): Provides day-to-day operating funds to support key activities including the NWS Training Portal (<http://www.weather.gov/training/>).
- [American Meteorological Society \(AMS\)](#) Journal Access: TD annually pays for NWS electronic access to three AMS online journals: [Monthly Weather Review](#), [Weather and Forecasting](#), and [Weather, Climate, and Society](#).
- NWS Learning Management System (LMS) Charges: TD pays for the [NWS LEARN Center](#) on the [Department of Commerce Learning Center \(CLC\)](#) in addition to partially redirecting the work of two TD instructors. Funds are set aside for system administration support Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) staff at WDTB to support LMS-related activities. An annual charge to transfer data between the LMS and COMET[®]'s Meteorology and Education ([MetEd](#)) website is also funded.
- Telecommunications Charges: Pays for Division conference call costs to support field coordination and training webinars.
- Annual NSTEP and Heads of Training Group (HOTG) Meetings Travel Funds: Set aside for annual NSTEP meetings and HOTG meetings.
- GoToMeeting Licenses for TD: Provides funding for the licenses required for the Division to use GoToMeeting software to conduct training, meetings, etc.
- International Weather and Water Leadership: TD is routinely requested, by the NWS [International Activities Office](#), to support visiting foreign delegations. In preparation, funding and/or FTE resources are set aside at NWSTC, FDTB and WDTB for rapid response.
- NWS Headquarters Operations Management Course: NWSTC instructors will provide in-residence training to NWS Headquarters personnel in Silver Spring, MD patterned after the highly successful Field Operations Management course.

II. TD-Managed Funds

- Incident Meteorologist (IMET) Workshop: NWS policy mandates that IMETs receive yearly training to fulfill their duties in the NWS and within NOAA. This is an annual workshop hosted in Boise, ID by the [OCWWS Fire and Public Weather Services Branch](#).
- River Forecast Center (RFC) Workshop: Coordinated by the [OCWWS Hydrologic Services Division](#), funds training for RFC staff on operational tools and techniques.
- Regional Training Funds: Funds are allocated directly to the Regions for use in meeting unique training requirements in mission-critical areas such as Information Technology (IT) and project management.

Appendix 2: [NWS Training Center](#) – Table 2

I. In-Residence Training – See Tables 2 and 6 for detailed information on existing residence courses. The following are notable courses being hosted by the NWSTC in FY11.

- **AWIPS:**
 - AWIPS II Operational Test & Evaluation (OT&E) System Administration (SA): Provides AWIPS II OT&E SA support training prior to the beginning of AWIPS II Field OT&E. This training will be provided to two people per site (typically the Electronic Systems Analyst (ESA) and the Information Technology Officer (ITO)) for 22 designated beta test sites. These offerings will be taught by instructors from Raytheon, the AWIPS II contractor.

- **Maintenance**
 - [ASOS Maintenance](#)
 - WRIP Maintenance
 - WRIP Focal Point Deployment
 - NOAA Weather Radio (NWR) Armstrong Transmitter Maintenance. Training is provided for both the [legacy](#) and [2010](#) versions of the Armstrong transmitter.
 - [NWR Crown Transmitter Maintenance](#)
 - [NWS Doppler Weather Radar \(WSR-88D\) Maintenance](#)
 - WSR-88D Dual-Polarization Maintenance
 - [Radiosonde Replacement System \(RRS\) Maintenance](#)
 - [NWR Nautel Transmitter Maintenance](#)

- **Hydrology**
 - [Advanced Hydrologic Applications](#)
 - [Weather Forecast Office \(WFO\) Hydrology Program Management](#)
 - [Warning Coordination Meteorologist \(WCM\) / Service Coordination Hydrologist \(SCH\) Course](#): Offered in FY11 as part of the biannual rotation with COMET[®]'s Mesoscale Analysis and Prediction (COMAP) course. Held in December, 2010.

- **IT:**
 - [Linux Administration for WFOs/RFCs](#). Held in the first quarter of FY11.

