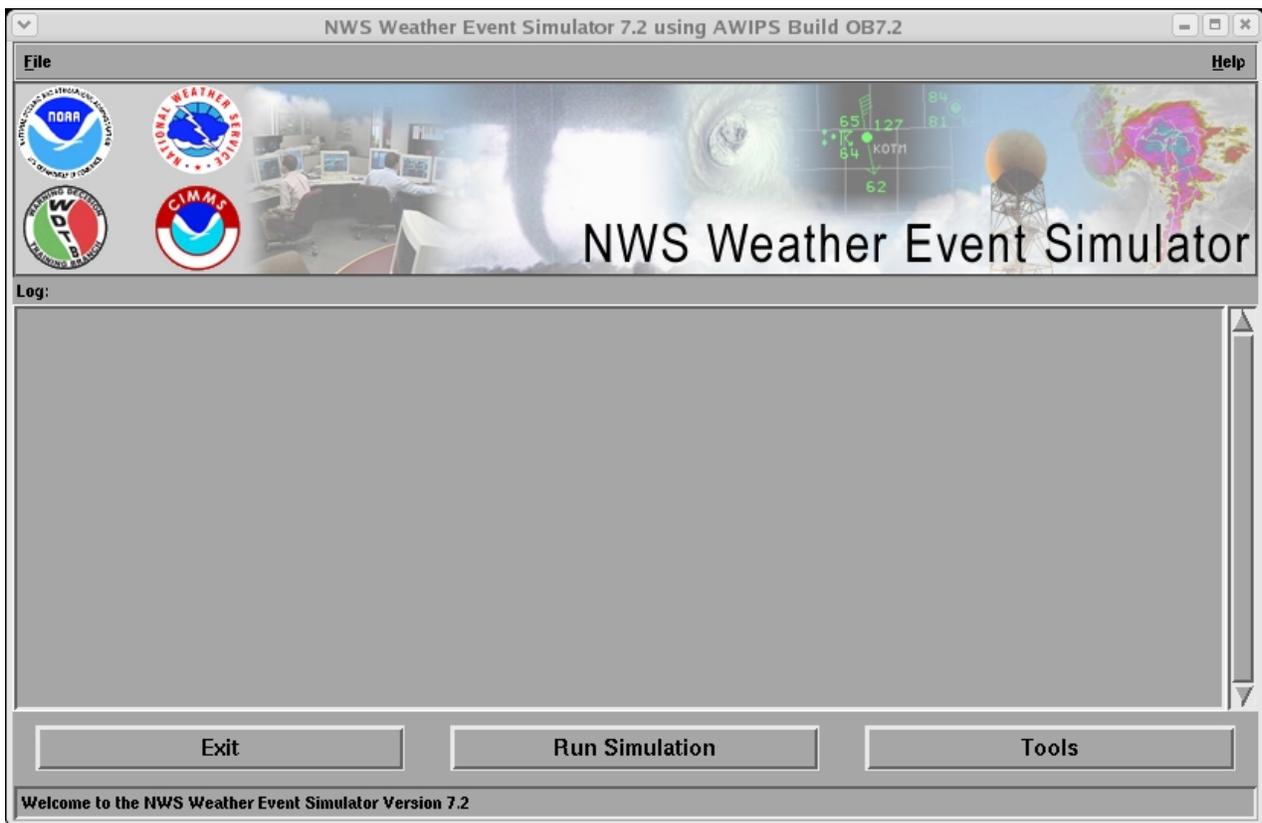


# NWS Weather Event Simulator 7.2 Installation Instructions and User Guide



NOAA NWS Warning Decision Training Branch  
Norman, OK

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# 1 WES7.2 Release Notes

## 1.1 What's New in WES7.2

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### 1. Updated with AWIPS OB7.2

- General User Alert Display Panel (GUARDIAN)
- DMD time-height display. Enhancements include "Diameter Overlay", "Elevation Angle Connections", and "Volume Scan Poles".
- SPG Products
- SREF

### 2. WES7.2 Overview Training is available in the LMS for NOAA users

- All NOAA WES installation focal points and WES training focal points (see <http://www.wdtb.noaa.gov/tools/wes/admin/WES-IOP-Final.pdf>) should take this short training in the LMS, and fill out the survey before installing WES. To take the module, search for "WES7.2" in the LMS catalog.

### 3. WES/WESSL Improvements

- WESSL commands can now be issued in 10 second increments (:00, :10, :20, :30, :40, :50 seconds past the minute)

### 4. WES Machine Replacement

- In 2006, NOAA users received replacement WES machines based off the new AWIPS hardware refresh LX workstations. A "WES machine replacement disk image" containing RHE4 and WES7.1 was released in late 2006/early 2007 to forecast offices in most regions. Although WES7.2 is a standalone install DVD (requires no previous versions of WES), **NOAA users should install the "WES machine replacement disk image" on the new machines before installing WES7.2** to minimize problems with operating system conflicts.

## 1.2 WES7.2 Known Problems

---

- OB7.2 requires Redhat Enterprise 4. The OB7.2 AWIPS will not work with Redhat Enterprise 3.

- The new surface observation monitor from MDL called SNOW (System for Nowcasting Of Winter Weather) does not work with WES7.2. It requires archived SNOW files and special point processing currently not available in WES.
- The new Enhanced Wind Warning (EWW) polygons do not display in D2D under the NCEP/Hydro menu. This is an AWIPS OB7.2 operational bug.
- SPC watch polygons under the NCEP/Hydro menu no longer display from SAW products (they use WOU products). To view watches polygons from archived SAW products see section 11.
- A small feature in GUARDIAN which allows the user to move the GUARDIAN status bar to different screens is not functioning.
- As in WES5.0, WES6.0 and WES7.1, any pre OB5 SCAN and FFMP data need to be recreated.

### **1.3 WES7.2 Post Install**

---

As with all major WES releases, new localizations need to be built for older cases to display properly with the OB7.2 in WES7.2. For more information, see the WES7.2 installation instructions.

### **1.4 WES8.1 Additional Development**

---

The next WES release is planned to immediately precede the release of AWIPS OB8.1. Currently OB8.1 is planned for release in summer 2007.

## 2 Requirements and Overview

The WES7.2 baseline operating system is Linux Redhat Enterprise 4 (RHEL4), which is the same as the AWIPS baseline operating system. OB7.2 will not work with RHE3 or earlier distributions of Redhat. If you experience problems under the KDE desktop with windows freezing after the WES software sets the hardware clock, then we recommended using the Gnome desktop. We have included a program called kde-reset in the fxa user's path to unfreeze windows if you encounter this problem and you still choose to use KDE. The kde-reset restarts the window manager. This command can be run from a shell prompt by typing "kde-reset". In addition, if you create an icon on the desktop for start\_simulator, you will need to select "Run in Terminal" to prevent spontaneous logouts upon exiting the simulator.

The WES7.2 install DVD is entirely self contained and therefore does not require any previous WES versions to be installed. If a previous version of WES was installed, the installation script will replace: 1) the WES software with WES7.2, 2) the Linux version of AWIPS with OB7.2, and 3) the AWIPS "freeware" software.

Starting in OB7.1, AWIPS has migrated to an RPM-based installation of its freeware. The WES uses the same RPM-based installation. Most of the freeware software is installed in the /usr/local directory as in previous builds, however two applications are not. The AWIPS-provided postgres and perl RPM's will update elsewhere on your machine.

With the default installation, the WES install scripts will uninstall postgres and perl. If there are dependency problems in uninstalling these two applications, you will need to uninstall them manually using the "rpm" command (see Section 21). After uninstalling postgres and perl, all the AWIPS-provided RPMs (including postgres and perl) will be installed. If you have any local files saved in your local versions of postgres and perl, you should back them up before installing WES7.2.

If you prefer to manually install the RPMs, we have provided a "-norpm" flag in the install script (see Section 4). The "-norpm" flag will not install the RPMs, and OB7.2 will not work until you manually install the RPMs following the instructions in Section 21.

If you have not installed WES on the machine being used in the current installation and you plan on having AWIPS data stored locally on your machine, then you will have to identify a large partition on a drive to store the files. Each case study generally occupies between 5 and 10 GB of disk space, so it is suggested that you have a MINIMUM 15GB of available space for both data and the WES7.2 distribution. Ideally, you will have 50GB+ set aside to handle multiple large datasets. The general convention for housing WES and WES data is to have /data and /awips be symbolic links that point to the install directory. The install script will guide you through this process. The freeware located in /usr/local is ~ 840 MB in size.

If you have not successfully installed WES before, then you will need to configure your Linux display to support AWIPS D2D. In order to run D2D, your display should be in 24-bit Truecolor mode with a resolution of 1280x1024. You can check your current display with the "xdpyinfo" command. If you find that you need to change your display settings, run Xconfigurator. If you try to run D2D in 8-bit Pseudocolor mode the process will die a horrible death.

The WES7.2 package contains both NWS AWIPS software and WES© software. The WES© software was written by CIMMS personnel at the University of Oklahoma in collaboration with the Warning Decision Training Branch and others. Limitations exist on the distribution of this package, however, NWS collaborators may obtain WES7.2 at no cost by requesting a copy from the WES distribution focal point and by agreeing to the conditions of the WES© software license agreement in the install script. To submit requests for WES7.2 please contact Timm Decker at the Warning Decision Training Branch ([timothy.b.decker@noaa.gov](mailto:timothy.b.decker@noaa.gov)) for details.

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## 3 Back Up Any Pre-existing WES Installation

1. Log in as root.
2. `cd /awips`
3. Back up the fxa directory as root:

e.g. `cp -Rp fxa fxa.wes7.1`

---

**Note:** If you desire to restore the previous version, you will need to move the old version back as root. Root user is important here because the `/awips/fxa/DRT/bin/date` executable has to be owned by root with special privileges, and the default empty postgres database in `/awips/fxa/DRT/pgdata.tar.gz` has to be owned by user postgres.

---

## 4 Install WES7.2

1. Print out this document before starting if possible.
2. Log in as root
3. Identify an install directory (e.g. /usr1) on a file system with 15GB+ of free disk space

---

**Note:** If you already identified an install directory for the previous WES installation, then use this same directory. The install script will notify you of the correct directory to use if you do not enter the same directory as in the previous WES installation.

---

4. Load and mount the Weather Event Simulator 7.2 install DVD.  
e.g. `mount /media/cdrecorder` if the DVD doesn't automatically mount
5. cd to the WES directory and “script” your shell session to a log file:  
e.g. `cd /awips`  
e.g. `script wes7.2.log.feb1407-432pm`
6. cd to your cdrom device  
e.g. `cd /media/cdrecorder`
7. Run the WES install script. As of OB7.1, AWIPS freeware comes bundled in RPM's. If you want the WES install script to install these RPM's, run the install script as normal

e.g. `./install-wes7.2.sh <your_install_directory>`

If you do not want the WES install script to install these RPM's, then run the install script with the `-norpm` flag

e.g. `./install-wes7.2.sh <your_install_directory> -norpm`

Note that with the “`-norpm`” option, you will need to manually install the freeware RPM's. For instructions on installing RPM's manually, refer to Section 21.

---

**Note:** The script will inform you about the files and directories that are going to be deleted. The installation will also prompt you to install Xine for video support, which you can do manually or let the installation script do it for you.

**Note:** After agreeing to continue with the installation, wait for `install-wes7.2.sh` to return `install-wes7.2.sh finished` (~5-10 minutes).

---

8. End your scripting log by typing “`Ctrl-D`”. Now review the log file using “more” or your favorite text editor, and look for any problems in the install. In particular, you need to watch for “error: Failed dependencies:” messages in the freeware installation. If you find any of these messages, you will need to manually install or uninstall the appropriate RPM’s. For guidance on how to do this see Section 21, Manual Installation of AWIPS Freeware.
9. If you have not installed the Flash plug-ins in the previous WES release, then install the Flash plug-ins in the “plugins” directory of your browser (e.g. in `/usr/lib/mozilla-1.7.10/plugins` for mozilla1.7.10 or `/usr/local/netscape/plugins` for netscape). The necessary Linux Flash files were copied from the WES7.2 install DVD into the `awips/fxa/install_flash_player_7_linux` directory. An installation for mozilla would be the following:

e.g. `cd /awips/fxa/install_flash_player_7_linux`

e.g. `cp libflashplayer.so /usr/lib/mozilla-1.7.10/plugins`

e.g. `cp flashplayer.xpt /usr/lib/mozilla-1.7.10/plugins`

---

**Note:** For more information on the plugin installation, view `/awips/fxa/install_flash_player_7_linux/Readme.txt`.

---

10. Log out and log back in as user `fxa` (if no `fxa` account previously existed, a new account was created by the install scripts with the password `fxapass`). If no `postgres` account previously existed, a new `postgres` account was also created with the password `postgres`.

## 5 Verify Successful DVD Installation

### 5.1 Verify Flash and Xine Install

---

1. Login as user fxa (if no fxa account previously existed, a new account was created by the install scripts with the password fxapass).
2. Verify the Flash plugin installation by viewing the WES7.2 Flash verification articulate:

e.g. `firefox`

```
file:///awips/fxa/DRT/wess1/source/articulate/flash_verification/player.html
```

---

**Note:** Following a successful installation, there should be a “yes” in the browser under the “Enabled” column found by clicking “Help” and then “About Plug-ins”. If the articulate fails to load, then review the manual Flash plugin installation in Section 19.

---

3. Verify the Xine installation by viewing an mpeg:

e.g. `xine /awips/fxa/DRT/wess1/source/video/9jun05.mpg`

---

**Note:** If Xine fails to load, then review the manual Xine installation in Section 20.

---

### 5.2 Verify AWIPS/WES with enhanced\_case\_review

---

1. In order to verify a successful installation, you will need to install a test case in `/data/awips` from the WES7.2 install DVD. If you are able to successfully view the test case data, then you will move on to Section 5.3 to run a simulation. If you run into problems viewing the test case, contact WES support before running a simulation.

---

**Note:** You will eventually need to create new localizations for all your old cases (see Sections 7 - 9) before you can fully display them in D2D with the OB7.2 AWIPS in WES7.2.

**Note:** FFMP, SCAN, and DMD data that worked in WES6.0 and WES7.1 should continue to work in WES7.2. Any pre-OB5.0 FFMP, SCAN, and DMD data from your archived cases that does not display will need to be recreated by following the instructions in Section 13.

---

2. As user fxa, load and mount the Weather Event Simulator 7.2 install DVD.

e.g. `mount /media/cdrecorder` if the DVD doesn't automatically mount

3. To install the test cases, cd to the DVD device and run the WES7.2\_testcase\_install program:

e.g. `cd /media/cdrecorder`

e.g. `./wes7.2_testcase_install`

---

**Note:** If you have previously installed a WES test case, you may see the message "A case already exists in /data/awips/2006Aug24test". Remove or move that case as directed.

