



NAWIPS Migration to AWIPS II Status Update

Unidata Policy Committee Meeting



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Topics



- National Program Schedule Update
- Activities since March
- Hardware/Software Status
- Merging/Integration
- Training
- Unidata Involvement and Benefits
- Status of GEMPAK Support / AWIPS II Licensing
- Summary





AWIPS II Schedule Update



- National AWIPS Field OTE moved from Feb 2011 => Summer 2011
- National AWIPS Deployment moved from Jun 2011 => Sep 2011
- NCEP Central Operations Test Bed installed and ready for FITs by late November/early December
- Complete NAWIPS migrated code to RTS by early Dec for baseline integration in Jan 2011
- FY11Q2-4 NCEP AWIPS II “System and Field” OTE
- AWIPS II software distributed to Unidata community Winter 2011/2012



AWIPS II Schedule Update



NWS AWIPS II	Previous Schedule	Updated Schedule
System OTE	Now – February 2011	OTE Jan – Summer 2011
Field OTE	February 2011	OTE Jan – Summer 2011
National Deployment	June 2011	September 2011

- NCEP Central Operations Test Bed installed and ready for FITs by late November/early December
- Complete NAWIPS migrated code to RTS by early Dec for baseline integration in Jan 2011
- FY11Q2-4 NCEP AWIPS II “System and Field” OTE
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AWIPS II Schedule



How does change in National Schedule affect Unidata?

- Advantages
 - *NAWIPS migrated code is now officially in the AWIPS II National Deployment*
 - *Decreases software bug risks due to longer integration and testing period*
 - *Allow SIB to focus on FITs and OTE with Centers, forecasters, Unidata*
 - *By FY11Q4, NCO can potentially be able to apply resources to new functional requirements for the first follow-on release*
- Disadvantages
 - *Increase the “moratorium” period @ NCEP*
 - *Increase transition period from NAWIPS to AWIPS II*