- Management and Leadership - Leadership Academy:
 - [Management and Supervision](#): Supervisors (staff who perform employee rating reviews) will have preference for course slots over non-supervisory management team members.
 - [Field Operations Management](#): Open to Bargaining Unit employees.
 - [NWS Headquarters Operations Management Course](#): NWSTC instructors will provide in-residence training to NWS Headquarters personnel in Silver Spring, MD patterned after the highly successful Field Operations Management course. NOTE: Funding for this activity is indicated in Table 1 (OS6).

- Meteorology:
 - [Cooperative Network Operations](#)
 - [Data Acquisition Operations](#)
 - [WCM / SCH Course](#): Offered in FY11 as part of the biannual rotation with COMET[®]'s COMAP course. Held in December, 2010.

II. Distance Learning Training Activities:

- AWIPS:
 - AWIPS II Focal Point Deployment (WDTB assists): Produce distance learning training modules covering AWIPS II baseline application configuration, localization and templates.
 - AWIPS II Variance Training (WDTB and FDTB assists): Develop and deliver distance learning modules as necessary to address identified variances in the user interface as AWIPS I is updated to AWIPS II.
 - Field Requirements Team (FRTs) for Linux for WFOs/RFCs: Allows for regional and field personnel to travel to NWSTC to perform a curriculum review for this course.

- Hydrology:
 - [Advanced Hydrologic Applications](#) – will be transitioned to distance learning beyond FY11. There will be one FY11 residence offering focusing on AWIPS I.
 - [Community Hydrologic Prediction System \(CHPS\)](#) Training for RFCs: NWSTC has hired contract support to assist in training development. Training has been previously provided by the CHPS developer, Deltares.

- Management/Leadership
 - Leadership Foundations FRT: Work will begin on creating a developmental experience for new employees that provides a strong leadership foundation for succession planning, leadership competencies at all levels, and improved operational performance. **NOTE: Not started due to resource shortages.**
 - New Hire – NWS New Employee Introduction: NWSTC staff will create a module to assist new employees in understanding the NWS.

- Observations
 - A three year program will begin in FY11 to develop Cooperative Network Operations distance learning modules to provide course prerequisites in field references and refresher training in an effort to optimize residence training with hands-on skills. The objective is to combine the Data Acquisition (DATAC) and Cooperative Network Observations course in-residence portions, eliminating overlap, reducing travel costs and providing distance learning pre-requisite distance learning modules and post course references.
- Program Deployment Support:
 - Wind Profiler Deployment Support
 - Dual-Pol Development Support: Ensures Dual-Pol technical support of system development and training material development.
- **III. Other Training Activities:**
 - International Weather and Water Leadership: Each year, there are unforeseen training needs and requests for TD. NWSTC is often asked by the NWS [International Activities Office](#) to support visiting foreign delegations.
 - Corporate Board Priority Training: Training on systems and forecaster support, i.e. the National Probability of Precipitation (POP) system and Space Weather for WFOs.