---

4. After the case has been installed, the archived text data will need to be inserted into a new Postgres database while the case is in original format:

- Run "start\_simulator"
- Click the "Tools" button
- Click the "Write Archived Text to Database" button
- Use the Select button to choose the 2006Aug24test case for the FXA\_DATA and ABR as the FXA\_LOCAL\_SITE
- Click "OK"
- The simulator will display "Write to postgres database complete" when finished
- Click "Exit"

---

\*Note: This tool will write all text data stored in  
/data/awips/<your\_case>/archived\_text/\$PILNAME/YYYYMMDD\_HHmms

format to a postgres database stored in /data/awips/<your\_case>/pgdata. For more information on archiving text and writing the text to a Postgres database, see Section 11.

---

5. Start D2D on the 2006Aug24test test case by typing **enhanced\_case\_review** at a shell prompt, hitting return, and:
  - Select 2006Aug24test as the case and ABR as the FXA\_LOCAL\_SITE
  - Select the “Start AWIPS Text Workstation Control” checkbox
  - Click the “OK” button
  - Click “Start” on the D2D launcher

---

**Note:** The enhanced\_case\_review application starts up D2D and a few other AWIPS processes to allow text database access and also allow programs like FFMP and SCAN to work fully in static case review mode outside of a simulation. The enhanced\_case\_review will work on both original or DRT format cases, though the program cannot be run while the simulator is being run due to interference with the AWIPS processes. The /awips/fxa/DRT/start\_awips program is still the D2D startup script to use during a simulation. For more on enhanced\_case\_review see Section 16.

**Note:** WarnGen will not work in enhanced\_case\_review (still need to run a simulation to use WarnGen).

---

6. Ensure the Guardian application is running correctly and generate a test pop-up:
  - After D2D starts up, there should be a bar below D2D containing several icons and two status bars
  - Press the icon which looks like a “G” enclosed in an oval with red trim
  - The Guardian Configuration GUI should appear
  - Close the Guardian Configuration GUI by pressing x or the “Close” button
  - Select “CONUS” scale and load “13u” under the “Satellite” menu.
  - A red Guardian pop-up should appear with a “No Data Inventory” message
  - Close the pop-up by pressing the “Close” button or “Acknowledge Last”

7. Ensure the radar data for the first test case were loaded correctly by viewing the kabr "Z/SRM8" radar data in D2D:

- Select 64 in the "Frames" menu
- Select "WFO" as the scale
- Under the "kabr" menu, select "All Tilts Z/SRM8"
- Step through an elevation angle in time by using the left/right arrow keys. Step through a volume scan vertically by using the up/down arrow keys.

---

**Note:** The data in this case contains a couple of hours of radar and satellite data, and some limited Grid and point data.

---

8. Display the archived text data in D2D. This step assumes the archived text in the 2006Aug24test case has been written to the Postgres database (step 4)

- While on CONUS scale, select "SPC Watches" from under the NCEP/Hydro menu, and step through the loop.
- Some SPC watches should display (note the last frame comes up empty)
- Clear the pane, select 12 in the "Frames" menu, select "WFO" scale, load a "0.5 Z/SRM8" from the kabr menu, and load "Local CWA Warnings" from under the NCEP/Hydro menu
- A warning polygon should display when stepping through the loop
- Clear the pane
- Click on "Text 1" on the Text Workstation Control (outside D2D), and in AFOS Cmd: enter FSDSAW1 and hit return
- The text of an SPC watch SAW text product should appear

---

**Note:** The data used for displaying SPC polygons changed in OB7.2. See section 11 for more information.

---

- In the same text editor type in FSDTORABR
- The text of an archived warning should appear

9. Display the FFMP data for kabr while in enhanced case review.

- Under the “SCAN” menu in D2D select “FFMP Image / Basin Table” under the “FFMP:kabr” submenu
- Select 1.00 under the “Durations” menu, and select “Worst Case Display”. Then click “Refresh D2D”
- A colored county map should be visible in D2D
- Select “SD, POTTER” in the FFMP table to zoom into the basin in the ABR CWA with the most precipitation. Now click the “Ratio” column heading to rank by ratio. Select “2264” in the basins list under the “Area\_Id” column
- The screen should now be centered on basin 2264 with an “X”
- Return to the WFO scale display by selecting the “Group:SD, POTTER” button
- Under the “Thresh Type” button select “ratio” followed by “Refresh D2D” to update the county map in D2D for the ratio product
- Select the “Link to Frame” button, and step through the loop using the “>” button in D2D
- Return to the last frame in the loop by selecting the “>>|” button in D2D

---

**Note:** The table will display “NO DATA Retrieved” when no accumulations exist for the selected duration period.

**Note:** Because FFMP data are stored differently than most AWIPS data (i.e. latest 6 hour accumulations in files with no time in the filenames), archived FFMP data won’t work directly with WES. Instead, a tool exists within WES to create FFMP data from basin files and archived datasets containing DHR files and AWIPS format flash flood guidance (FFG) (covered in Section 12).

---

**10.** Display the SCAN storm cells table for kabr:

- Under the “SCAN” menu in D2D select “Storm Cells / Site Storm Threat” under the “SCAN:kabr” submenu. The KABR Cell Table should launch.
- To get rid of the SCAN table, hit the clear button in D2D.

**11.** Display the SCAN DMD for kabr:

- Under the “SCAN” menu in D2D select “Storm DMD Icons & Table” under the “SCAN:kabr” submenu

- Right click on "IIVr" for the "342" DMD identifier to launch a time-height display of DMD data.
  - Toggle the new display enhancements by clicking on the "Diam Overlay" along with "Legend", "Elev Angles", and "Vol Scan Poles".
  - Click "Close"
  - Select "Link to Frame" and navigate back and forth through time to view the DMD icons
  - Left mouse click over a meso circle in D2D for a cursor readout of the data.
  - To get rid of the SCAN DMD table, hit the clear button in D2D.
- 12.** Under the "kabr" menu, select "kabr Graphics", and "Digital Mesocyclone (DMD)" to display the DMD data using the D2D DMD display option.
- Left mouse click over a meso circle in D2D for a cursor readout of the data.
  - Navigate back and forth through time to view the DMD icons

---

**Note:** For information on enabling SCAN data for your own case data please refer to Section 13.

---

- 13.** Shutdown D2D and the Text Workstation Control by selecting "Exit" under the "File" menus of D2D and the Text Workstation Control.

### **5.3 Verify AWIPS/WES in Simulation Mode**

---

If you had problems viewing the test case in Section 5.2, please contact WES support ([wes@infolist.nws.noaa.gov](mailto:wes@infolist.nws.noaa.gov)) before proceeding with running a simulation in this section. In this section you will run a simulation using the test case. A simulation start time for this case (2205 UTC on August 24, 2006) has been set as the default along with a wessl file setting and an ffmp tar file setting.

---

**Note:** If you have not run a simulation before, click on the "Help" menu (upper right portion of the simulator) and "Instructions" submenu, and follow the instructions under "Convert Case to DRT Format" and "Run Simulation".

---

1. Run "start\_simulator"
2. Convert the 2006Aug24test case to DRT format:

e.g. click the “Tools” button, click the “Convert Case Data to DRT Format” button, select “2006Aug24test” as the FXA\_DATA case location, and click “OK”

3. Load the WES7.2\_test\_case\_ABR macro to run a simulation.

e.g. click the “Run Simulation” button and the “OK” button in the D2D warning popup

e.g. click the “Load Saved Settings” button, and select “wes7.2\_test\_case\_ABR” (note not GFE macro), then click the “OK” button in the “Load” window followed by the “OK button in the “Simulation Entry” window

4. Click the “Run Simulation” button when the Entry Verification window appears.
5. When the simulator prompts you to restart any D2D sessions, run “start\_awips”. In the start\_awips GUI select 2006Aug24test as the case, and select the “Start AWIPS Text Workstation Control” checkbox.
6. Ensure the Guardian application is running correctly and generate a test pop-up:
  - After D2D starts up, there should be a bar below D2D containing several icons and two status bars
  - Press the icon which looks like a “G” enclosed in an oval with red trim
  - The Guardian Configuration GUI should appear
  - Close the Guardian Configuration GUI by pressing x or the “Close” button
  - Select “CONUS” scale and load “13u” under the “Satellite” menu.
  - A red Guardian pop-up should appear with a “No Data Inventory” message
  - Close the pop-up by pressing the “Close” button or “Acknowledge Last”
7. Select WFO scale, 64 frames, and “All Tilts Z/SRM8” from the kabr menu, and verify the all tilts radar product updates (usually once per minute).

---

**Note:** Every 15 seconds the main WES window will update with data being processed, and updates in D2D should happen shortly after the WES window lists the files being processed.

---

- Toggle to the “SRM 8” product by selecting the “.” key on the numeric keypad.
- Under the “Tools” menu load “Radar Display Controls”
- Enter 280 degrees at 26 kts as the SRM Custom Storm Motion

- Trigger the display to update the new storm motion in the upper left of the main pane by zooming in on the storm or moving the center of the display
- 8. Verify that WESSL popup windows are appearing. Once the WESSL pop-ups appear you can use the forward and backward buttons on the “WESSL Station Log” window to review previous WESSL pop up's.
- 9. Test creating a warning with WarnGen in D2D:
  - Clear the D2D pane and select a WFO scale map
  - With no product loaded click on the WarnGen button in the upper right part of D2D
  - Select “Tornado” for “Product type” in the WarnGen popup window
  - Move the "Drag me to storm" icon to somewhere in the center of the map
  - Click on the "Create Text" button on WarnGen popup window
  - A text window should appear if the text monitor was started with D2D
  - Click "Enter" to modify the warning
  - Replace the line at the bottom containing “!\*\*NAME/INITIALS\*\*!” with your initials
  - Click the "Send" button and a popup message should appear
  - In a new pane on WFO scale load “Local CWA Warnings” from the NCEP/Hydro menu in D2D

---

**Note:** If you load a new warning polygon over old product data you need to wait about a minute for the polygon to be displayed or you may need to select “Forced” for the time matching in the upper left part of D2D for the time matching to work.

---

10. After verifying the install was successful, shut down D2D and exit the simulator. You may consider putting icons on the desktop to start the start\_simulator, start\_awips, and enhanced\_case\_review scripts. For start\_simulator, you need to select “Run in Terminal” for the desktop icon to prevent spontaneous logouts when exiting the simulator.

---

**Note:** FFMP, SCAN and DMD data are unique in a simulation. These products are created every volume scan from the input files. These products require their input files to exist in the case in order to work successfully during a simulation.

---

11. Verify your warning text was saved. In the process of creating warnings, AWIPS writes the text to a file in the <your\_case>/textWSwork/\$DISPLAY directory where \$DISPLAY is the DISPLAY variable that identifying in which monitor the Text Workstation Control Monitor is run.

After each simulation, the textWSwork directory is copied to the <your\_case>/saved\_textWSwork.\$date directory.

e.g. `cd /data/awips/2006Aug24test/saved_textWSwork`

e.g. `ls` (to look for the latest directory)

e.g. `cd textWSwork.022606223456` (for example)

e.g. `ll -R *` (to look for a display directory like :0.1 with a KABR warning file)

e.g. `cd :0.0/saved` (for example)

e.g. `more KABRTORABR.wan20060824_220726`

## 5.4 Verify GFE / WES in Simulation Mode

---

1. Run a simulation using the “wes7.2\_GFE\_test\_case\_ABR” macro in “start\_simulator” to start a simulation for GFE to work with on the 2006Aug24test data (note the “GFE” in the macro name).

e.g. run “`start_simulator`”

e.g. click the “Run Simulation” button and the “OK” button in the D2D warning popup

e.g. click the “Load Saved Settings” button, and select “wes7.2\_GFE\_test\_case\_ABR”, then click the “OK” button in the “Load” window followed by the “OK” button in the “Simulation Entry” window.

e.g. click the “Run Simulation” button

---

**Note:** If you have selected a “GFE Directory” in the simulation entry window, the IFPServer will be launched with other AWIPS decoders. In order for GFE to start, the IFPServer must be running, so you must run a simulation to use GFE. At the start of the simulation, GFE data is purged of any new files. The IFPServer will take a minute or two to start up, and it takes a significant amount of resources to initialize, so your machine performance may be temporarily slowed down.

---

2. After a simulation has been started (important), start GFE in “PRACTICE” mode by running:

e.g. `start_GFE`

---

**Note:** The “start\_GFE” program, which is in your \$PATH, will launch GFE in practice mode (see /awips/fxa/DRT/start\_GFE for more information). GFE will not launch unless the IFPServer is running in a WES simulation. Once a simulation has been detected with a valid GFE Directory, GFE may take a minute or two to start up as it waits for the IFPServer to initialize.

---

3. Setup GFE and begin:

- When the GFE Startup popup appears, select “fxa” as the “User”, “gfeConfig” as the “Config”, and “practice” as the “Mode”, then click the “Start” button.

4. Populate your grids with the RUC80:

- Under the “Populate” menu, select “Copy All Grids From...”
- Select “RUC80 2421 (ABR)”, and click the “OK” button.
- Switch to the vertical mode by selecting the top left button with the vertical line in the box
- Click on “T SFC” grid, and step through the images using the right arrow key

5. Test creating warning hazard grids:

- Under the “Hazards” menu, select “MakeHazard”
- Click and drag to select some counties in the county display and “IP.W – SLEET WARNING” as the hazard
- Adjust the “Hazard End Time” to 12z on Aug 25, and click the “Run” button
- Select “Clear All” button to clear the counties
- Select some other counties, and “IS.W – ICE STORM WARNING” as the hazard
- Adjust the “Hazard End Time” to 12z on Aug 25, and click the “Run/Dismiss” button
- Under the “Hazards” menu, select “MergeHazards”
- Drag the vertical scroll bar down, select the “Hazards SFC” grid, and use the right arrow key to view the hazards

- Save the forecast grids by clicking on the diskette button on the GFE interface, followed by clicking on the “Save Weather Element(s)” button

---

---

**Note:** If you don't save your forecast grids, your hazard text won't generate in the next step.

---

---

#### 6. Test creating warning hazard text:

- Under the “Products” menu, select “Formatter Launcher”
- Under the next “Products” menu, select the “Hazard” pullout menu, and the “Hazard\_WSW (Winter Wx Product)”
- Click on the “Run Formatter” gear box button, and your warning text should appear after a few seconds
- Modify or delete all the “|\*” placeholders in the warning text
- Click on the “Transmit” button, and then the “Simulated Transmit” button

---

---

**Note:** The GFE product text is saved in the /data/awips/<your\_case>/GFESuite-case/<your\_case\_GFE\_DIR>/products/PRACTICE directory. When WES is shut down, the text directory will be copied to the /data/awips/<your\_case>/saved\_GFE\_PRACTICE directory, and it will be given a time and date stamp based on the current time.