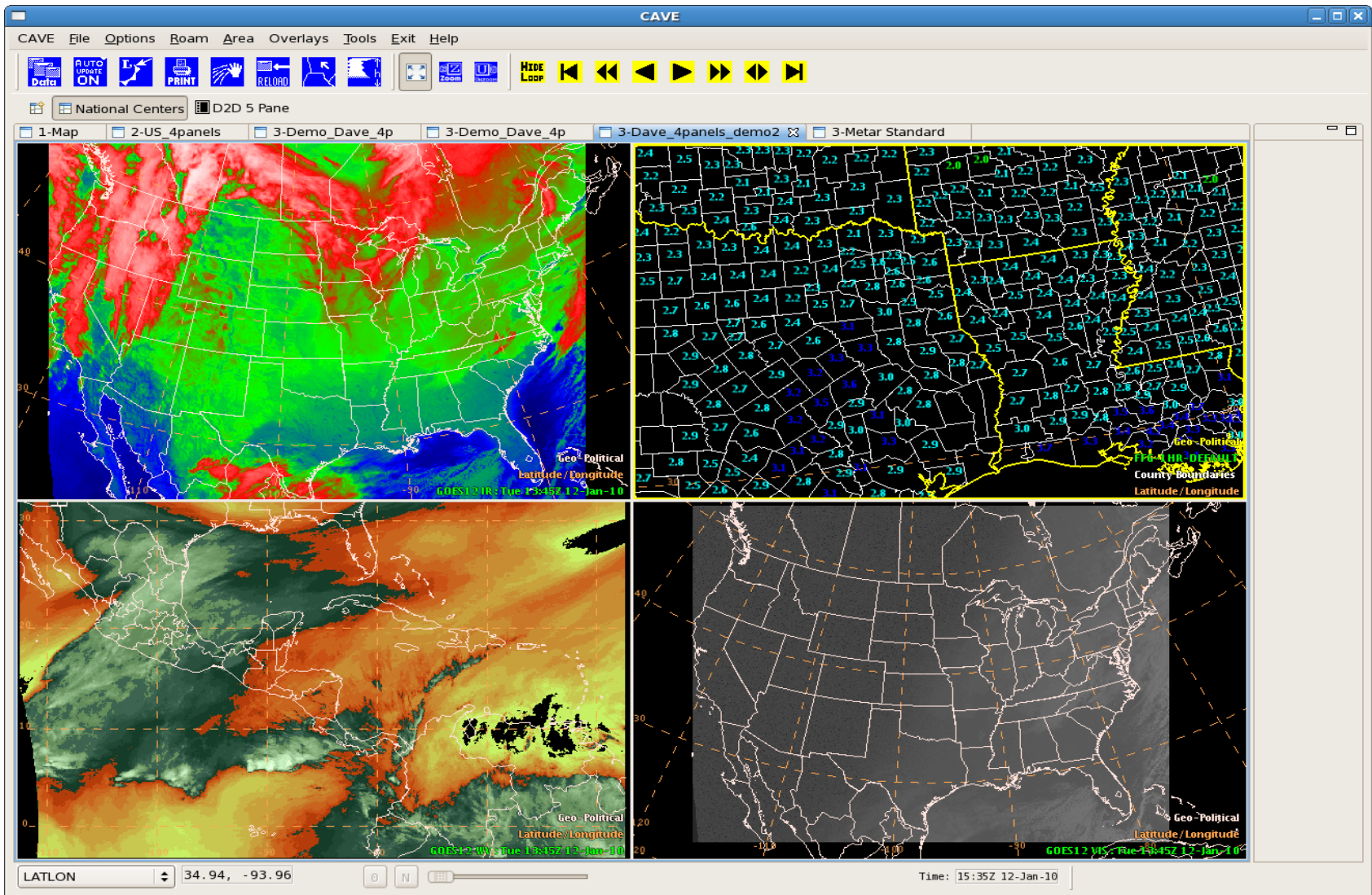
NAWIPS/AWIPS II Activities Since March



- Over 90% Software Migration Complete
 - *All capabilities in NAWIPS will be retained*
 - *Designed software for backward capability*
- GEMPAK Releases - 6.0 April - 6.1 June - 6.1.1 July - 6.2 Sept
 - *<http://www.nco.ncep.noaa.gov/sib/nawips/>*
- Conducted AWIPS II Workshop – August 17-19, 2010
- Finalized our hardware configuration
- Conducted demonstrations
 - *NWS/OST Director and individuals from AWIPS Program & RTS*
- Briefed NCEP Corporate Board - AWIPS II first priority in FY11

