

# Weather Event Simulator Version 4.0

## WES4.0 Installation

Enclosed you will find a WES4.0 install CD. To install WES4.0, please consult the INSTALL\_WES4.0.pdf file on the install CD. All WFOs, including those who were WES4.0 beta test sites, are recommended to install WES4.0.

## What's New in WES4.0

WES4.0 contains a number of new features and fixes including:

1. **AWIPS OB4.0:** Two real-time OB4.0 bugs were fixed in this version of AWIPS, including the all tilts hi res product update problem and the FFMP table failing to load for select sites. Note that starting with WES3.3, the name of the WES release has been changed to reflect the version of AWIPS included.

2. **DMD:** Digital Mesocyclone Detection product new with OB4.

**Data playback:** -To display DMD data you will need to archive netcdf files stored under the <radar\_name>/DMD/netcdf directory for each radar

**Simulation:** To incorporate DMD data in a simulation you need to archive the netcdf files under DMD/netcdf, and the "raw" files that are stored under the <radar\_name>/DMD/elev\* and <radar\_name>/DMD/current directories.

3. **MD:** Mesocyclone Detection product new with OB4

**Data Playback and Simulation:** The MD product needs to be archived from the <radar\_name>/MD directory.

4. **TRU:** Tornado Rapid Update product new with OB4.

**Data Playback and Simulation:** The TRU product needs to be archived from the <radar\_name>/TRU/current and <radar\_name>/TRU/elev\* directories.

5. **SCAN:** WES4.0 supports the SCAN SCIT table.

**Data Playback:** To display SCAN SCIT table data requires archiving all data in the <your\_case>/radar/<your\_radar>/tstorm directory including the data in all the subdirectories under tstorm. SCAN also requires the

configuration files under <your\_case>/tstorm that get created in the localization process.

**Simulation:** For SCAN to run in simulation mode you need to archive all the inputs to SCAN. These are 1km CZ, 1km 0.5 degree Z, STI, VIL, TVS, and M.

6. **FFMP:** FFMP data creation now processes 96 files, consistent with the inventory in OB4.

### What Was Recently Released in WES3.3 (for sites who skipped WES3.3)

1. **Updated NOAA1 Server AWIPS files:** The AWIPS installed with WES also contains updated shapefiles and other NOAA1 Server files.
2. **Fix for OB3:** Changes in AWIPS OB3 effectively broke main components of the WES (most notably the radar base products). Workarounds have been developed for all the problems, and the WES software will detect and fix any pre-OB3 cases. The WES will prompt you to remove any manual links you may have created to work around the problem of displaying OB3 hi resolution radar products with the OB2.1 in the previous version of the WES. Radar base products for both new and old archived cases will work with WES.
3. **Improved Performance:** Improvements to the WES software have significantly reduced the time to convert to DRT format, set the start time, and restore to original format. The FFMP data creation time has also been shortened by only processing 84 DHR files from the time entered (approximately the FFMP buffer) rather than all the DHR files before the time entered.
4. **Pacific Radars Bug Fix:** WES has been modified to fix a bug in handling Pacific radars in simulation mode.
5. **FFMP Bug Fixes:** FFMP processing has been fixed in WES to handle multiple radars with volume scans at the same time. A second bug has been fixed for WES failing to untar an FFMP dataset when “future FFMP data” exists (PC’s system clock out of date before running a simulation). Also, the FFMPprocessor will properly handle DHR files when the gauge bias is activated, so the accumulations will not be reset to zero.
6. **WESSL:** WESSL has been modified to include new player buttons on the station log, and other small additions.
7. **Bell:** The WES now sounds an audible bell when it is done converting to DRT format or setting the simulation start time.

## WES4.0 Post Install

As with all major WES releases, new localizations need to be built for older cases to display with the OB4.0 in WES4.0. For more information on this, see the WES4.0 installation instructions.

## WES4.0 Known Problems

**FFMP:** The FFMP directory structure changed in OB4, which will cause FFMP to fail on old data sets. So all FFMP data sets created with WES before WES4.0 will require the files in each radar's "ffmp" directory to be copied to a "ffmp/lookupFiles" subdirectory, followed by relocalizing with the scan switch:

```
e.g. "mkdir /data/awips/1997May01/radar/ktlx/ffmp/lookupFiles"  
      "cp /data/awips/1997May01/radar/ktlx/ffmp/*  
/data/awips/1997May01/radar/ktlx/ffmp/lookupFiles"  
      "mainScript.csh -scan OUN OUN"
```

Any FFMP tar files created prior to WES4.0 will need to be recreated in one of two ways:

**Solution 1:** Start with an OB4.0 localization. Apply the above lookupFiles directory fix. Delete the FFMP tar files under <radar\_name>/ffmptars and use the FFMP data creation tool with WES4.0 (lengthy way).

**Solution 2:** Manually untar each FFMP tar file into the "ffmp" directory (e.g. "cd /data/awips/1997May01/radar/ktlx/ffmp" and "tar xvfz ffmptars/ffmp19970501\_2346.tar.gz"). Apply the above lookupFiles directory fix. Then tar and gzip the "ffmp" directory, giving it the original tar file name (e.g. "tar cvfz ffmp19970501\_2346.tar.gz ffmp").

**NOAA1 Files:** An update to the NOAA1 Server files were included with the OB3.3 AWIPS. The AWIPS PIL changes with the most recent files are creating more WarnGen localization problems, such as some warning polygons not being displayable after creating warnings for some PILS at certain WFOs. Modifying the CCC and XXX variables in the site specific mainConfig.txt can help some of these problems, however any such problems should be reported to the soo\_wes list (soo\_wes@comet.ucar.edu).

## WES5.0 Development

The next WES release, WES5.0, is planned to shortly follow the release of AWIPS OB5.0.

## Questions

Questions about WES4.0 installation should be sent to the soo\_wes mailing list ([soo\\_wes@comet.ucar.edu](mailto:soo_wes@comet.ucar.edu)) or Robert Rozumalski at the Forecast Decision Training Branch ([rozumal@ucar.edu](mailto:rozumal@ucar.edu)).