---

---

7. Exit out of GFE, and shut down the simulation.

### **5.5 Test Creating New GFE Grids for a Simulation**

---

**Background:** A tool exists within WES to use the AWIPS IFPServer to create a set of GFE default grids for incorporation into a WES simulation. The GFE datasets created are selected from the WES main simulation entry window (like the FFMP data). If a GFE dataset is selected, the WES will start up the IFPServer in a simulation to allow the GFE to function. For more information on GFE in WES, please see Section 17.

1. Under the “Tools” button in start\_simulator, select “Create GFE Dataset”.
2. Select “2006Aug24test” as the FXA\_DATA, ABR as the FXA\_LOCAL\_SITE, and 200608241505 (1505z on Aug 24, 2006) as the time to create the grids for, and click “OK”.

---

**Note:** The IFPServer usually takes a couple of minutes to start up before it launches the ifplnit process to create the actual grids. If the ifplnit fails to launch, the WES will time out after five minutes. Once the ifplnit starts, the WES Log window will read “Monitoring ifplnit for completion”, and the status bar will read “Creating Data”.

---

3. Wait for the ifplnit to complete. For this small case, the ifplnit will only take a minute or two, since it is only creating a RUC80 set of grids. Normally it can take an hour or two for a full case. You may also choose to monitor the processes by running a top command in another shell window. The WES log window will read “Finished creating GFE data” when complete.
4. Once the GFE data is created, you can run a simulation to view the grids with GFE and create warnings.
  - After selecting the “Run Simulation” button in start\_simulator, click “OK” on the first popup, and then select the simulation details, including using the “Select” button next to “GFE Directory” to select the GFE data just created (note the 1505 UTC simulation start time should match the GFE Directory data time)
  - Click the “OK” button, and then the “Run Simulation” button on the popup Entry Verification Window to start the simulation
  - In a shell window, type start\_GFE, and follow Section 5.4 Steps 3-7 using the 15Z RUC80.
5. The next four sections cover customizing WES from your local AWIPS. If you are not going to do these sections and you are a NOAA affiliate, please complete the WES7.2 post installation survey at the following address (there is another reminder at the end of Section 9):

<https://apps.weather.gov/survey/survey.php?sid=43>

We will use the information from this survey to improve future WES installation instructions.

## 6 Customize AWIPS OB7.2 in WES7.2

### 6.1 Migrate Local AWIPS Customizations to the WEScustomization Directory in WES7.2

---

1. These customization instructions were designed to transfer AWIPS customization files from a real-time AWIPS with Build OB7.2 to WES7.2. If you don't have access to AWIPS customizations, then skip to Section 9.
2. The concept of migrating customizations to WES7.2 is to transfer all your important customization files from your local AWIPS to a central location on WES (WEScustomization directory) that will not be removed by future WES installations. Section 6 needs to be completed with help from the local AWIPS focal point who understands how the local AWIPS has been customized. To illustrate the following commands we will use the Chicago office, LOT, as the local CWA.
3. Log in to your WES machine as user fxa.
4. Identify a method to transfer files from your real-time AWIPS to your WES machine (floppy, cd, ftp, etc).
5. If you have previously customized your WES using previous WES customization instructions, you will need to back up the customFiles, userPrefs, global-LLL-files, storagefiles, mainConfig, and the XXX directory (e.g. LOT) in the /awips/fxa/WEScustomizations directory before you update WES7.2 with your new OB7.2 customizations.

e.g. `cd /awips/fxa/WEScustomization/`

e.g. `mv customFiles customFiles.ob6.0`

e.g. `mv userPrefs userPrefs.ob6.0`

e.g. `mv global-LLL-files global-LLL-files.ob6.0`

e.g. `mv storagefiles storagefiles.ob6.0`

e.g. `mv mainConfig mainConfig.ob6.0`

e.g. `mv LOT LOT.ob6.0`

6. Copy the `/data/fxa/customFiles` directory on your DS into the `/awips/fxa/WEScustomization` directory on the WES.

e.g. `cp -R customFiles /awips/fxa/WEScustomization` from cd

7. Copy the `/data/fxa/userPrefs` directory on your DS into the `/awips/fxa/WEScustomization` directory on the WES machine.

e.g. `cp -R userPrefs /awips/fxa/WEScustomization` from cd

8. Copy the `/awips/fxa/data/localization/XXX` directory (where XXX is your localization ID) on your LX1 workstation to the `/awips/fxa/WEScustomization` directory on your WES machine. The directory on the LX1 machine should contain the most up to date localization files which were used for the installation of OB7.2

e.g. `cp -R LOT /awips/fxa/WEScustomization` from cd

9. Copy the following files from your DS to the `/awips/fxa/WEScustomization/storagefiles` directory:

- `/awips/fxa/data/localization/nationalData/virtualFieldTable.txt`
- `/awips/fxa/data/localization/nationalData/gridPlaneTable.txt`
- `/awips/fxa/data/colorMaps.nc`
- `/awips/fxa/data/fxa-users`
- `/data/fxa/workFiles/customColorMaps.nc`

10. Change the permissions on the `colorMaps.nc` file to “-rw-rw-rw” if they aren’t set this way:

e.g. `chmod 666 /awips/fxa/WEScustomization/storagefiles/colorMaps.nc`

11. Copy the following files from your WS to the `/awips/fxa/WEScustomization/storagefiles` directory:

- `/awips/fxa/data/vb/browser*.txt` (not needed if `browser*.txt` files are already in the `customFiles` directory).

12. Copy a LINUX VERSION of any specialized map files (`*.bcx` found in the `/awips/fxa/data/localizationDataSets/XXX` directory) into the `/awips/fxa/WEScustomization/storagefiles` directory.

13. Copy any other relevant local customized files to the `/awips/fxa/WEScustomization/storagefiles` directory.

## 6.2 Migrate the Local AWIPS OB7.2 Customizations to the New OB7.2 with WES7.2

---

1. The following instructions assume you have copied over your AWIPS customizations to the WEScustomization directory as instructed in section 6.1
2. Identify a local case with your CWA to create a localization for in `/data/awips`. To illustrate the following commands, we will use a 2002Jun12 case from the LOT CWA as an example.
3. If you have already applied steps 4, 5, 6, and 7 in a previous WES customization using WES customization instructions, you can skip steps 4, 5, 6, and 7.
4. As user `fxa`, backup your `customFiles` and `userPrefs` directories in your case:  
  
e.g. `cd /data/awips/2002Jun12`  
  
e.g. `mv customFiles customFiles.orig`  
  
e.g. `mv userPrefs userPrefs.orig`
5. Make a `customFiles` symbolic link in your data case that points to the `customFiles` directory in WEScustomization:  
  
e.g. `ln -s /awips/fxa/WEScustomization/customFiles /data/awips/2002Jun12/customFiles`
6. Make a `userPrefs` symbolic link in your data case that points to the `userPrefs` directory in WEScustomization:  
  
e.g. `ln -s /awips/fxa/WEScustomization/userPrefs /data/awips/2002Jun12/userPrefs`
7. Cd to the data case and list out the contents of the links to ensure the links resolve the appropriate directories and files in `/awips/fxa/WEScustomization`.  
  
e.g. `cd /data/awips/2002Jun12`  
  
e.g. `ls customFiles`  
  
e.g. `ls userPrefs`

8. `cd /awips/fxa/data/localization` and backup your local CWA XXX directory:

e.g. `mv LOT LOT.orig`

9. While in the same directory as step 8 (`/awips/fxa/data/localization`), make an XXX symbolic link (where XXX is your local CWA) that points to the pre-localization directory in WEScustomization:

e.g. `ln -s /awips/fxa/WEScustomization/LOT LOT`

10. List out the contents of the XXX link in `/awips/fxa/data/localization/` created in the previous step to ensure the link resolves the appropriate directories and files in `/awips/fxa/WEScustomization`.

e.g. `ls /awips/fxa/data/localization/LOT`

11. Before copying any of the following files into the WES AWIPS, make a backup version of the file you are copying over.

e.g. `cd /awips/fxa/WEScustomization/storagefiles` and copy:

File	To Location
virtualFieldTable.txt	/awips/fxa/data/localization/nationalData
gridPlaneTable.txt	/awips/fxa/data/localization/nationalData
browser*.txt	/awips/fxa/data/vb (not needed if in customFiles)
fxa-users	/awips/fxa/data
customColorMaps.nc	/data/awips/{\$case_name}/workFiles

where `{$case_name}` refers to your case (e.g. 2002Jun12).

12. Copy any other relevant files in the storagefiles directory to the appropriate AWIPS directory.

13. Now you are ready to create a localization for your local case.

## 7 Create a New Localization for Your Local Case

1. A new AWIPS localization usually needs to be created for every major AWIPS build upgrade, or when you create a case from scratch. If you have not customized your WES (Section 6), the localization you create will contain all the AWIPS default settings for color tables, templates, etc.

---

**Note:** If you try to use an old localization on a newer version of AWIPS associated with a new WES install, D2D will sometimes hang on the startup and some products may not be displayable.

---

2. Cd to your localizationDataSets directory in your local case.

e.g. `cd /data/awips/2002Jun12/localizationDataSets`

3. Move any old localization you are going to recreate.

e.g. `mv LOT LOT.ob6.0`

4. `cd /awips/fxa/data/localization/scripts` and run `mainScript.csh` with your localization ID:

e.g. `mainScript.csh LOT LOT`

---

**Note:** You will be prompted to enter your case name and verify it is correct.

---

5. When `mainScript.csh` is done, `cd /awips/fxa/WEScustomization/storagefiles`
6. Copy any `colorMaps.nc` and `*.bcx` files from the `/awips/fxa/WEScustomization/storagefiles` directory to your new localization in `/data/awips/{$case_name}/localizationDataSets/XXX`, where `{$case_name}` is your local case (e.g. 2002Jun12) and `XXX` is your localization (e.g. LOT).
7. Start D2D with the new localization, and verify your localization was successful and any customizations took effect. Once you have verified your localization was successful, then try running a simulation to test creating a warning with `WarnGen`.
8. To update other local cases with the new customizations, first create the links in the new case that point to the `WEScustomization` subdirectories (i.e. steps 4 - 7 in Section 6.2) if they haven't been created. Then, back up the `customColorMaps.nc`

file and XXX localization in the new case (we will now use 2002Jun12 as the old local case and 2003Feb01 as the new local case from LOT in the following command examples):

e.g. `cd /data/awips/2003Feb01/workFiles`

e.g. `mv customColorMaps.nc customColorMaps.nc.ob6.0`

e.g. `cd /data/awips/2003Feb01/localizationDataSets`

e.g. `mv LOT LOT.ob6.0`

9. Then copy the customColorMaps.nc and new XXX localization into the new local case:

e.g. `cp /data/awips/2002Jun12/workFiles/customColorMaps.nc  
/data/awips/2003Feb01/workFiles`

e.g. `cp -R /data/awips/2002Jun12/localizationDataSets/LOT  
/data/awips/2003Feb01/localizationDataSets`

10. If you would like to be able to create localizations for other CWA's that contain your WarnGen templates, color tables, etc, and then complete Section 9.

## 8 Link Local CWA Customizations to All Other CWA's

1. This section provides instructions on how to create localizations for other CWA's that will contain your local WarnGen templates, color tables, etc, so you can train like you fight on cases outside your CWA. In the following example we will use LOT as the local CWA that will be customizing the BMX localization for the 1998Apr08 Birmingham, AL case in /data/awips/1998Apr08.
2. The approach to making customized localizations other than your CWA involves linking all relevant local customization files to all the other CWA's before running mainScript.csh.
3. Log in as user fxa, and choose a case (e.g. 1998Apr08) to make a new localization for (e.g. BMX) that is not your local CWA.
4. If you have already made a customFiles symbolic link and a userPrefs symbolic link in this data case (steps 4, 5, 6, and 7 from Section 6.2) that point to the appropriate directories in WEScustomization, then skip steps 5, 6, and 7.
5. Backup your customFiles, procs, and userPrefs directory in your case:

e.g. `cd /data/awips/1998Apr08`

e.g. `mv customFiles customFiles.orig`

e.g. `mv userPrefs userPrefs.orig`

6. Make a customFiles symbolic link in your data case that points to the customFiles directory in WEScustomization; make a userPrefs symbolic link in your data case that points to the userPrefs directory in WEScustomization:

e.g. `ln -s /awips/fxa/WEScustomization/customFiles  
/data/awips/1998Apr08/customFiles`

e.g. `ln -s /awips/fxa/WEScustomization/userPrefs  
/data/awips/1998Apr08/userPrefs`

7. Cd to the data case, and list out the contents of the links to ensure the links resolve the appropriate directories and files in /awips/fxa/WEScustomization.

e.g. `cd /data/awips/1998Apr08`

e.g. `ls customFiles`

e.g. `ls userPrefs`

8. Copy the XXX-\* files (e.g. LOT-\*) in your customFiles directory that do not contain local geographic information to the global-LLL-files directory:

e.g. `cd /awips/fxa/WEScustomization/customFiles`

e.g. `cp LOT-wwaConfig.template  
/awips/fxa/WEScustomization/global-LLL-files`

---

**Note:** Do not copy files to this directory that have geographic information unique to your CWA like XXX-radarsInUse.txt, XXX-radarsOnMenu.txt, XXX-mainConfig.txt, XXXdialRadars.txt, and XXX-mosaicInfo.txt. Try doing a more command on each XXX-\* file and watch for local radar information or local/surrounding CWA information to check for files not to copy. See Appendix A for an example of the file list in global-LLL-files.

**Note:** Any files in customFiles without the XXX- prefix will be utilized in the new localization directly from the customFiles directory.