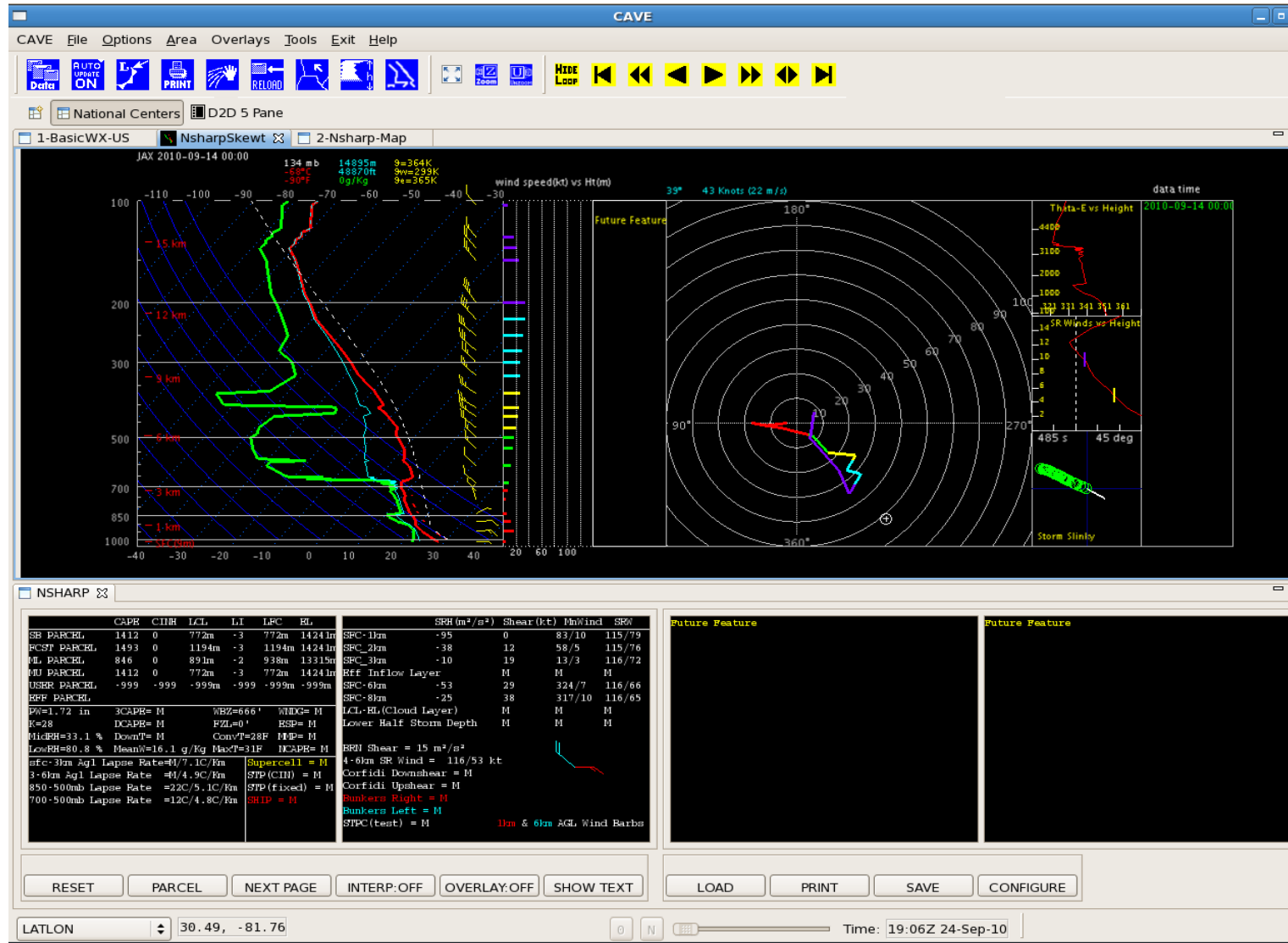


Examples of Migrated NAWIPS GUIs/Utilities





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Examples of Migrated NAWIPS GUIs/Utilities



The screenshot displays the CAVE software interface. The main window is titled "CAVE" and contains a menu bar (File, Options, Roam, Area, Overlays, Tools, Exit, Help) and a toolbar with various icons including "Data", "AUTO UPDATE ON", "PRINT", "RECORD", "HIDE LOOP", and navigation arrows. Below the toolbar, there are tabs for "National Centers" and "D2D 5 Pane".

The primary view is a map of the United States, labeled "1-Map", which is overlaid with a grid of green diamond markers. A secondary window titled "NCTEXT" is open on the right side of the interface. This window contains two dropdown menus for "Select Data Type Group" and "Select Data Type Product". The "Select Data Type Group" menu has "MOS" selected. The "Select Data Type Product" menu has "GFSX MOS" selected. Below these menus are radio buttons for "Hour Covered" (1, 3, 6, 12, 24, 48) and "Select By" (station, state). The "station" option is selected.

At the bottom of the "NCTEXT" window, there is a "Text Report" section displaying a weather forecast for CLARKSVILLE. The report includes a header with the station name and date, followed by a grid of numerical values representing weather data for various hours and days.

At the bottom of the "NCTEXT" window, there is a "Text Mode" section with radio buttons for "Replace" and "Append", and buttons for "Previous", "Next", and "Print".