Appendix 3: [Warning Decision Training Branch](#) – Table 3

I. Distance Learning Training Activities:

- Aviation:
 - Weather Event Simulator (WES) Simulations for Center Weather Service Unit (CWSU) Meteorologists: As part of an agreement negotiated with the NWS Employees' Organization, Web-based WES simulations have been made available to CWSU staff so they have the same training opportunities as other NWS staff. **NOTE: Cut due to resource shortages.**
 - WES Machine Upgrade for CWSUs: Related to the above, a computer in each CWSU will be upgraded to the WES-II configuration which will be present in all NWS WFOs. **NOTE: Cut due to resource shortages.**
- AWIPS:
 - [WES](#) Development and Support:
 - WES-II Bridge for AWIPS Migration: Continues to provide resources for design and initial development work.
 - WES-I Development and Support: WDTB will continue to update the WES software in concurrence with the AWIPS and AWIPS II training environment.
 - WES-I Logistics Support Funds: Provides funds to sites that require replacement parts for the current WES.
 - AWIPS II Variance Training (NWSTC and FDTB assists): Develop and deliver distance learning modules as necessary to address identified variances in the user interface as AWIPS I is updated to AWIPS II.
- Integrated Warning Process:
 - WSR-88D initial radar operator training via the [WSR-88D Distance Learning Operations Course \(DLOC\)](#).
 - [Advanced Warning Operations Course \(AWOC\)](#). The Core, Severe and
 - Winter Weather Tracks will be updated and offered. In addition, a facilitator workshop will be offered to new Science and Operations Officers (SOOs) and training officers who did not receive this training when it was initially offered in 2004.
 - Warning Best Practices Training: Based on recommendations from two recent NWS Service Assessments: 1) *Super Tuesday Tornado Outbreak of 2008*; and 2) *Southeast U.S. Flood - Sept. 18-23, 2009*, WDTB will update its existing courses on Storm-Based Warnings and deliver a new distance learning training module designed to share best practices and improve forecasters' ability to issue effective Storm-Based Warnings, including Flash Flood warnings. The Flash Flood Warning Best Practices module addresses Assessment findings related to use of enhanced wording in Flash Flood warnings and statements.
 - Coordination, Collaboration and Communication During Warning Events: Provides support for the 2011 Annual Severe Weather Workshop, the continued development of modules for NWS forecasters, and an education and outreach

module for NWS WCMs. This effort continues to be supported by the NOAA SeaGrant program.

- Decision Support for Communicating Risks During High Impact Events: Based on recommendations from the *NWS Service Assessment: Mother's Day Weekend Tornado May 10, 2008*; and lessons learned from decision support provided to the Deepwater Horizon Gulf Oil Spill, WDTB will develop a new module in FY11 on several aspects of threat communication which will help provide operational methodologies used for impact based decision support.
NOTE: Deferred to FY12 due to resource limitations.

- Dual-Pol Upgrade to the WSR-88D: (*See <http://www.wdtb.noaa.gov/modules/dualpol/index.htm> for more information*)
 - Dual-Pol Operations Course: To be primarily delivered as online modules through the LMS with support from local facilitators, the course will address principles of Dual-Pol radar, products, and other related science and applications.
 - Dual-Pol Education and Outreach: Provide Web-based module(s) addressing the capabilities and limitations of the various WSR-88D Dual-Pol products which will be made available to the public.

II. Other Training Activities:

- Seasonal Readiness Assessment for Convective Weather: As part of the Severe Convection Forecasting and Warning Professional Development Series (PDS), WDTB will begin development of a seasonal readiness assessment tool, which will assist forecasters in determining knowledge and skill gaps for competencies in severe weather related job tasks.
- WES Simulation Support for Numerical Weather Prediction (NWP) Training: WDTB will continue to provide WES simulations in support of NWP training being developed by COMET[®] / FDTB.
- NWS LMS Support: Funds contract support to assist with maintenance of the NWS LEARNCenter and sub-NWS LEARNCenters.
- International Weather and Water Leadership: Each year, there are unforeseen training needs and requests for TD via the NWS [International Activities Office](#).

Appendix 4: Forecast Decision Training Branch - Table 4
Cooperative Program for Meteorology, Education and
Training (COMET®) Training –Table 5

I. Program Funding:

- **COMET® Grant Core Funding:** Per NOAA cooperative agreement with the [University Corporation for Atmospheric Research \(UCAR\)](#), TD annually provides the core funding for the COMET® Program. This funding supports the following costs:
 - Infrastructure and administrative costs
 - Support for the COMET® [Meteorology, Education, and Training \(MetEd\) Website](#)
 - Support for COMET® Classroom to conduct NOAA/NWS residence training
 - VISIT Salaries: TD provides funds for staff at the [Virtual Institute for Satellite Integration \(VISIT\)](#) in Fort Collins, CO and Madison, WI. The VISIT team includes staff from NWS, [National Environmental Satellite Data and Information Service \(NESDIS\)](#), and two NOAA Cooperative Institutes: The [Cooperative Institute for Research in the Atmosphere \(CIRA\)](#) and the [Cooperative Institute for Meteorological Satellite Studies \(CIMSS\)](#). The VISIT team supports satellite and related remote sensing training and provides assistance with live and recorded teletraining. VISIT and FDTB help develop a series of Satellite HydroMeteorology (SHyMet) courses that are also supported by NESDIS funds.