---

9. Check the customFiles directory for files without an XXX- prefix that contain local geographic information unique to your CWA like radarsInUse.txt, radarsOnMenu.txt, mainConfig.txt, dialRadars.txt, and mosaicInfo.txt. If you find such files in this directory, then rename them to make sure they don't get seen in the localization. This can be done by naming the files with an XXX- prefix for your local CWA (e.g. mv dialRadars.txt LOT-dialRadars.txt if you are creating a BMX localization). See Appendix A for an example of the file list in customFiles.
10. `cd /awips/fxa/WEScustomization/XXX` where XXX is your localization ID (e.g. LOT).
11. Copy any XXX-\* files and generic files (no XXX- prefix) that do not contain local geographic information to your /awips/fxa/WEScustomization/global-LLL-files directory.

e.g. `cp LOT-wwaConfig.template  
/awips/fxa/WEScustomization/global-LLL-files`

---

**Note:** Do not copy files to this directory that have geographic information unique to your CWA like dialRadars.txt, XXX-dialRadars.txt, XXX-radarsInUse.txt, XXXradarsOnMenu.txt, XXX-mainConfig.txt, XXX-mosaicInfo.txt, etc. Try doing a "more" command on each XXX-\* file and watch for local radar information or local/surrounding CWA information to check for files not to copy. See Appendix

A for an example of the file list in global-LLL-files and in the /awips/fxa/WEScustomization/XXX directory.

---

12. Run `/awips/fxa/WEScustomization/scripts/linkLLLfiles.csh` to put symbolic links in every /awips/fxa/data/localization/LLL directory that point to each file in /awips/fxa/WEScustomizations/global-LLL-files.

---

**Note:** When you want to make changes to global-LLL-files, modify the files in the global-LLL-files directory, and run the unlinkLLLfiles.csh script followed by linkLLLfiles.csh.

---

13. If you have generic directives (e.g. @@@RADAR\_Z 1000) in your XXX-mainConfig.txt file you will need to create a new file in step 15 that will be accessed for localizing other CWA's (this is not a bad thing).

14. Copy your XXX-mainConfig.txt file from /awips/fxa/WEScustomization/XXX to the file /awips/fxa/WEScustomization/mainConfig/genericmainConfig.txt.

```
e.g. cp /awips/fxa/WEScustomization/LOT/LOT-mainConfig.txt
/awips/fxa/WEScustomization/mainConfig/genericmainConfig.txt
```

15. Remove any local geographic directives from the genericmainConfig.txt file, leaving only generic directives (e.g. leave only entries like “@@@RADAR\_Z 1000” in the genericmainConfig.txt file). Do not add entries if they do not exist in your original files. See Appendix A for an example of the genericmainConfig.txt file.

16. Run `/awips/fxa/WEScustomization/scripts/modifymainConfig.csh` to create a new XXX-mainConfig.txt file in each pre-localization directory in /awips/fxa/data/localization.

---

**Note:** If in the future you want to return the XXX-mainConfig.txt files to the original in each of the pre-localization directories, run the unmodifymainConfig.csh program in the same directory.

---

17. Section 9 will cover how to make the customizations in Section 8 take effect.

## 9 Create a New Localization for a Non-local Case

1. A new AWIPS localization usually needs to be created for every major AWIPS build, or when you create a case from scratch. If you have not customized your WES (Section 6 and Section 8), the localization you create will contain all the AWIPS default settings for color tables, templates, etc.

---

**Note:** If you try to use an old localization on a newer version of AWIPS associated with a new WES install, D2D might hang on startup and some products might not be displayable

---

2. Before running mainScript.csh, back up the localization if it exists:

e.g. `cd /data/awips/1998Apr08/localizationDataSets`

e.g. `mv BMX BMX.ob6.0`

3. `cd /awips/fxa/data/localization/scripts` and run mainScript.csh on the new localization you are about to create.

e.g. `mainScript.csh BMX BMX`

---

**Note:** You will be prompted to enter your case name and verify it is correct.

---

4. If you are customizing your WES from your AWIPS, then backup the customColorMaps.nc file in your case, and copy the customColorMaps.nc file from the storagefiles directory into the workFiles directory in your case. If you are not customizing your WES from your AWIPS, then skip to step 7.

e.g. `cd /data/awips/1998Apr08/workFiles`

e.g. `mv customColorMaps.nc customColorMaps.nc.orig`

e.g. `cp`

`/awips/fxa/WEScustomization/storagefiles/customColorMaps.nc`

5. After mainScript is done, `cd /awips/fxa/WEScustomization/storagefiles`

6. Copy any colorMaps.nc and \*.bcx files from the /awips/fxa/WEScustomization/storagefiles directory to your new localization in /data/awips/{\$case\_name}/localizationDataSets/XXX, where {\$case\_name} is the new case (e.g. 1998Apr08) and XXX is the new localization (e.g. BMX).
7. Start D2D with the new localization to verify your localization works and any customizations were successfully applied. If your localization was successful then try running a simulation to test creating a warning with WarnGen.
8. Once you have verified all your customizations took effect, you can easily create a new localization for any CWA in this case (e.g. FFC) by running mainScript.csh (step 3 with FFC for example) and following steps 5 and 6 (using FFC for example).

e.g. `mainScript.csh FFC FFC`

9. To create a new localization with no customization changes (i.e. you skipped Sections 6 and 8) on any new case (e.g. /data/awips/1998May31 Albany, NY event at ALY), all you need to do is back up the old localization (step 2 using ALY) and run mainScript.csh (step 3 using ALY).
10. To create a new localization with customization changes (i.e. you completed Sections 6 and 8) on another case outside your CWA (e.g. /data/awips/1998May31 Albany, NY event at ALY), now all you need to do is back up the customization directories in the case (step 5 in Section 8 using /data/awips/1998May31), make symbolic links in the data case that point to the appropriate directories in WEScustomization (step 6 in Section 8 using /data/awips/1998May31), verify the links (step 7 in Section 8 using /data/awips/1998May31), back up the old localization (step 2 in Section 9 using ALY), run mainScript.csh (step 3 in Section 9 using ALY), and copy files into the new localization (steps 4, 5 and 6 in Section 9).
11. If you have completed all sections to this point, you are done with the WES7.2 installation. If you are from a NOAA affiliate and haven't completed the WES7.2 installation survey, please do so now at the following address:

<https://apps.weather.gov/survey/survey.php?sid=43>

We will use the information from this survey to improve future WES installation instructions.

## 10 Archiving and Setting up a New Case

**Background:** WES uses archived AWIPS datasets for case playback and simulation. In AWIPS, cron jobs are setup on the AWIPS archive machine, AX, that copy AWIPS data from /data/fxa on DX1 to the AX. Each day is typically stored as a separate directory containing all the AWIPS data for that day (for the last seven days). There are a number of programs used to archive data from the seven day archive. One of the more common data archive programs that is available from the AWIPS Local Applications Development (LAD) is the HNX\_Archive.tcl application. Another useful program for archiving text data is the Product Archiver, which is also available from the AWIPS LAD. The archive applications typically compress the data to fit on storage media such as DVD.

Once archived, the data must be copied and uncompressed onto a machine running WES. The data must be put into a case (e.g. 2004Jun09) on the WES data storage location, /data/awips. After the data is copied to a case, a few directories need to be created, and an AWIPS localization needs to be created or copied into the case. Any archived text data will need to be added to the Postgres database (see Section 11), and FFMP data will need to be created if desired (see Section 12). The case is then ready for static review of all archived data and text. To run a simulation, the user must convert the data to DRT format, and then enter the simulation start time.

1. Obtain archive data (e.g. from the 7 day rollover or from a DVD).
2. As user fxa, prepare the WES for the archived dataset by making the critical base directory tree. First cd to the WES case storage root:

e.g. `cd /data/awips`

3. Make the case name, along with the userPrefs, localizationDataSets, workFiles, customFiles subdirectories:

e.g. `mkdir 2004Jun09`

e.g. `cd 2004Jun09`

e.g. `mkdir userPrefs localizationDataSets workFiles customFiles  
tstorm`

---

**Note:** Pay special attention for typos.

---

4. Uncompress the data into the case. If you don't have a case install program from your archiver, the follow the instructions below. For example, a 2004Jun09 case

stored on DVD with tar files containing case-relative paths such as  
2004Jun09/radar/kddc:

e.g. `mount /media/cdrecorder`

e.g. `cd /data/awips`

e.g. `foreach fil (`ls /media/cdrecorder/*.gz`)` (note the ``` is usually located above the Tab key)

e.g. `tar xvfz $fil`

e.g. `end`

5. Create a localization for the case using `mainScript.csh` (see Sections 6 - 9). If you already have created a localization with this version of AWIPS, you can copy or link the localization into the `<your_case>/localizationDataSets` directory. If you don't have a localization already built, you have essentially three options for creating a localization (see Sections 6 - 9). You can create a localization with the AWIPS defaults (no customization). You can create a localization with your customizations for your local CWA. And you can create a localization for a non-local CWA.
6. Verify the data was loaded correctly and the localization was created correctly by checking all your data with `enhanced_case_review`. It is important to check the data before running a simulation to isolate any errors in setting up the case.
7. If you need to add text data to the case. Then see Section 11.
8. If you are running SCAN or FFMP, then see Sections 12 and 13.

---

**Note:** If you would like to run a simulation, then you need to convert to DRT format before running a simulation.

---

## 11 Adding Archived Text Data to Postgres

WES7.2 now uses Postgres to handle some database components of AWIPS. This replaces the flat file approach used in previous WES versions. The primary function of Postgres in WES7.2 is to support WarnGen in creating warnings (more AWIPS database functionality is anticipated in future WES builds). Text data can also be copied into the Postgres database where it can be accessed for static review or for use in a simulation. The following instructions detail how to add archived text data into the Postgres database for use with WES.

### Obtain Archived Text Files

1. The text files need to be the exact format as is stored in the Postgres text database on AWIPS (likely the standard product format). This archiving can be done in a variety of ways. A WFO can access all the text products issued from an office in a tar file located in /data/fxa/archive/OUP/archive on their baseline AWIPS. There is also a program on the AWIPS LAD that archives text data called "Archived\_text AWIPS Build 6 version".

### Copy the Text Files into the Case as User fxa

2. The WES convention for Postgres file manipulation is to store the files in the <your\_case>/archived\_text/\$PILNAME directory with AWIPS timestamps as their name (e.g. YYYYMMDD\_hhmmss).

as user fxa:

```
e.g. mkdir /data/awips/2006Aug24test/archived_text
```

```
e.g. mkdir /data/awips/2006Aug24test/archived_text/FSDSAW1
```

```
e.g. cp mySAW1-1810.txt
```

```
/data/awips/2006Aug24test/archived_text/FSDSAW1/20060824_1810  
05
```

---

**Note:** Beginning in OB7.2 SPC watch polygons display from the WOU files in D2D (see NCEP/Hydro menu). If you want to display archived SAW products and you don't have WOU files, then you will need to replace the "WOU" entries with "SAW" in your localizationDataSets/XXX/textDataKeys.txt file.

---

### Write the Files to the Postgres Database in Your Case

3. Run the start\_simulator application, and click the "Tools" button.

4. Click on “Restore Case to Original Format” if the case is in DRT format. Note the WES requires that any new data be added to a case while the case is in original format.
5. Click on the “Write Archived Text to Database” button.
6. Select your case and localization ID, and click OK.

**Description of what happens:** The WES will untar an empty database into a /data/awips/<your\_case>/pgdata directory as user postgres if it does not already exist. If you have a pgdata in your case that is not owned by user postgres, then the WES will move that to <your\_case>/badpgdata/pgdata.\$date. If you someday accidentally change the ownership of the pgdata directory, say from copying a case as user fxa, you can manually change the ownership to user postgres and move the pgdata back to continue to use the database. The WES7.2 installation modified the /etc/sudoers file to allow the fxa account to untar a blank database and start/stop the postmaster as user postgres.

Once the database is in place, the WES will start the postmaster as user postgres, and it will start the TextDB\_Server Read and Write processes as user fxa. Each file in the archived\_text/\$PILNAME directory will be written to the database using the “textdb -w” command. The time stamp of each file in the database is initially given the current time, so after each file is written, the time of the product in the database is corrected using the time of the filename. This will allow correct database access and purging.

After completion of writing all files to the database, the postmaster is stopped, and the TextDB\_Servers are killed. Now a full copy of the database is available for static review.

### **Verify the Files Were Written Correctly**

7. After the “Write to postgres database complete” displays in start\_simulator, exit out of the start\_simulator application.
8. Start “enhanced\_case\_review”, and select your case, localization ID, and check the “Start AWIPS Text Workstation Control” checkbox to be able to access the database. The enhanced\_case\_review has been modified to also start the postmaster as user postgres, and start the TextDB\_Server Read and Write processes to allow accessing the Postgres database.
9. Bring up a text window (e.g. Text1 in the Text Workstation Control window), and enter a product PIL in the “AFOS Cmd:” entry box (e.g. FSDSAW1 if you copied in this product), and hit return. The text products you copied in should be retrieved. Note that some text products display in D2D, so you can also use D2D to test the product availability (e.g. SPC Watches under the NCEP/Hydro menu for the SAW text product).

---

**Note:** D2D will display a blank frame sometimes when loading a polygon from the NCEP/Hydro menu, so it is many times a good idea to load a separate product first that will match the time of the polygon.

---

10. Check to make sure all versions are available. If you only see two versions available and the <your\_case>/archived\_text/\$your\_PILname directory has more than two valid files in it, then your database probably doesn't have the PIL defined. For a list of defined PILs see /awips/fxa/postgres/versionsTable.txt.
11. If your PIL isn't covered by the wildcards in /awips/fxa/postgres/versionsTable.txt, then you will need to manually adjust the database. To do this:
  - Start enhanced\_case\_review
  - In a shell window type "psql fxatext"
  - "SELECT \* FROM textProductInfo;"
  - Find your PIL with the versionstokeep set at the incorrect value (e.g. SEA | WRK | W3 | 2 | 2)
  - Delete the PIL using the appropriate id value (e.g. "DELETE FROM textProductInfo WHERE cccid = 'SEA';"). Note that the ' is the mark next to the Enter key on the keyboard.
  - Verify the delete using "SELECT \* FROM textProductInfo;"
  - Add the PIL wildcard to the versionsTable (e.g. "INSERT INTO versionsTable VALUES ('CCCWRKXXX', '999');"). Note that the ' is the mark next to the Enter key on the keyboard.
  - Verify the change exists by using "SELECT \* FROM versionsTable;"
  - Type in "\q" and return to exit postgres (very important)
  - If this doesn't work, then email the [wes@infolist.nws.noaa.gov](mailto:wes@infolist.nws.noaa.gov) list.

### Running a Simulation with Text Data

12. Once a) the data has been copied to the archived\_text directory, b) the data has been written to the database, and c) the files have been verified to exist, then the text data is ready to be used in a simulation.
13. Convert the case to DRT format using the "Tools" button in start\_simulator. Since the text data has been added to the case before the conversion to DRT format, the WES will index the files in the archived\_text directory along with the other data files.