Examples of Migrated NAWIPS GUIs/Utilities



CAVE: -- Day/Cycle: 12/20Z Routine

File Options Area Overlays Tools Help

Auto Update PRINT RELOAD

D2D 3 Pane National Centers D2D 5 Pane

PGEN 3 Pane 1-BasicWX-US

Launch

Controls:

OPEN SAVE SAVE AS... EXIT Re-Fresh START LAYER SAVE ALL

Actions:

Mod CONN Move Cop FILED DEL OFX PART DEL OFX PART Undo Redo INTERP FILTER FROM CLS ADD ADD X

Classes:

Front Combo Symbol ANV

International SIGMET Edit

Area Line ESOL Isolated Width: 10.0 Color: [cyan]

MWO: KKCI ID: ALFA Sequence: 1

New(Prepend dir) Old(Postpend dir) VOR

N3608W12342 N3433W12664 N3132W12689 N2907W12527 N2604W12968 N2513W12738
N2526W12047 N3141W11791 N3608W12342

New/Update Amend Cancel

Valid from: 121934 To: 122334 Start plus: 4hrs 6hrs

Phenom: FRQ_TS

FRQ_TS Attributes:

Movement: STNRY MVG Speed: 5 Direction toward: N

Trend: -none-

Level Info: -none- TO -none-

Remarks: -none-

Free Text:

Save Apply Cancel

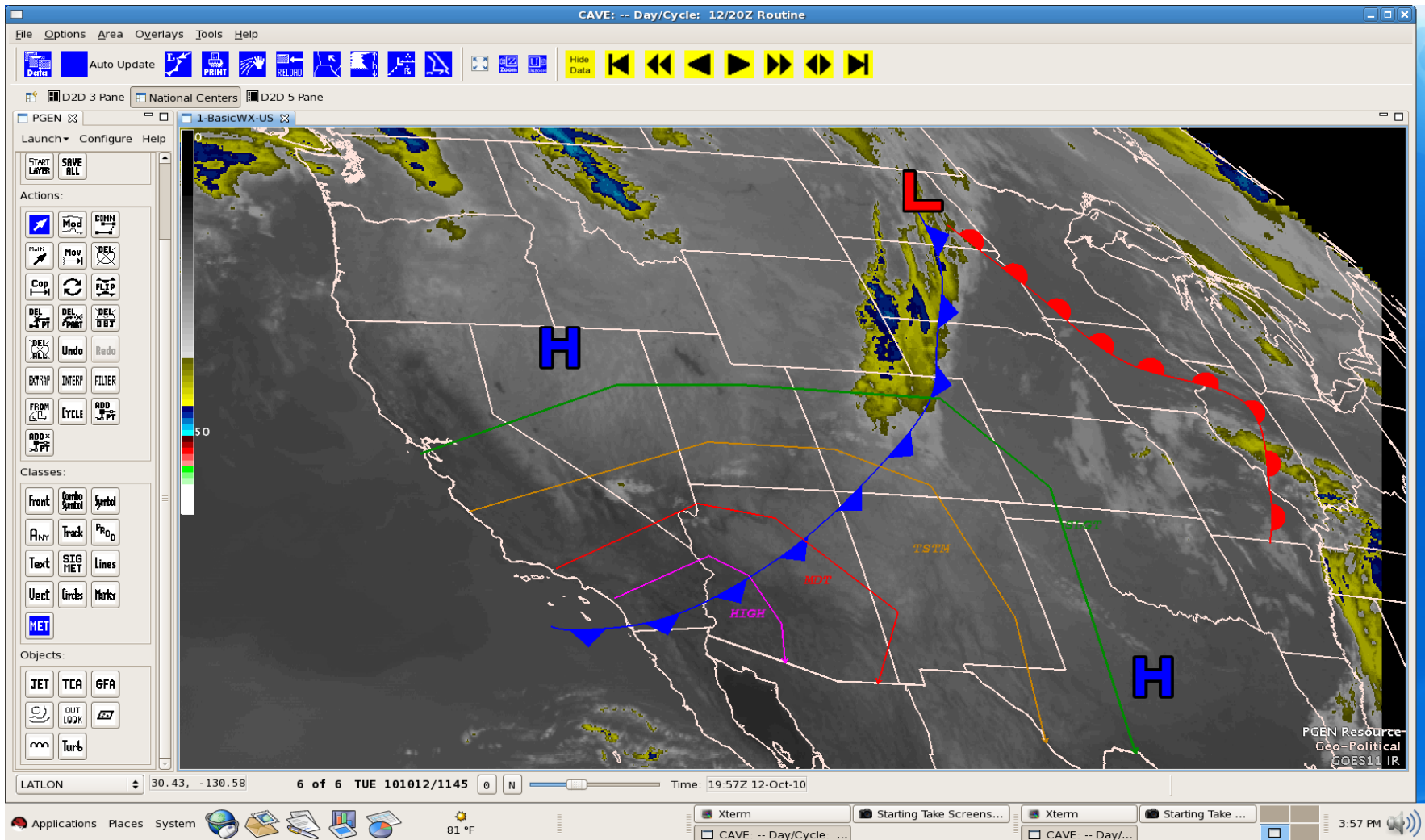
LATLON 23.75, -141.62 6 of 6 TUE 101012/1145 0 N Time: 19:50Z 12-Oct-10