II. Residence and Virtual Training (held at COMET®). See Table 5 for cost information.

- **[Flash Flood/Quantitative Precipitation Estimation \(QPE\) Course:](#)** Focuses on the hydrology of flash floods. This activity is funded by the NWS [Office of Hydrologic Development \(OHD\)](#) and NSTEP Base funds.
- **Meteorological Services of Canada (MSC)/COMET® Winter Weather Workshop:** Travel funds are provided for four NWS students and three NWS guest instructors participating in this MSC-funded course.
- **[Advanced Hydrologic Science Virtual Course:](#)** Provides NWS hydrologists the ability to incorporate emerging hydrologic science into river forecasting operations and the provision of water resource services, including drought and low flow conditions. This course is also partially funded by [OHD](#). (NOTE: Converted to an all Virtual format to save travel costs).
- **Advanced Climate Variability and Change Course:** COMET®, in coordination with the [OCWS Climate Services Division](#), will offer a follow-on in-residence course which will build on the skills learned in the Climate Variability course, which began as an in-residence course and is now offered as a virtual course. **NOTE: Deferred to FY12 due to resource limitations.**

III. Distance Learning Training:

- Aviation: With funds provided by the [OCWS Aviation Services Branch](#), COMET® will work on two aviation-related projects:
 - Volcanic Ash Training: COMET® is producing volcanic ash modules, which will incorporate the impacts of, and how to deal with, ash clouds produced by volcanic eruptions using case studies from Alaska and the 2010 Icelandic volcanic eruption.
 - [Distance Learning Aviation Course \(DLAC\) III](#): Improving Aviation Weather Services: Module production of the third in a series of the highly successful DLAC courses will begin late in FY11.
- AWIPS:
 - AWIPS / [NWP](#) Development: The AWIPS program funds one project scientist through COMET® to develop and conduct NWP training, and WDTB staff for developing NWP WES cases. Funds are also provided to restore an FY10 funding cut in this area.
 - AWIPS II Focal Point Training: FDTB staff will work with NWSTC and WDTB staff to develop and provide AWIPS Focal Points with revised training on the new AWIPS II system.
 - AWIPS II Variance Training (WDTB and NWSTC assists): Develop and deliver distance learning modules as necessary to address identified variances in the user interface as AWIPS I is updated to AWIPS II.
- Climate:

In addition to the Advanced Climate Variability and Change in-residence training described in Section I of this appendix, the following DL activity will be offered in FY11:

 - [Virtual Climate Variability and Change](#) Course

NOTE: 2nd Climate Virtual course offering deferred to FY12 due to resource limitations.

- Fire Weather:
 - COMET® will continue work to develop a [Fire Weather Professional Development Series \(PDS\)](#) which will provide a training curriculum for fire weather forecasters, fire weather focal points and IMETs.
- Hydrology:

In addition to the residence training being hosted by COMET®, the following hydrology-related activities will occur during FY11:

 - Short- and Long-Term Ensembles: FDTB Development of a follow-on Web module to complement an initial module developed in FY09.
 - COMAP Symposium on QPF/Rapid Onset Floods (COMET®)
- Integrated Sensor Training:
 - In collaboration with the VISIT program, NESDIS continues funding the expansion of the [Satellite Hydrometeorology \(SHyMet\) courses](#) for NWS interns, forecasters, and SHyMet for Hydrologists. The Geostationary Orbiting Environmental Satellite (GOES) program provides funding for development of

satellite training modules on COMET[®]'s Environmental Satellite Resource Center with needs identified at an annual satellite training workshop.