#### 14. Run a simulation.

**Description of what happens:** In the first part of the simulation preparation, WES will start some of the AWIPS decoders, including the postmaster (as user postgres) and the TextDB\_Server Read and Write processes. Then the AWIPS data links are created and deleted to set the start time. Every time a link is made for the archived\_text file, the file is written to the database using “textdb -w”, and the write time is modified based on the filename. After the links have been modified, the Postgres database is purged of future products using the simulation start time. Each time a text file is processed in a simulation, the file gets written to the database. When the simulation is over, the decoders are killed.

# 12 Preparing Cases for FFMP and Creating FFMP Data

## 12.1 Preparing a Case for FFMP

---

1. Because FFMP data are stored differently than most AWIPS data (i.e. latest 6 hour accumulations in files with no time in the filenames), archived FFMP data won't work directly with WES. Instead, a tool exists within WES to create FFMP data from archived datasets. Before WES can be used to create FFMP data, the case needs to be prepared for FFMP. These instructions will work for local cases or cases from other CWA's.
2. To create FFMP data from an archived case requires the following:
  - Basin files for each radar running FFMP (stored in /awips/fixa/data/localization/nationalData)
  - HRAP grid digital RFC flash flood guidance (stored in <your\_case>/img/SBN/netCDF/HRAP/FFG/XXRFC/Yhr where XXRFC is the RFC for your area and Yhr is 1hr, 3hr, and 6hr)
  - DHR files for each radar running FFMP stored in <your\_case>/radar/xxxx/DHR/layer0/res1/level256 (where xxxx is the radar name)
  - Directories: <your\_case>/tstorm, <your\_case>/radar/xxxx/tstorm, <your\_case>/radar/xxxx/ffmp (where xxxx is the radar name), and <your\_case>/radar/xxxx/ffmp/lookupFiles
  - A localization run with the "-scan" switch

---

**Note:** Failure to include all of the above elements will result in incomplete or bad FFMP data.

---

3. The first step in preparing your case for FFMP is to copy the basin files for each radar onto your WES. For your local cases, you should already have basin files on your AWIPS. Basin files from other radars will have to be retrieved from other NWS offices or the AWIPS NOAA1 server.
4. On your LX workstation copy the basin files to the WES (e.g. copy files to a tmp directory and burn a cd):

e.g. `cd /awips/fxa/data/localization/nationalData`

e.g. `cp kabr_* /data/fxalocal/tmp` and burn a cd

5. As outlined in Section 6, copy these files to the `/awips/fxa/WEScustomization/storagefiles` directory to preserve the files on the machine in the WES upgrades

e.g. `cp /media/cdrecorder/kabr_*  
/awips/fxa/WEScustomization/storagefiles`

6. Copy the basin files to the `/awips/fxa/data/localization/nationalData` directory

e.g. `cp /awips/fxa/WEScustomization/storagefiles/kabr_*  
/awips/fxa/data/localization/nationalData`

7. After copying the basin files to the WES machine, you need to ensure the FFG data exists in the case.

e.g. `ls <your_case>/img/SBN/netCDF/HRAP/FFG/XXRFC/Yhr` where XXRFC is the RFC for your area and Yhr is 1hr, 3hr, and 6hr)

8. Ideally you will want to always include FFG data in your regular local archive, since there is no easy-to-access archive source for the digital FFG data. If you are trying to recreate old FFG files, you can check with the COMET case study group to see if they have access to the data (note that digital FFG data in general is not available prior to 1999 because that is when it was distributed via the SBN). If you can access some digital FFG data that is somewhat representative for your case there is a way to configure that to work with FFMP (see Section 12.3), though not having the exact FFG data for that case can significantly change the way FFMP characterizes events.

9. After ensuring FFG data exists in your case, ensure DHR data exists for each radar to run FFMP.

e.g. `ls <your_case>/radar/xxxx/DHR/layer0/res1/level256` (where xxxx is the radar name)

10. After ensuring DHR files exist in the case, ensure the required directories exist.

e.g. `ls <your_case>/tstorm`

e.g. `ls <your_case>/radar/xxxx/tstorm` (where xxxx is the radar name)

e.g. `ls <your_case>/radar/xxxx/ffmp` (where xxxx is the radar name)

e.g. `ls <your_case>/radar/<xxxx>/ffmp/lookupFiles` (where xxx is the radar name)

11. If the directories do not exist in your case, copy a version of these directories over from a case that has them, or your local AWIPS (or create them manually as a last resort). Recreating a localization (steps 12 and 13) should update all the files needed for the particular case.

12. After ensuring the case structure is ready for FFMP, create a new localization for your case running `mainScript.csh`.

e.g. `mainScript.csh ABR ABR`

13. Once the localization is done, relocalize with the scan switch to create all the needed FFMP configuration files.

e.g. `mainScript.csh -scan ABR ABR`

14. Start up D2D and check the SCAN menu to verify the FFMP menus exist for the radars you have configured FFMP to run. If the radar isn't listed, you will need to include the desired radar in `XXX-radarsInUse.txt` and `XXX-radarsOnMenu.txt` files in your `customFiles` directory in the case (where XXX is your localization id for the case).

---

**Note:** These steps are for evaluating the setup, and not for testing data. You will need to create new FFMP data in section 12.2 to be ready to look at data.

---

15. While in D2D, select the "FF" button on the upper right, and ensure a reasonable "FFG Expiration Time" exists (e.g. 96 hours), and click "Save". If the "FFG Expiration Time" is blank, FFMP will not be able to access the FFG data needed to create FFMP data.

16. Under the "Maps" and "FFMP Basins" submenu on the D2D, select the "kxxx Small Stream Basins" map, where kxxx is the radar name. Note you must be in State or Local scale to display this map. If all the needed basin files were included in `nationalData`, and the localization was rerun, the high resolution basin maps should display.

17. Now the case should be ready to create FFMP data.

## 12.2 Creating an FFMP Tar File for WES

---

The FFMP data format changed in OB5, therefore all FFMP data created in WES 4.0 or earlier versions will need to be recreated once. FFMP data that worked with OB5.0 or later should continue to work with no further modification.

1. Once the case is prepared for FFMP creation (Section 12.1), the WES can be used to create FFMP data. The case can be in original format or DRT format when creating the data. The FFMP data is stored as tar files that are subsequently selected in the simulation entry window (e.g. 19970507\_2346.tar.gz).
2. The time of the ffmp tar file represents the end of the ffmp accumulations. For example, a 19970507\_2346.tar.gz file contains data up to 2346Z. During a simulation the FFMPprocessor will create new data each volume scan to add to the existing accumulations.

---

**Note:** To browse FFMP data in a static mode, you can create an ffmp tar file for the end of the time period of interest and review the last 32 frames of data. The D2D “Freeze time at this position” tool (selected after double clicking the clock on the bottom right of the D2D) will not work with FFMP data.

**Note:** If you are running FFMP data in a simulation you will want to create data up to the start time of the simulation. The FFMPprocessor will add to the accumulations each volume scan during the simulation.

---

3. Start up WES7.2 using “/awips/fxa/DRT/start\_simulator”, and click on the “Tools” button, followed by the “Create FFMP Dataset” button.
4. Select the case (FXA\_DATA), localization (FXA\_LOCAL\_SITE), and start time of your planned simulation (FFMP start time), and click the “OK” button. While you are waiting for FFMP data to be created, you may watch the progress of the FFMP processor in the shell window used to launch the simulator.
5. FFMP data will be created for the 96 DHR files leading up to the start of the simulation (size of the FFMP storage). It does this by feeding a subset of the DHR files to the FFMPprocessor and other decoders started during the data generation. If you have multiple radars and many DHR files, the process can take 5-10 minutes. The WES has been programmed to warn the user if some of the requirements in Section 12 are not met.

---

**Note:** It is very important not to kill the simulator while it is creating FFMP data. If you kill the simulator while the FFMP data is being created, the .....DHR/layer0/res1/level256.saved directory will need to be renamed to

“level256” after removing “level256” and “level256ffmp”. Be careful not to delete your original data directory.

---

6. Following a successful FFMP data creation, a tar file is created for each radars ffmp directory with the time stamp entered in the FFMP start time. The tar files are subsequently selected from the WES main simulation entry window, and they reside in <your\_case>/radar/xxxx/ffmptars (where xxxx is the radar).
7. Verify the FFMP data was created correctly by starting up D2D with enhanced\_case\_review and loading the FFMP table for one of the valid radars. If there is no FFMP data in your case, then review any error messages and contact WES support.
8. After the data have been verified to exist, the FFMP tar file needs to be selected in the main simulation entry window.
9. In the main “Run Simulation” entry window next to “FFMP File and Radars”, click on the “Select” button, and select a radar to be used.
10. A list of tar files should pop up. Select the desired tar file time, and click “OK”.
11. The tar file selected should appear in the main simulation entry window along with a list of radars that have tar files at that time. Selecting one tar file from one radar will grab all the available tar files from other radars. Click “OK” to proceed with the simulation startup.
12. After the links are created for the simulation start time, each radar’s ffmp directory is deleted, and a new directory is untarred into its place with the data valid up to the start time.
13. Note that most of the AWIPS decoders are also started in this step.
14. Before clicking on “Run Simulation” in the Verification Entry window, you may start D2D and view the new FFMP datasets with full FFMP table functionality.
15. If you wish to run a simulation, you may click “Run Simulation”, and you will need to restart D2D. The FFMPprocessor is then started for simulation use, and each time the DHR files are processed by WES, a notification is sent to the FFMPprocessor and other AWIPS processes to create new FFMP data and update the table as in real time.

## 12.3 Creating FFG Data for an Old Case From Recent FFG Data

**Background:** Some of your old archived data sets may not have netCDF flash flood guidance needed for use with FFMP. If you have some digital FFG data from another event that is reasonably close to the FFG for the case, you may modify the files to work with the old case.

1. Copy the FFG files into your case as outlined in Section 12.1.
2. For each file you will need to create a new FFG netCDF file with the modified time.
3. Use “ncdump” to create a text version of the file to modify. The following examples will illustrate creating a 19910426\_1200.multi file from a 19970501\_1200.multi file.  
  
e.g. `ncdump 19970501_1200.multi > tmp.txt`
4. Determine the time of the new FFG data you wish to create (e.g. 19910426\_1200).
5. Create a file, newtime.txt, with the time entered in the following format: ss mm hh dd MM YYYY where ss is the seconds, mm is minutes, hh is hour, dd is day, MM is month, and YYYY is year (e.g. 00 00 12 26 04 1991).
6. Obtain the Julian seconds from 1970 for this time by running  
`/awips/fixa/DRT/calJulSecFrom1970.linux < newtime.txt`
7. Edit the text version of the FFG data (e.g. “vi tmp.txt”) and replace the integer following “validTime =” with the new Julian seconds from 1970 time calculated in step 6, and save the file.
8. Create a new netCDF file from your modified text file using ncgen.  
  
e.g. `ncgen -o 19910426_1200.multi tmp.txt`
9. Remove all the old files just leaving the updated FFG file.
10. Start D2D, and verify the FFG data is visible, and that it loads the appropriate time.
11. Repeat the process for each FFG file in the 1hr, 3hr, and 6hr directories.
12. If the data are displaying correctly, try creating new FFMP data with Section 12.1.

---

**Note:** If the integer seconds time is entered incorrectly inside the file, the data will still display correctly, but the FFMPprocessor will fail to time match the FFG data when new data is created with WES.

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## 13 Preparing Cases for SCAN and Fixing Pre-OB5 SCAN Data

**Background:** Section 13.1 contains information on how to set up a case to work with SCAN in OB7.2/WES7.2. Section 13.2 contains information on fixing a pre-OB5 SCAN dataset.

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**Note:** OB5 SCAN data or later will continue to work in OB7.2/WES7.2 with no modifications necessary. If you have OB4 SCAN data or earlier, you will need to fix the data by following Section 13.2.

---

### 13.1 Preparing Cases for SCAN

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1. The /data/awips/<your\_casename>/tstorm directory must be copied from /data/fxa/tstorm on your real-time AWIPS or from another case from the same AWIPS build in the WES. This tstorm directory contains general information for both SCAN and FFMP. Note the data contained in this tstorm directory is much different than that in the tstorm subdirectory under each individual radar directory.
2. The SCAN SCIT data and the VIL density products are archived in numerous subdirectories under each radar's tstorm directory (e.g. /data/fxa/radar/kabr/tstorm). This data can be archived from a real-time AWIPS and played back in WES.
3. The data used in the SCAN DMD display is archived from each radar's DMD directory (e.g. /data/fxa/radar/DMD...including both the elev\* and netcdf subdirectories). The files under elev\* are the raw files, which are used in a simulation, and the netcdf files are the files used for display in D2D and SCAN.
4. After the tstorm directories and data are copied over, the localization needs to be rerun using the "-scan" switch (e.g. mainScript.csh -scan ABR ABR). Now you can view SCAN data for case review and simulations.
5. If you do not have SCAN SCIT data archived from an event, but you do have you have all the SCAN SCIT inputs (1km CZ, 1km 0.5 degree Z, STI, VIL, TVS, and M), then you can create SCAN SCIT data by running a regular WES simulation.

---

**Note:** During a simulation, SCAN SCIT files, DMD data and FFMP data are created from the raw input files for each volume scan.

---

6. If you do not have the raw DMD files (/data/awips/2006Aug24test/radar/kabr/DMD/elev\* directories), then DMD will not work in simulation mode. The DMD netcdf files are created from the raw files during a simulation.
7. If you do not have SCAN VIL density data archived from an event, but you do have the inputs (VIL, DVIL, ET, EET), then you can create the products by running a regular WES simulation.

---

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**Note:** The SCAN display filters do not work when using the D2D "Freeze time at this position" tool (selected after double clicking the clock on the bottom right of the D2D).

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## **13.2 Fixing pre-OB5 SCAN and DMD Data Sets for Use with OB7.2**

In OB5.0, SCAN data and DMD data both changed format. If you have a pre-OB5 SCAN or DMD data set that hasn't been recreated, the SCAN storm cells table will no longer load, and the DMD data will not be displayable under the radar Graphics submenu (outside of SCAN).

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**Note:** OB5, OB6 and OB7.1 data will work in OB7.2 without any modification

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The following steps detail how to make pre-OB5.0 SCAN and DMD data visible in OB7.2:

1. Convert the case containing the SCAN and/or DMD data to DRT format if it is not already in DRT format.
2. Make sure you have "<your\_case>/tstorm", and "<your\_case>/radar/kxxx/tstorm", where kxxx is your radar

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**\*Note:** These tstorm directories have much different contents. If you don't have these, then copy both of them from your real-time AWIPS.