Applications Places System 81 °F Xterm Starting Take Screens... Xterm Starting Take ... CAVE: -- Day/Cycle: ... CAVE: -- Day/...

PGEN Resource Geo-Political GOES11 IR



Examples of Migrated NAWIPS GUIs/Utilities





Hardware Schedule



- In late September AWIPS Program was able to access enough funds to purchase AWIPS II Hardware for all Centers
- NCO AWIPS II Test Bed
 - *Fully functional late November*
 - *8 Workstations*
- HW delivery at each center by end December
- Phased installation at each Center from January through early April
 - *Around 2 weeks for install*
- RTS will assist with new HW installation





Software Migration Goals



- National Centers Perspective - general
 - *Combines functionality of 4 legacy GUI applications*
 - NMAP2 – data display and product generation
 - NTRANS – multi-panel
 - NSHARP – vertical profile display, diagnostics and editing
 - NWX – FOS text product select and display
 - *Gray box conversion*
 - Some variances unavoidable or negotiated
 - Significant improvements gained from AWIPS II
 - *Migrating to new architecture*
 - Leveraged Raytheon implementations where possible
 - Take advantage of improved functionality
 - Flexibility is key



Merging/Integration



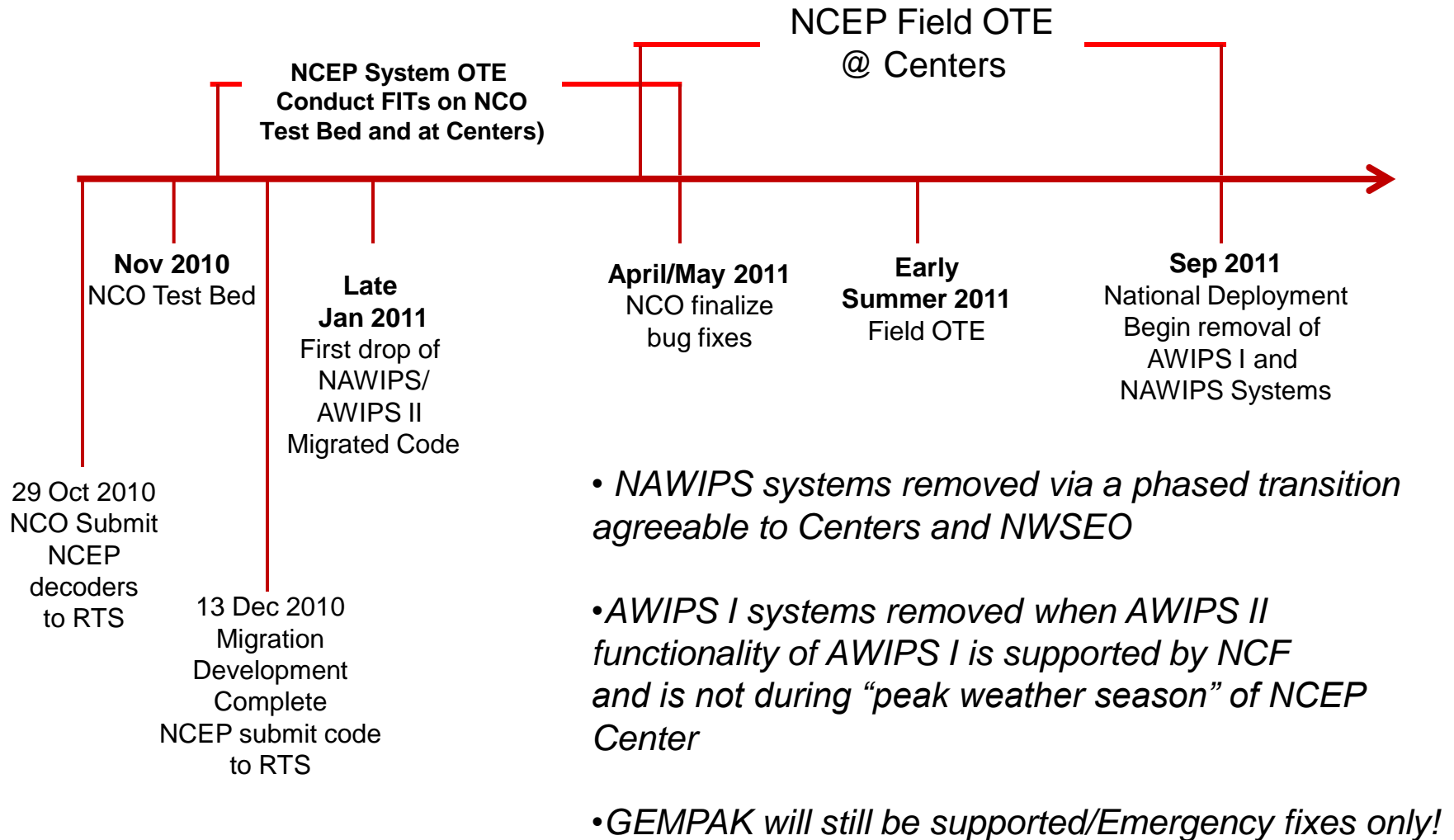
- Software to be base-lined via Raytheon task
 - *Drops will be more frequent - available for Center/Unidata downloads via web site*

Software Drops to RTS	Submission Date to RTS	RTS Implementation Date
NCEP Baseline Modified Modules	29 Aug 2010	Early Nov 2010
NCEP data plug-ins (decoders)	29 Oct 2010	Early Dec 2010
NCEP Perspective	13 Dec 2010	Late Jan 2010

- Bug fixes delivered to RTS during extended testing phase
- New requirements will be addressed *as resources permit*
- Different hardware configurations between WFOs, RFCs, NCs
 - *Increased NetApp Storage @ NCs – 26Tb*
 - *Double the # of EDEX Servers @NCs*