- Marine:
 - [Marine Weather Services PDS](#) Development: Travel Funds are set aside to continue developing this PDS, which will organize existing training and determine marine weather training needs.
 - Maintaining Workforce Knowledge and Skills / Currency of DL Materials: COMET[®] will begin an effort to analyze the contents of its entire DL library to determine dated materials. The first modules being updated are for marine weather. Other areas will be looked at as part of a multiyear effort to ensure existing DL materials are up to date.
- Meteorology
 - COMET[®] [Virtual Boundary Layer Symposium](#). **NOTE: Canceled due to resource limitations.**
- NWP:
 - One project scientist at the National Centers for Environmental Prediction (NCEP) is dedicated to [NWP](#) training development under COMET[®] (Table 5). FDTB provides one dedicated FTE in support of Weather Research and Forecasting (WRF) Environmental Modeling Systems (EMS) development, training and support (both domestic and international). The first new NWP course being developed consists of seven instructional components, each focusing on the different uses of NWP in the forecast process and hands-on training through WES simulations. Updates to the NWP Operational Models Matrix will also continue in FY11 as the models change.
- Social Science:
 - Social Science Training: In August 2010, COMET[®] captured lectures and presentations from the Weather and Society*Integrated Studies (WAS*IS) workshop held in the COMET[®] classroom. FY11 funds are allocated to reimburse COMET[®] for these expenses.

IV. Other Training Activities:

- International Weather and Water Leadership: Funds are set aside to address unforeseen training needs and requests for TD from the NWS [International Activities Office](#).

Appendix 5: Out Year Training Needs (FY 2012)

As has been done with previous Training Implementation Plans, the HOTG held a series of meetings with key NOAA Program Managers to educate them about existing NWS training activities within their programs and planned training activities. We expect to have a continuing dialogue with these key decision makers to find ways to resource needed training for the years beyond FY11. These managers also have the opportunity to review this IP and provide feedback before it is signed by the OCWWS Director.

The following training items were agreed to be deferred to, or will be strongly considered in FY 2012:

- AWIPS II Training.
- Safety Training.
- Wind Profiler Training.
- NOAA Leadership Academy Training, including holding at least one offering of the Executive Leadership Seminar.
- COMET[®] Mesoscale Analysis and Prediction (COMAP) course for new SOOs.
- Training Associated with Services 2020 (Human Factors, Societal Impacts, Seasonal Readiness and Enhanced Simulations).

Appendix 6: Overview of the National Strategic Training and Education Plan (NSTEP) Process

The FY 2011 Implementation Plan for NWS Training and Education (IP11) is the end result of the NSTEP process ([NWS Manual 20-102](#)). The NSTEP Team's Field Requirements Group (FRG), consisting of Regional Scientific Services Division (SSD) Chiefs/Regional Scientists or their designate(s), and the Operations Officer for the National Centers for Environmental Prediction (NCEP), prioritized FY11 training requirements. The Heads of Training Group (HOTG), composed of representatives from OS6, the Directors of the [NWS Training Center \(NWSTC\)](#), the [Forecast Decision Training Branch \(FDTB\)](#), the [Warning Decision Training Branch \(WDTB\)](#), and the [Cooperative Program for Operational Meteorology, Education, and Training \(COMET[®]\)](#), recommended the execution methods of the prioritized training requirements, taking into account available FTE and non-FTE staff resources. FY11 training requirements were determined and prioritized during a series of meetings and conference calls which included the OCWWS NSTEP Program Leader, the FRG, HOTG, program managers, and other training representatives.

The FY11 NSTEP process began with soliciting training requirements submitted in the form of a Performance Needs Statement (PNS). A total of 169 PNSs were submitted for both existing and new training requirements. The HOTG analyzed all PNSs to determine the best delivery method [in-residence, distance learning (DL), blended, etc., along with the training needs analysis]. Based on the HOTG analyses and the priority guidance listed below, the FRG proposed which training activities would be conducted using available funding and TD FTE resources.