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3. Create an OB7.2 localization using mainScript.csh with WES7.2
4. Run mainScript.csh with the "-scan" switch (e.g. `mainScript.csh -scan ABR ABR`)
5. Run a simulation for the time period of interest using WES7.2

6. Verify the new data is being created during the simulation
7. After the simulation is over, verify the new data is visible
8. Run `cp scandmd2a.csh /data/awips/<your_casename>` to permanently copy the data into the DRT format "a" files
9. Now your case contains current SCAN and DMD data, and you do not need to do these steps again unless you want a different time period.

## 14 WESSL Tutorial

**Background:** WES Scripting Language (WESSL) provides the ability to release non-awips data within a simulation using a scripting language. The simulation developer can create a new script either from scratch or by modifying an existing wessl file. WESSL 7.2 was installed in /awips/fxa/DRT/wessl, and instructions/reference materials can be found through browsing the /awips/fxa/DRT/wessl/docs/index.htm file or online at:

<http://www.wdtb.noaa.gov/tools/wes/wessl.htm>

Improvements in WESSL 7.2 include: 1) WESSL commands can now be issued in 10 second increments (:00, :10, :20, :30, :40, :50 seconds past the hour). For examples of how to run all the new WESSL7.2 functions, see the "what's new" section of the wessl documentation.

There are two parts of this tutorial. Section 14.1 illustrates some of the functionality of WESSL, including the new functionality in WES7.2, through using the 2006Aug24test test case. Section 14.2 illustrates how to create a WESSL file for a new case from an existing wessl file.

### 14.1 Create a New WESSL Script for the 2006 Aug. 24 Test Case

1. Run `/awips/fxa/DRT/wessl/wessl/builder.tcl`
2. Under the "File" menu select "Open".
3. Use the directory navigator to navigate to the /data/awips/2006Aug24test/wessl directory, and click on "abr\_8-24-06.wessl". Then click the "Open" button.
4. Under the "File" menu select "Save As". Then type in a new filename for the new WESSL script (e.g. newtest.wessl), and click on "Save".

---

**Note:** Files must be saved with the .wessl extension for them to be used in WES.

---

5. In the new WESSL script try modifying the 22:05:10 line "Simulation Has Started..." text. With the blinking cursor on the modified line, click on the "Run" button in the upper right part of the interface to preview the command.
6. In the 22:12 line change the video file from the vid2.mpg to 9jun05.mpg (with the same full path), and click on the "Run" button. Some tornado footage should appear..

7. Now try modifying the "22:06" line by changing the map latitude from "44.80" to "34.80", and delete "ABR". With the blinking cursor on the modified line, click on the "Run" button in the upper right part of the builder to preview the command. If you made both modifications, a new map will appear over the OUN CWA.
8. Remove the two lines for the "22:07" entry (including line with `-map` line and the line with `-sound`). Put a new pause in the wessl file here by entering "22:07 `-pause -text {simulation paused.}`". Click "Run", and the text should popup (have to be in a simulation to experience the pause).
9. In builder.tcl move the blinking cursor over the command line containing "22:05". Click on the "Run" button in the upper right to step through each WESSL command until you reach the last command entry with the stop time of the simulation.
10. Once you have stepped through the wessl commands, select "Save" under the "File" menu. Notice that saving the script also builds the script by generating and saving all necessary files in the `<data_case>/wessl` directory.
11. When the builder is done building and saving the script, list the new files created in your "wessl" directory (e.g. `ls /data/awips/2006Aug24test/wessl`).
12. Start a simulation in WES using the 2006Aug24test case, and select the new WESSL file to run (e.g. newtest.wessl) next to the "WESSL Script (Optional)" label in the entry box.

---

**Note:** You do not need to select any WESSL Case Flags in the WES GUI unless you want to run only parts of the WESSL script.

---

13. WESSL will launch the commands at the specified times during the simulation. The WESSL Station Log will allow the user to page through the WESSL pop ups. Building a new wessl script in a new case will be covered in the next section.

## 14.2 Create a WESSL Script for a New Case

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1. This section focuses on using the test case WESSL file as a template to build a new WESSL file for a new case. This section assumes a new localization has already been built in Section 7 or Section 9 to be able to run a simulation with wessl.
2. Make a "wessl" directory for your new WESSL source files in your data case if it doesn't exist (e.g. `mkdir /data/awips/1998Apr08/wessl`). The "wessl" directory must be all lowercase letters.
3. Run `/awips/fxa/DRT/wessl/wessl/builder.tcl`.

4. Under the "File" menu select "Open".
5. Use the directory navigator to navigate to the /data/awips/2006Aug24test/wessl directory, and click on "abr\_8-24-06.wessl". Then click the "Open" button.
6. Under the "File" menu select "Save As". Then navigate to the new "wessl" source file directory created in step 2 above (i.e. /data/awips/1998Apr08/wessl). Now type in a new filename for the new WESSL script (e.g. bmx\_4-8-98.wessl), and click on "Save".

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**Note:** Files must be saved with the .wessl extension for them to eventually be selected in WES.

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7. Modify the lines with your new times and commands.
8. Once you have stepped through the wessl commands, select "Save" under the "File" menu.
9. Look at the new files created in your "wessl" directory (e.g. ls /data/awips/1998Apr08/wessl). Start a simulation in WES, and select the new WESSL file to run (e.g. bmx\_4-8-98.wessl) next to the "WESSL Script (Optional)" label in the entry box.

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**Note:** that you do not need to select any WESSL Case Flags unless you want to run only parts of the WESSL script.

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## 15 User Adaptable Grid Product Delay File (gridconfigfile)

A file has been added to the /awips/fxa/DRT directory which allows the user to set a specific delay time that controls the visibility for each grid product (e.g. 0z NAM can be set to be visible at 0130z after setting the start time in DRT format). This file, called gridconfigfile, will allow the user to view grid products at the times they arrive in operations.

This file consists of the case-relative path of each grid product followed by a number. This number represents the time in minutes that you want the specific grid product to be delayed. To alter the delay time of a specific grid product, simply convert your case to original format, open gridconfigfile for editing, change the delay times and save. The default file for WES7.2 has a 20 minute delay for LAPS/MSAS and a 0 minute delay for all other grid products. Any product not listed in the file will receive a default delay of 0 minutes.

Once you convert to DRT format for any case, the gridconfigfile is copied into the <your\_case>/drt directory, and the b-link inventories will be created with the new delay. A pop-up message will warn you if the master gridconfigfile in the /awips/fxa/DRT directory is different from the version you specified in a case.

---

**Note:** Changes to gridconfigfile **MUST BE MADE** while the case is in original format for the changes to take effect. If you make changes while in DRT format, you must then convert your case to original format and back to DRT for the changes to take place.

---

To see the current delay times for a particular case, you can type “more <your\_case>/drt/gridconfigfile “

### Example of Changing Grid Delay Time Using gridconfigfile

Below is an example in which we change the delay time of LAPS and MSAS grid products to a delay time of 30 minutes from the current delay time of 20.

1. Convert your case to original format
2. Go to the DRT directory and open gridconfigfile for editing.

e.g. `cd /awips/fxa/DRT`

e.g. `vi gridconfigfile`

3. Change the delay times for the first two lines from 20's to 30's. Once completed, the first two lines should read as follows:

**Grid/FSL/netCDF/LAPS\_Grid/LAPS 30**

**Grid/FSL/netCDF/MSAS 30**

4. Save the changes and then convert your case back to DRT format. In a simulation of this case, your LAPS and MSAS products will now process 30 minutes after valid time.

## 16 WES Main Files: enhanced\_case\_review, start\_simulator, start\_awips and start\_GFE

**Background:** There are three main files used in running WES. The enhanced\_case\_review application was designed for static review of cases with D2D. The start\_simulator application was designed to prepare cases and run simulations. The start\_awips application was designed to start D2D in a simulation. If you are new to WES and want to gain more experience with these applications, we recommend reading the sections below and stepping through the 2006Aug24test WES test case installation verification (Section 5).

### 16.1 enhanced\_case\_review

---

In WES6.0 the enhanced\_case\_review application was updated to support text database queries. The first version of the modified start\_awips program called enhanced\_case\_review was released in WES5.0. This allowed for full functionality in reviewing FFMP and SCAN data outside of a simulation (i.e. in case review). **WarnGen will not work in enhanced\_case\_review.** For example, if you change the FFMP table "Thresh Type" from "precip" to "ratio" and select "Refresh D2D", the D2D will now update. Previously you had to run a simulation for this functionality to work. The enhanced\_case\_review works on both original and DRT format data. This script now starts up the AWIPS CommsRouter, notificationServer, TextDB\_Server Write and Read, and the Postgres postmaster, along with the D2D.

1. To launch enhanced\_case\_review, run /awips/fxa/DRT/enhanced\_case\_review, or type enhanced\_case\_review as user fxa (it is in the path).
2. Next, select the case from the listing of /data/awips, and select the localization (if only one localization exists, it will fill in the value automatically).
3. Click the **OK** button, the AWIPS D2D launcher will be started. If more than one localization exists in this case, a pull-down menu may appear with the localization.
4. Click the **Start** button to launch D2D.
5. The enhanced\_case\_review application cannot be run during a simulation because the AWIPS decoders will conflict. There are popup warning messages if you try to do this. Please use start\_awips to launch a D2D during a simulation.
6. If you would like to launch more D2D sessions, you can run another enhanced\_case\_review after the first enhanced\_case\_review has started loading D2D. The subsequent enhanced\_case\_review will only start D2D without starting more AWIPS decoders. A warning popup message will occur if you try to launch

two versions before one has started the AWIPS decoders (to prevent AWIPS decoder conflicts).

7. When enhanced\_case\_review is shut down, the decoders are killed, to prevent impacting subsequent D2D sessions or simulations. In the event that enhanced\_case\_review was shut down uncleanly and there are leftover processes, the enhanced\_case\_review and start\_simulator programs will notify the user of this bad condition, and recommend the processes be killed.

## **16.2 start\_simulator**

---

The start\_simulator application was designed to prepare cases for simulations and run simulations. To launch the simulation as user fxa, just type in "start\_simulator" at a shell prompt and hit return. The main simulator interface contains these features:

- **Log window:** Processing information is provided in the center of the main window.
- **Help menu:** Pull-down menu with background on WES and simulation instructions.
- **Exit button:** Exits start\_simulator.
- **Run Simulation button:** Select a case and run a simulation.
- **Simulation Entry window:**
  - **FXA\_DATA:** case inside /data/awips,
  - **FXA\_INGEST\_SITE:** localization id,
  - **Case Start Time:** simulation start time,
  - **Case End Time:** simulation end time,
  - **WESSL Script (optional):** wessl file inside <your\_case>/wessl
  - **WESSL Case Flags (optional):** any desired wessl case flags
  - **FFMP File and Radars:** fmp tar file created with WES
  - **GFE Directory:** GFE dataset created with WES
  - **Save Current Settings button:** saves the current Simulation Entry to a user specified filename
  - **Load Saved Settings button:** loads a saved Simulation Entry to allow easy starting of different simulations

- **OK button:** Starts the AWIPS decoders, prepares data relative to the case start time. This can take a few minutes on a large case.
- **Cancel button:** Cancels the Simulation Entry window
- **Entry Verification and Simulation Control window:** Summarizes the simulation settings once it is done preparing the case.
  - **Run Simulation:** Sets the clock back, starts the remaining AWIPS decoders, starts the selected wessl file, and starts checking for data to process every 15 seconds. After the simulation is started the follow buttons are available:
    - **Stop Simulation button:** Stops the simulation, kills the AWIPS decoders, and saves the simulation's newly created text products in the <your\_case>/saved\_textWSwork directory.
    - **Pause Simulation button:** Pauses the simulation, temporarily kills the notificationServer, and colors a crimson border around D2D and the simulation control window.
      - **Resume Simulation button:** resets the clock based on the paused time, restarts the notificationServer, and restores the crimson color to gray. Note that when you resume a simulation, your D2D time will be waiting for the simulation time to catch up to the time the simulation was resumed. To reset this cosmetic issue, just double click on the D2D clock on the lower-right part of D2D, and select "Use Current Real Time".
  - **Cancel button:** Cancels the Simulation Entry window.
- **Tools button:** WES data manipulation functions.
  - **Convert Case Data to DRT Format button:** Hides data through renaming files, and builds inventories for use in a simulation. This only needs to be done once before simulations can be run. This can take 30-60+ minutes to run depending on the machine and the case.
  - **Restore Case Data to Original Format button:** Restores files to their original names, and removes inventories used in a simulation. This only needs to be done if you would like to add data to a simulation. This is relatively fast (a few minutes)
  - **Create FFMP DataSet button:** Creates FFMP datasets that are tarred up and later selected in the simulation entry window (see Section 12). Typically this only takes a minute to create a full dataset.

- **Write Archived Text to Database:** Writes archived text data into a Postgres database (see Section 11). This is fairly quick (less than a minute).
- **Create GFE Dataset Button:** Creates a set of default GFE grids that are later to be selected in the “GFE Directory” part of the simulation entry window (see Section 17).
- **Cancel button:** Cancels the Tools window.

### **16.3 start\_awips**

---

The start\_awips application was designed to start D2D after a simulation has been started.

1. To launch start\_awips, run /awips/fxa/DRT/start\_awips, or type start\_awips as user fxa.
2. Next, select the case from the listing of /data/awips, and select the localization (if only one localization exists, it will fill in the value automatically).
3. Click the **OK** button, the AWIPS D2D launcher will be started. If more than one localization exists in this case, a pull-down menu may appear with the localization.
4. Click the **Start** button to launch D2D.

### **16.4 Start\_GFE**

---

The start\_GFE program uses the WES simulation information from a live simulation (/awips/fxa/DRT/simustatus\_history temporary file) to start GFE. GFE is started using the standard “runGFE” program installed in the case. The GFE needs the IFPServer running to be able to start. The IFPServer needs the clocks to be reset to the simulation date and the AWIPS “Grid” data to be in synchronization with the time. Therefore, you can only run start\_GFE during a simulation.

The default configuration of start\_GFE is to run “runGFE” with the practice mode flag, to allow the VTEC line to appear correctly coded. This turns the background color to the official orange practice mode background.

1. To launch start\_GFE, run /awips/fxa/DRT/start\_GFE, or just type **start\_GFE** as user fxa while a simulation is running. This may take a minute or two while the IFPServer initializes.
2. When the GFE Startup popup appears, select “fxa” as the “User”, “gfeConfig” as the “Config”, and “practice” as the “Mode”, then click the “Start” button.