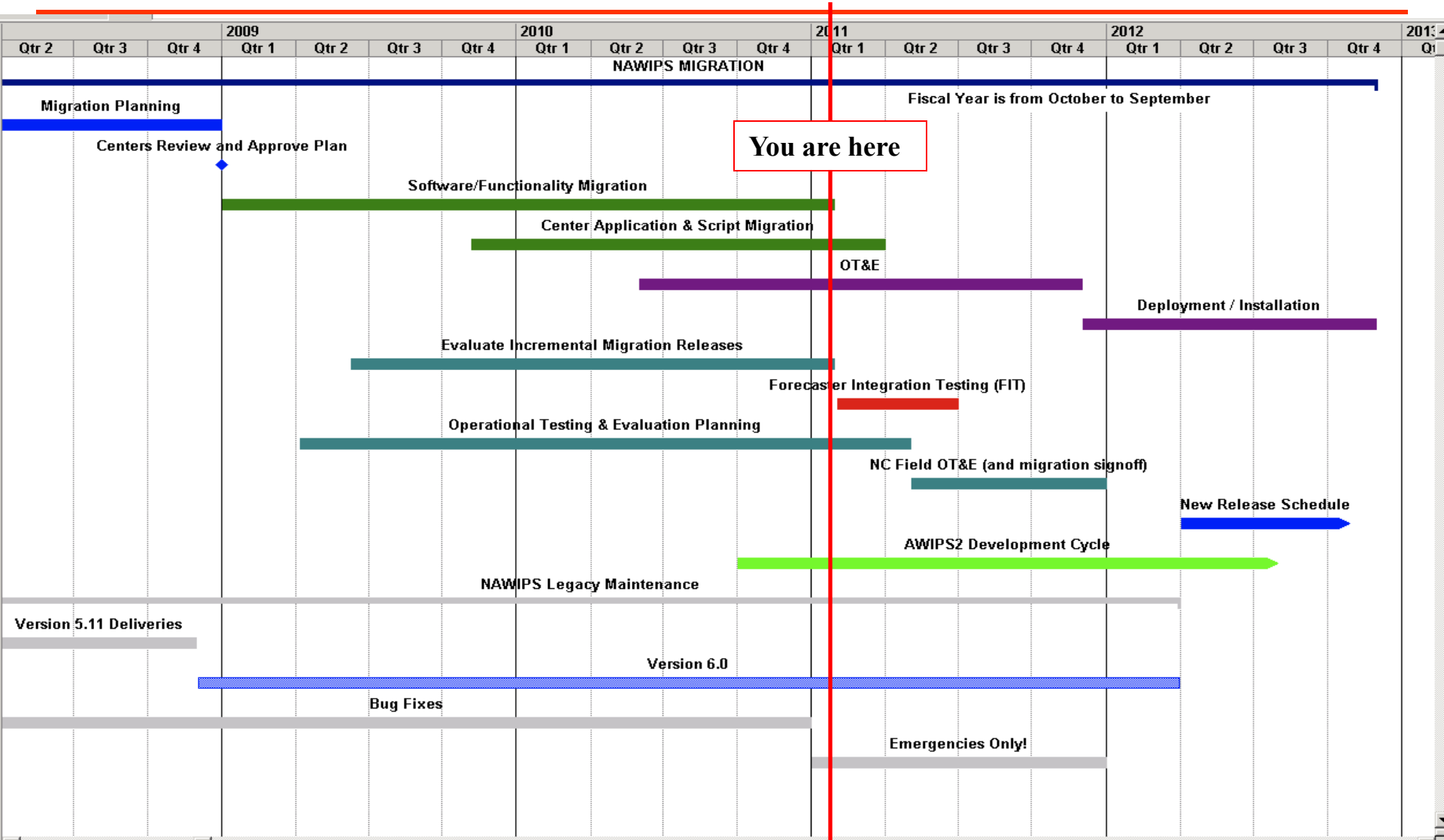


Software and Testing Schedule





Overall Schedule





Phased Plan to AWIPS II



- **Preparation Phase** - present – January 2011
 - *System OTE Period*
 - *Testing versions on Unidata servers as new drops are available*
 - *Begin FITs on NCO Test Bed by forecasters and software developers*
- **Transition Phase** - January 2011 – Late Spring 2011
 - *“NAWIPS OTE”*
 - *FITs on NCO Test Bed to include Unidata*
 - *Hardware is installed at Centers and software is baseline configured*
 - *Emphasis on Training*
 - *Testing of operational component functionality*
 - Data flow and ingest
 - Display techniques
 - Post-processing
 - Product creation



Phased Plan to AWIPS II

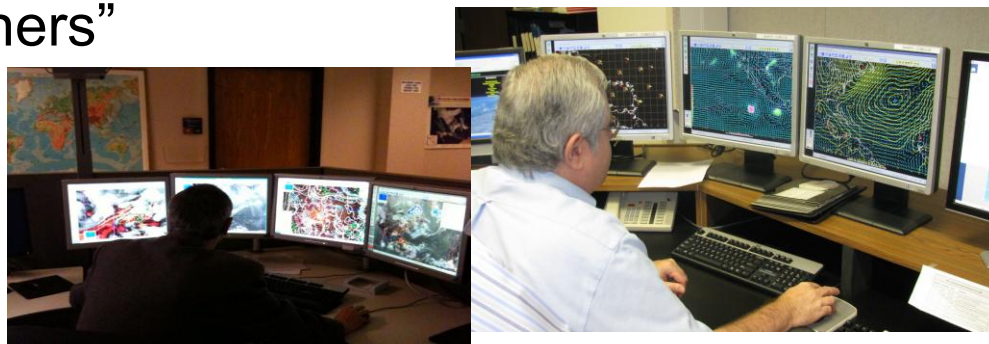


- **Consolidation Phase** – Summer 2011 into FY12
 - *National Field OTE & National Deployment*
 - *NCEP Center involvement with Field OTE*
 - *Final testing phase of all product generation*
 - *AWIPS II system becomes primary system for disseminating products currently produced by AWIPS I and NAWIPS systems.*
 - *Removal of AWIPS I hardware @ NCEP Centers*
 - *Removal of NAWIPS workstations that create operational products*
 - *Migration of local applications by each Center*
 - *Unidata obtains first version of migrated NAWIPS/AWIPS software*
 - *Unidata support of GEMPAK for 18 months after initial full deployment from NWS AWIPS Program*



Training Plan

- NWSTC will provide sys admin training for AWIPS II ~ FY11Q2
- AWIPS II Documentation will be provided by RTS
- NCO will enhance documentation to include National Center Perspective in CAVE – needs coordination with AWIPS Program
- NCO Test Bed will be used initially to test software functionality and to train forecasters/IT Specialists
- Open the NCO Test Bed for Unidata Community for training purposes – “train the trainers”





Unidata Involvement



- AWIPS II migration efforts first priority of NWS in FY11
- Weekly Migration Telecons with Centers and Unidata
- SIB is committed to assisting in software configuration and training forecasters and key personnel at Unidata in FY11 and into FY12
- As the migration gets closer to full deployment – Unidata will have more involvement with NWS/OST AWIPS Program
- Liaison with the University community
- **NCEP continues to view Unidata as a critical partner for NCEP's total mission**





Benefits for Unidata Users



- Facilitate Research to Operations
- Classroom tool/training
 - *Weather Event Simulator ~ Development 2012 / Delivery 2013*
- One NWS Operational System
 - *National Field OTE & National Deployment*
- Less data processing required
- Run your own EDEX to create database
- Modern development environment/platform
 - *Flexible & expandable architecture*
 - *Object oriented languages such as Java and Python*





GEMPAK Support and AWIPS II Licensing



- GEMPAK will be supported until a full replacement is ready
 - *GUIs deprecated eventually*
- Unidata support of GEMPAK for 18 months after 1st release
 - ~ *Summer 2013*
- AWIPS Program will deliver code to Unidata in the future
 - *First release expected December 2011/January 2012*
- Licensing of software
 - *GEMPAK developed by the Federal Government – open software*
 - *Once NWS implemented, AWIPS II will have open software policies*
 - *Some decoders (such as lightning decoder) and tools to disseminate products will be removed in non-government version*
 - *NCO will discuss with NOAA Legal Affairs on particulars to develop a clear understanding for all users*



Response to 2010 Unidata Users Survey



- GEMPAK is not going away any time soon
 - GEMPAK ensemble functionality in AWIPS II improved
 - Decoding of data will occur in the EDEX.
 - NCEP will provide monthly AWIPS II updates/status to Unidata
 - NCEP will assist Unidata/Michael in any GEMPAK and AWIPS II questions/issues as needed
 - Comments outside of AWIPS II
 - Obtain NWS graphical model output via MAG
<http://mag.ncep.noaa.gov>
 - New GIS Project @ NCEP
- Create one stop shop to access GIS-format data





Final thoughts...



- AWIPS National Program 3-6 month delay provided opportunity for NAWIPS migrated code to be included in initial deployment
- NCEP transition remains highly dependent on RTS closure of discrepancy reports (DRs) – SIB will be assisting RTS by early 2011.
- NCO Test Bed will be critical in testing software tools and processing load
- Strong partnership will remain between NCEP and Unidata through transition and in the years to follow



Questions ?



*“From the Sun to the Sea...
Where America’s Climate, Weather, Ocean and Space
Weather Services Begin”*