## 17 GFE in WES Background Information

**GFE Install Background:** GFE is initially installed by the WES installation software in /awips/GFESuite/install. The version of GFE comes directly from the AWIPS OB7.2 release DVD, so it is intended to work with RHE4. If you have a non-baseline OS with an associated GFE version, then you may investigate replacing the appropriate files in /awips/GFESuite/install. The install directory comes from the OB7.2a\_RHE4\_GFESuite\_CORE.tgz file. The only other change we make to the install directory is to copy in the stdMAPS.tgz, stdTOPO.tgz, and stdCLIMO.tgz files, so that we can put these into the data case prior to creating new GFE data. The /awips/GFESuite/install directory is used to install GFE into each case with the Create GFE Dataset tool.

**GFE Data Creation Background:** A tool exists within WES to use the AWIPS IFPServer to create a set of GFE default grids from the standard AWIPS model grids for incorporation into a WES simulation. So to create GFE grids on your local case, you just need a WES case with AWIPS Grid data. Future development will investigate ways to archive GFE grids directly from AWIPS for replay in a simulation. The GFE datasets created in WES are later selected from the WES main simulation entry window (like the FFMP data). When the GFE grids are created, the AWIPS processes will store the hostname in your gridded dataset, so if you want to share your grids with other machines not on your network, you will need to set your hostname to localhost in the shell window that you use to launch start\_simulator from (e.g. setenv HOSTNAME localhost, then start\_simulator and create GFE grids).

After the case is converted to DRT format, the “Create GFE Dataset” tool is used in WES to create the default grids based on the case, CWA, and time entered. The first step is for WES to install GFE into the case for the given machine and CWA. The WES uses the standard “installGFE” program in the /awips/GFESuite/install directory to install GFE into the /data/awips/<your\_case>/GFESuite-case directory. The WES also makes a link from /data/fxa pointing to the data case in order for the IFPServer to find the data.

After GFE is installed, the WES makes the appropriate AWIPS data links visible and sets the system clock to the case date before starting up the IFPServer. The WES then waits for the ifplnit process to show up and then disappear before completing the grid creation. The default “Fcst” grids are saved into the /data/awips/<your\_case>/GFESuite-case/<your\_case\_GFE\_DIR>/Fcst.tar.gz file to be able to reset the Fcst grids during multiple simulations. Once the “Fcst” grids are saved, the clock is reset, and the IFPServer is killed.

A case with full AWIPS grids can take hours to run due to the inherent slowness of the ifplnit process. Once they are created, they are brought into the simulation without having to be processed again.

**GFE Customization Background:** Once you have created a GFE dataset for use with a simulation (see Section 5.5), you can customize GFE with your own AWIPS files. The GFE installation for each case resides in:

```
/data/awips/<your_case>/GFESuite-case/<your_case_GFE_DIR>
```

Keep in mind that the grids being used are from previous AWIPS Builds, so the models may have changed, and there may be some inconsistencies.

**Simulation Background:** Once the GFE data is created, the data can be selected from the WES Simulation Entry window. The “Fcst” grids are restored to the original state by deleting the Fcst directory and untarring the Fcst.tar.gz file created by the WES GFE Data Creation Tool. In the startup, the GFE’s data/databases/BASE/GRID directory is purged along with the traditional WES link manipulation. If a GFE dataset is selected, the WES will start up the IFPServer in a simulation to allow the GFE to function. The IFPServer usually takes a couple of minutes and a significant amount of CPU to start. If a GFE dataset is not selected, the IFPServer is not started, thus saving resources.

After the simulation has started, the GFE is launched using the start\_GFE program. GFE will not launch without a simulation running because it needs the IFPServer, the clock reset, and the appropriate grids visible. The start\_GFE program uses the WES simulation information from a live simulation (/awips/fxa/DRT/simustatus\_history temporary file) to assemble the path to the appropriate “runGFE” program installed in the case.

The default configuration of start\_GFE is to use “runGFE” with the practice mode flag, to allow the VTEC line to appear correctly coded in statements created with the Product Formatter. This turns the background color to the official Practice Mode orange background.

When the simulation is over, the IFPServer is shut down with the rest of the AWIPS processes. Upon exiting the simulation, the WES will copy the warnings/practice mode files to the /data/awips/<your\_case>/saved\_GFE\_PRACTICE directory with a date stamp of the current date, so you can access products after a simulation is over without having them getting deleted.

## 18 Using Multiple Machines with WES

These instructions describe a way to run a WES simulation on one machine and connect other machines as clients to the simulation. This can be useful for pairing up forecasters during simulation training. In this configuration, one machine runs the simulation (`start_simulator` and `start_awips`), and the clients just run D2D using `start_awips`. While the following “manual” instructions work, they are intended for users that are relatively comfortable with understanding WES basics and running simulations. Future versions of WES will have improved plug and play type support for running simulations multiple machines and synchronizing clocks, etc. If you are interested in running a classroom full of machines with WES, we recommend contacting [wes@infolist.nws.noaa.gov](mailto:wes@infolist.nws.noaa.gov) for more information.

In configuring multiple machines to work during a simulation, one machine needs to be set up as a server to run the simulation and AWIPS decoders. All machines will have D2D clients that look to that server. Every machine must have the same WES version installed from the WES install DVD (e.g. WES7.2).

### 18.1 Setup

---

1. Choose a machine to be a server machine, and install WES7.2 if it isn't already installed.

e.g. bobcat will be the server (your server name will likely be different)

e.g. `install-wes7.2.sh /usr1` on bobcat if it isn't already installed

---

**Note:** If you installed WES in the `/usr1` directory, and you do not have `/data` as a directory, then the client data case would be stored in `/usr1/data/awips`.

---

2. Determine the location of the case you are going to mount from the server. You might want to start with the WES test case to make sure everything is set up correctly.

e.g. `cd /data/awips` on bobcat

e.g. `pwd`

---

**Note:** In this example the `pwd` yields `/usr1/data/awips`.

---

3. Choose other machines to be client machines, and install WES7.2 on them from the release DVD (do not copy from the server machine). These machines must have different names.

e.g. `wolf` will be a client machine

e.g. `install-wes7.2.sh /usr1/client` on `wolf`

---

**Note:** If you installed WES in the `/usr1/client` directory, and you do not have `/data` as a directory, then `/data` will be a link that points to `/usr1/client/data`. This will mean your client data cases would be stored in `/usr1/client/data/awips`.

---

4. After installing WES7.2 on the client machine, change the `FXA_WARNGEN_PRODUCT_ID` variable on the client machine in `/awips/fxa/.environs.$machinename` to make it different from the server machine and any of the other client machines.

e.g. on `wolf` change `#{FXA_LOCAL_SITE}WRKW4` to `#{FXA_LOCAL_SITE}WRKW5` in `/awips/fxa/.environs.wolf`

---

**Note:** If you do not have a `/awips/fxa/.environs.$machinename` file, then you can “`cp /awips/fxa/.environs.localhost /awips/fxa/.environs.$machinename`” where `#{machinename}` is the result of “`hostname | cut -d . -f 1`”

---

5. Create the server target directory from step 2 on the client machine in preparation for exporting the case storage directory from the server.

e.g. `mkdir /usr1/data/awips` on `wolf` (from target in step 2)

---

**Note:** If this directory on the client machine already exists and has contents in it, you are going to need to move them out of the way (e.g. `mv /usr1/data/awips /usr1/client/cases`) before making the directory. If these contents are WES data cases and you want them visible on the client machine, then you can create links inside `/data/awips` that point to the new case locations (e.g. `ln -s /usr1/client/cases/2002Feb10 /data/awips/2002Feb10`).

**Note:** If `/data` is a directory (not a link) on the server machine you should consider creating a new and different directory in this step (e.g. `mkdir`

/usr1/servermount) that you will use to mount the server's data case location to the client machine in the following steps.

---

6. The system administrator will need to export the data case storage directory on the server to all client machines. This should be auto-mounted on system start-up. In the following example /usr1/data/awips on the server, bobcat, will be exported to wolf. Mounting instructions are provided below based off of an example tested by Ken Cook at the ICT NWS Office (be careful...if you haven't done this before, please have your IT do this or you could seriously mess up your machine):

### On the Server Machine

- From the KDE Desktop Menu choose, **System Settings, Server Settings, Services**. Make sure the NFS box is checked.
- As root, edit /etc/exports and add the following entry:
  - o Your\_export\_dir ip.address.of.client(rw,no\_root\_squash,no\_all\_squash)
  - o e.g. **/usr1/data/awips 129.15.59.61**(rw,no\_root\_squash,no\_all\_squash) where 129.15.59.61 is the client's (e.g. wolf's) ip address.
- As root edit /etc/hosts.allow and add the following entry:
  - o ALL: ip.address.of.client
  - o e.g. **ALL: 129.15.59.61** where 129.15.59.61 is the client's (e.g. wolf's) ip address.
- As root, run **exportfs -a** to export the file system
- As root, run **exportfs** to check if the file system is listed (i.e. exported correctly)
- As root, stop and start the NFS server:
  - o /etc/rc.d/init.d/nfs stop
  - o /etc/rc.d/init.d/nfs start

### On the Client Machine

- As root, edit /etc/fstab and add the following entry:
  - o Server\_name:Your\_export\_dir client\_dir nfs rw,auto,soft 0 0

- o e.g. `bobcat:/usr1/data/awips /usr1/data/awips nfs rw,auto,soft 0 0` where `Your_export_dir` is the same exported directory as in the “On the Server Machine” section above, and `client_dir` is the mounted directory on the client machine.

---

**Note:** If your `/data` is a directory (not a link) on the server machine, and you are exporting `/data/awips` to the client machine, then your `Your_export_dir` would be `/data/awips` and your `client_dir` would be something like `/usr1/servermount` (see step 5).

---

- As root, mount the server: `mount -a`

7. Create a symbolic link for the case under `/data/awips` on all machines if it doesn't exist.

e.g. `ln -s /usr1/data/awips/2006Aug24test /data/awips/2006Aug24test` on wolf

---

**Note:** In this example the link already existed on bobcat so nothing was required on bobcat. If the link didn't exist on bobcat, the command would need to be run on bobcat, too.

**Note:** If you linked `/data/awips` to `/usr1/servermount` (Notes in steps 5 and 6), then you would link `/usr1/servermount/2006Aug24test` to `/data/awips/2006Aug24test` on wolf.

---

8. Copy an `/awips/fixa/data/localization/nationalData/ipc.config` file from the server machine into the `localizationDataSets/XXX` directory for the case.

e.g. on bobcat `cp /awips/fixa/data/localization/nationalData/ipc.config /data/awips/2006Aug24test/localizationDataSets/ABR`

---

**Note:** You need to use the `nationalData` version of the `ipc.config` file. There are multiple versions of these files in AWIPS, and they sometimes change from build to build. If this file changes in future AWIPS builds you may need to update the `ipc.config` file when you create a new localization.

---

9. Edit the `ipc.config` in the case's `localizationDataSets/XXX` directory, and replace all “localhost” entries with the server name (or ip address). Then save the file.

e.g. replace "localhost" with "bobcat" in /data/awips/2006Aug24test/localizationDataSets/ABR/ipc.config file and save

---

**Note:** In vi this can be done using ":g/localhost/s/localhost/bobcat/" followed by ":wq!".

**Note:** Once the ipc.config file in the case has been hardwired for the server, the start\_simulator or enhanced\_case\_review applications will not work for this case when run on the client machine. If you delete this file in the localizationDataSets/XXX directory, the client will be able to run start\_simulator or enhanced\_case\_review on the client machine as AWIPS will default to using the localhost version in the awips directories as it normally does.

**Note:** Always try to run your simulations on the machine physically containing the data, or the increased disk I/O across machines will significantly slow case preparation down.

---

## 18.2 Testing

---

10. Verify the data for the case is visible from all machines. Don't run start\_simulator to run a simulation yet.

e.g. start\_awips, select 2006Aug24test, and view 0.5 Z/SRM8 radar product

11. Run a simulation on the server machine.

e.g. start\_simulator on bobcat

12. Verify that the simulation runs correctly on the server machine

e.g. start\_awips with the Text Workstation Control box checked on bobcat, verify all tilts updates, create a warning

13. After the server machine is working fine, then test to see if all tilts updates happen on the client machine. Do not try creating a warning on the client machine yet.

e.g. "start\_awips" on wolf, check all tilts updates

---

**Note:** At this time, the clock on the client machine isn't set back to the simulation, so your D2D clock will register the current date and time and not the simulation time. This will cause WarnGen on the client machine to create "future warnings" that will prevent warnings from being generated correctly on the

server machine. To prevent these problems, the clock will need to be manually reset on the client machine in the next steps.

---

14. Shut down D2D on the client machine.

e.g. `exit D2D` on wolf

15. Determine the current time on the server machine.

e.g. `date -u` on bobcat, this yields something like Thu May 01 23:46:14 UTC 1997, depending on when you run the command

16. Set the clock back on the client machine to be close to the server (the date format is MMDDHHmmYY).

e.g. `/awips/fxa/DRT/bin/date -u 0501234697`

17. Start D2D on the client machine, and test to make sure data are updating and WarnGen works.

e.g. `start_awips` with the Text Workstation Control box checked on wolf, verify all tilts, then create a warning in a separate pane.

18. When the simulation is over, manually set the clock back to current time on client machine

e.g. `date -u` on bobcat, yields something like Thu Jan 05 15:32:47 UTC 2006

e.g. `/awips/fxa/DRT/bin/date -u 0105153206` on wolf

This case is now ready for running a simulation.

### **18.3 Starting a Simulation with D2D Clients on Multiple Machines**

Running a simulation with multiple clients requires completing the “Setup” and “Testing” sections first (see above). This example will show you how to start and stop a simulation after successfully setting up the mount points.

In this example a simulation will be run on a machine named bobcat using the 2006Aug24test case that is located in /usr1/data/awips, which resides on bobcat. D2D will be running on the server machine, bobcat. D2D will also be running as a client on a machine called wolf.

1. Start up a simulation on the server machine.

e.g. `start_simulator` on bobcat

2. After the simulation has been started on the server machine, manually set the clock back on the client machine to the time on the server machine.

e.g. `date -u` on bobcat to find the current simulation time

e.g. `/awips/fxa/DRT/bin/date -u 0501234697` to set the clock back on wolf

3. Start up D2D on the server machine.

e.g. `start_awips` with the Text Workstation Control box checked on bobcat

4. Start up D2D on the client machine.

e.g. `start_awips` with the Text Workstation Control box checked on wolf

5. If the simulation is paused and resumed on the server machine, the clock reset will not register on the client machine. The clock will need to be manually reset (see step 2) on the client machine after the simulation is resumed to get the times in sync again.

6. When the simulation is over, set the clock back to the current time on the client machine.

e.g. `date -u` on bobcat to find the current time

e.g. `/awips/fxa/DRT/bin/date -u 0105153206` on wolf to restore wolf to current time

## 19 Installing Flash Plug-In for Linux Supported Web Browsers

In order to view Articulate presentations or other Flash based products in Linux, it is necessary for your web browsers to have the required plug-ins. If you do not know if your browser has the appropriate plug-ins, please follow step 4 in the example at the bottom of this page. All the files necessary for Flash plug-in installation are located on the WES7.2 install DVD (install\_flash\_player\_7\_linux.tar.gz). The Readme.txt document in this tar file also contains further documentation for the plugin installation.

The installation instructions will tell you to copy the necessary plug-in files into the plugins directory of your internet browser (i.e. /usr/lib/mozilla-1.7.10/plugins, /usr/local/netscape/plugins). The following is an example of the installation process for the Mozilla web browser:

### 19.1 Example of Flash Plug-in Installation for Mozilla Browser

---

1. Untar the plugins file from the WES7.2 install DVD into /awips/fxa/install\_flash\_player\_7\_linux if you have not already done so in the WES7.2 installation Section 4.

```
e.g. cp /media/cdrecorder/install_flash_player_7_linux.tar.gz  
/awips/fxa
```

```
e.g. tar xvfz /awips/fxa /install_flash_player_7_linux.tar.gz
```

2. Navigate to the install\_flash\_player\_7\_linux directory

```
e.g. cd /awips/fxa/install_flash_player_7_linux
```

3. Copy libflashplayer.so and flashplayer.xpt to the Mozilla plug-in folder (i.e. /usr/local/mozilla/plugins or /usr/lib/mozilla-1.7.10/plugins).

```
e.g. cp libflashplayer.so /usr/lib/mozilla-1.7.10/plugins
```

```
e.g. cp flashplayer.xpt /usr/lib/mozilla-1.7.10/plugins
```

4. Once the installation is complete the plug-in will be installed in your browser. To verify, go to the browser, click help and then click "About Plug-ins". In the Shockwave Flash row, there should be a "Yes" under the Enabled column. You may also wish to try the WES test case to make sure the articulate loads (section 4).

5. If the installation fails, then review the `/awips/fxa/install_flash_player_7_linux/Readme.txt` documentation, and contact WES support for help ([wes@infolist.nws.noaa.gov](mailto:wes@infolist.nws.noaa.gov)).

## 20 Installing Xine Video Viewing Application

WES 7.2 includes all the files necessary for viewing AVI files with the Xine video viewing application for RHEL4. Xine will be installed during WES 7.2 installation if you accept the request, however if you would like to manually install Xine, the following instructions will tell you how.

In order for Xine to work, several directories must be placed into the /usr/local directory. There are two ways to go about this. You can download a Xine tar ball and install instructions from your favorite website. The other option is to manually untar the Xine tar files located on the WES 7.2 Installation DVD. Below you will find examples for both of these install methods.

### 20.1 Manually untar the Xine files located on the WES 7.2 Install DVD

---

1. Mount the WES 7.2 Install DVD and copy the necessary files to /usr/local

e.g. `mount /media/cdrecorder/`

e.g. `cp /media/cdrecorder/xine4include.tar.gz /usr/local`

e.g. `cp /media/cdrecorder/xine4lib.tar.gz /usr/local`

e.g. `cp /media/cdrecorder/xine4man.tar.gz /usr/local`

e.g. `cp /media/cdrecorder/xine4share.tar.gz /usr/local`

e.g. `cp /media/cdrecorder/xine4bin.tar.gz /usr/local/bin`

2. Untar each of these files

e.g. `tar xvfz xine4bin.tar.gz`

e.g. `tar xvfz xine4include.tar.gz`

e.g. `tar xvfz xine4lib.tar.gz`

e.g. `tar xvfz xine4man.tar.gz`

e.g. `tar xvfz xine4share.tar.gz`

- Create Links

```
e.g. ln -s /usr/local/lib/libxine.so.1.13.0
/usr/local/lib/libxine.so
```

```
e.g. ln -s /usr/local/lib/libxine.so.1.13.0
/usr/local/lib/libxine.so.1
```

3. Add line /usr/local/lib in the file /etc/ld.so.conf
4. Run ldconfig to complete install

```
e.g. ldconfig
```

## 20.2 Download from Website and Compile

---

1. Download and untar the Xine lib tar file from your favorite site. The official site is:  
<http://xinehq.de/index.php/releases>

```
e.g. tar xvfz Xine-lib-1.1.0.tar.gz
```

2. Go to the new directory and run the compilation commands

```
e.g. cd Xine-lib-1.1.0
```

```
e.g. ./configure
```

```
e.g. make
```

```
e.g. make install
```

```
e.g. make clean
```

3. Add line /usr/local/lib in the file /etc/ld.so.conf
4. Run ldconfig

```
e.g. ldconfig
```

5. Download and untar the Xine ui tar file

```
e.g. tar xvfz Xine-ui-0.99.4.tar.gz
```

6. Go to the new directory and run the compilation commands to complete install

```
e.g. cd Xine-ui-0.99.4
```

```
e.g. ./configure
```

e.g. `make`

e.g. `make install`

e.g. `make clean`

## 21 Manual Installation of AWIPS Freeware

The following are steps to manually install the AWIPS freeware using RPM's as user root. The first step will be to uninstall Postgres and Perl using "rpm". Then all the AWIPS-provided freeware will be updated using "rpm".

1. Log in as root.
2. Uninstall Postgres. Change directory to /usr/local/postgres, and run the following command to uninstall for each postgres file in order:

```
# rpm -e <filename>
```

- postgresql-contrib
- postgresql-devel
- postgresql-docs
- postgresql-jdbc
- postgresql-pl
- postgresql-python
- postgresql-tcl
- postgresql-test
- postgresql-server
- postgresql
- postgresql-libs

---

**Note:** You may encounter failed dependencies in uninstalling Postgres. If this happens, you will need to uninstall the failed dependencies first.

---

3. Uninstall Perl. Change directory to /usr/local/perl, and run the following command to uninstall for each perl file in order:

```
# rpm -e <filename>
```

- perl-AppConfig

- perl-ChartDirector
- perl-DBD-Pg
- perl-DBI
- perl-netcdf
- perl-SignalHandler
- perl-tk
- perl-XML-Generator
- perl-XML-Simple

---

---

**Note:** You may encounter failed dependencies in uninstalling Perl. If this happens, you will need to uninstall the failed dependencies first.

---

---

4. The next step will be to update the freeware using "rpm". Run the commands below (steps 5-7) for each RPM file separately so that you know why the RPM fails to install for that file and what dependent RPM it needs. If you try to run as `rpm -Uhv *.rpm` for all the RPM files in the directory, then if one RPM file fails to install because of dependencies, it will exit out of the command without installing the subsequent RPM's.
5. Change directory to `/usr/local/usr-local` and run the following command for each RPM file in the `/usr/local/usr-local` directory:  
  
e.g. `rpm -Uhv <filename>.rpm`
6. Change directory to `/usr/local/postgres` and run the following command for each postgres RPM file in the `/usr/local/postgres` directory:  
  
e.g. `rpm -Uhv <filename>.rpm`
7. Change directory to `/usr/local/perl` and run the following command for each perl RPM file in the `/usr/local/perl` directory:  
  
e.g. `rpm -Uhv <filename>.rpm`

## 22 Appendix A

Example of files in WEScustomization subdirectories for a localization with the id XXX are given below. Note that your file list will vary due to local differences in customization practices.

### 22.1 /awips/fxa/WEScustomization/global-LLL-files

XXX-acqPatternAddOns.txt XXX-  
backgroundMenus.txt XXX-  
commonLdadMenus.txt XXX-  
localDataKeys.txt XXX-  
localDepictKeys.txt XXX-  
localProductButtons.txt XXX-  
radarDataMenus.template XXX-  
sls\_county\_block.preTemplate XXX-  
wwaConfig.template XXX-  
wwaDefaults.txt XXX-  
wwa\_ffw.preWWA XXX-  
wwa\_fflood\_sta.preWWA XXX-  
wwa\_svr2.preWWA XXX-  
wwa\_svr.preWWA XXX-  
wwa\_svrwx\_sta.preWWA XXX-  
wwa\_tor.preWWA XXX-  
wwa\_wrksls.preWWA XXX-  
wwa\_wrksls.wwaProd

---

**Note:** You should not have files in this directory (with or without XXX- prefixes) that have local geographic information in them like XXX-radarsInUse.txt, radarsInUse.txt, XXXradarsOnMenu.txt, XXX-mainConfig.txt, XXX-dialRadars.txt, XXX-mosaicInfo.txt, etc.

---

## **22.2 /awips/fxa/WEScustomization/XXX**

---

dialRadars.txt

XXX-acqPatternAddOns.txt

XXX-commonLdadMenus.txt

XXX-commonLdadMenus.txt.bad

XXX-dialRadars.txt XXX-eta12.sup

XXX-hydroSiteConfig.txt

XXX-mainConfig.txt

XXX-portInfo.txt

XXX-pupld.txt

XXX-radarDataMenus.template

XXX-radarsInUse.txt

XXX-radarsOnMenu.txt

XXX-spotters.goodness XXX-wwaConfig.template XXX-wwaConfig.txt XXX-wwa\_counties.master XXX-wwa\_counties.patch XXX-wwa\_zones.master XXX-wwa\_zones.patch

---

**Note:** Because this directory is for your local CWA (XXX in this example), and it is not shared with other localizations, you may have files in this XXX directory that have local geographic information with or without the XXX- prefix like radarsInUse.txt, XXX-radarsInUse.txt, radarsOnMenu.txt, mainConfig.txt, dialRadars.txt, mosaicInfo.txt, etc.

---

## **22.3 /awips/fxa/WEScustomization/customFiles**

---

activeGridSources.txt  
arrowStyle.rules  
browserFieldMenu.txt  
contourStyle.rules  
eta12.cdl  
eta12.sup  
gridImageStyle.rules  
gridPlaneTable.txt  
iconStyle.rules  
LocalCitiesInfo.txt  
localGridSourceTable.txt  
MTR.goodness MTR.primary  
XXX-backgroundMenus.txt  
XXX-dialRadars.txt  
XXX-localDataKeys.txt  
XXX-localDepictKeys.txt  
XXX-localProductButtons.txt  
XXX-mainConfig.txt  
XXX-mosaicInfo.txt XXX-radarsInUse.txt  
XXX-radarsOnMenu.txt  
XXX-sls\_county\_block.preTemplate  
XXX-wwa\_cem.preWWA  
XXX-wwa\_dam\_break.preWWA  
XXX-wwaDefaults.txt

XXX-wwa\_ffw.preWWA  
XXX-wwa\_fflood\_sta.preWWA  
XXX-wwa\_svr2.preWWA  
XXX-wwa\_svr.preWWA  
XXX-wwa\_svrwx\_sta.preWWA  
XXX-wwa\_tor.preWWA  
XXX-wwa\_wrksls.preWWA  
XXX-wwa\_wrksls.wwaProd  
radarDataMenus.template  
radarDepictKeys.template  
radarProductButtonInfo.template  
SiteChangesLog  
virtualFieldTable.txt  
WWA\_aircraft.preWWA WWA\_alert1.preWWA  
WWA\_alert2.preWWA  
WWA\_blizzard\_wrn.preWWA  
WWA\_blodust\_adv.preWWA  
WWA\_blodust\_wrn.preWWA  
WWA\_blosnow\_adv.preWWA  
WWA\_coast\_fld\_stmt.preWWA  
WWA\_coast\_fld\_wat.preWWA  
WWA\_coast\_fld\_wrn.preWWA  
WWA\_esf.preWWA  
WWA\_excheat\_wrn.preWWA  
WWA\_extheat\_wat.preWWA

WWA\_extheat\_wrn.preWWA  
WWA\_ffld\_wat.preWWA  
WWA\_ffld\_wrn.preWWA  
WWA\_ffs.preWWA  
WWA\_flood\_wat.preWWA  
WWA\_flood\_wrn.preWWA  
WWA\_fog\_adv.preWWA  
WWA\_freeze\_adv.preWWA  
WWA\_freeze\_wrn.preWWA  
WWA\_frost\_adv.preWWA  
WWA\_frost\_wrn.preWWA  
WWA\_frzdrzl\_adv.preWWA  
WWA\_frzrain\_adv.preWWA  
WWA\_frzrain\_wrn.preWWA  
WWA\_hazard\_outlk.preWWA  
WWA\_heat\_adv.preWWA  
WWA\_heat\_outlook.preWWA  
WWA\_hiwind\_wat.preWWA  
WWA\_hiwind\_wrn.preWWA  
WWA\_hurricane\_wat.preWWA  
WWA\_hurricane\_wrn.preWWA WWA\_hvysnow\_wrn.preWWA  
WWA\_icestrm\_adv.preWWA  
WWA\_icestrm\_wrn.preWWA  
WWA\_mws.preWWA  
WWA\_now.preWWA WWA\_npw.preWWA WWA\_pns.preWWA WWA\_pub\_info.preWWA  
WWA\_rec\_evt.preWWA WWA\_redflag\_wat.preWWA WWA\_redflag\_wrn.preWWA

WWA\_severe\_outlook.preWWA WWA\_short.preWWA WWA\_slit\_adv.preWWA  
WWA\_slit\_wrn.preWWA WWA\_smoke\_adv.preWWA WWA\_snow\_adv.preWWA  
WWA\_specialstmt.preWWA WWA\_svrstmt.preWWA WWA\_svrt\_wat\_sls.preWWA  
WWA\_svrt\_wat\_wcn.preWWA WWA\_tor\_wat\_sls.preWWA WWA\_tor\_wat\_wcn.preWWA  
WWA\_tropstorm\_wat.preWWA WWA\_tropstorm\_wrn.preWWA  
wwa\_urbssflood\_adv.preWWA WWA\_volash\_adv.preWWA WWA\_volash\_wrn.preWWA  
WWA\_wcn.preWWA WWA\_wind\_adv.preWWA WWA\_wintstrm\_wat.preWWA  
WWA\_wintstrm\_wrn.preWWA WWA\_winwea\_adv.preWWA  
WWA\_wndchil\_adv.preWWA WWA\_wndchil\_wrn.preWWA WWA\_wsr88d.preWWA  
WWA\_wsw.preWWA WWA\_ww\_outlk.preWWA

---

**Note:** For files in the customFiles directory without the XXX- prefix you should not have files that contain local geographic information in them like radarsInUse.txt, radarsOnMenu.txt, mainConfig.txt, dialRadars.txt, mosaicInfo.txt, etc.

---

## **22.4 /awips/fxa/WEScustomization/mainConfig**

genericmainConfig.txt (with the following entries inside the genericmainConfig.txt file):

@@@RADAR\_Z 1000

@@@RADAR\_V 1002

@@@RADAR\_8 1018