

# AWIPS Build 4.3 D2D software release notes

These are changes from Build 4.2.

*Note:* These are working notes on FSL's part of the Build 4.3 work. Some items may be modified or removed before Build 4.3 hits the field. Official Release Notes will be posted at the NWS AWIPS site once the field release is ready.

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## Infrastructure

- The mainScript.csh localization script now warns the user when a change in the customization environment variables may result in an internally inconsistent localization.
- The localization process is now more efficient in that it avoids performing some operations by recognizing that all files are up to date.
- The clip area of grids (mesoEta) can now be adjusted by modifying the CDL file, rather than the grid source table. The latter now records the dimensions of the ingest grid.
- Support for adding models to the system is improved. By adding a CDL and an entry in the gridSourceTable, family graphics will be defined and the grids will be available in the Volume Browser.
- Comparison families are now set up in a control file, localization/nationalData/comparisonFields.txt.
- Default radar display styles can now be overridden by placing entries in radarImageStyleInfo.template.
- Localization will now include any buoys, RAOBs, and profilers that are in the station info files, even if they are not in goodness files. (Previously, this applied only to METARs.)
- The LDAD triggers template has been modified to allow inclusion of additional products. Previously, most items included the same string for CCC and XXX; now, these can differ.
- LDAD hydro plots now come out of netCDF files, instead of plot files. (The latter are eliminated.) This will provide more flexibility in plotting in Build 5.0 and later.
- Multiple missing flags can now be recognized in LDAD data files. The flags are listed in the .desc file for the dataset.

## Graphics/image workstation

### New features

- It's now possible to display cross section streamlines, where the wind is projected onto the section.
- Global AVN and UKMO grids are now available. Pending addition of data to the SBN datastream, NOGAPS model grids will be available.

- A new hurricane tracks product is available in the Watch/Warning area of the Surface menu. It reads TCM products.
- A new load mode, No Backfill, is added below Valid time seq. This is more restrictive than Latest, in that it will not load any previous-run analyses, as do Latest and Valid time seq.
- A new interactive mode has been added to baselines and points. There are two methods of using them:
  - With baselines or points active, click with button 3, and a vertex will snap to your location. The system chooses a point that has not been recently used. If you're working with a baseline, then a second button-3 click will position a second vertex, etc.
  - If you set the Volume Browser for Line D, for example, then a button-3 click will snap baseline D to your location (unless you've just used line D to display a section, in which case it is assumed that you might want to reuse that line, so another, not-recently-used line will be selected).  
**Note:** Testing at FSL suggests that this feature does not work in the beta release. It may have been "lost in transit."
- For National Centers use, a new facility to allow selection of radar by clicking on a map has been developed. This allows NCs to pick a radar and use a generic menu, rather than having to have menus for all radars "somewhere" on the screen. A prototype of this is being tested, but will not be in the general 4.3 release.

## Improvements

- Five additional plan-view profiler plots are included on the Upper Air menu, that show data at the surface and 500 m, 750 m, 1000 m, 1250 m, and 1500 m AGL.
- Declutter of the profiler perspective is handled better during zoom.
- Tracking objects such as distance/speed are now initialized at the center of the screen.
- A new marine locations map background is available.
- Volume Browser:
  - Accommodation is made to allow extension of theta levels below 280K. Levels down to 250K are now possible (though not automatically available).
  - Missing data will be noted in cross sections by leaving gaps where levels are missing.
  - Previously, all data points for RAOB or profiler soundings were forced to model levels. This is no longer true, so these soundings correctly represent the observations.
  - NGM and Eta 6- and 12-hour precip fields are now handled more clearly.
  - New fields include geostrophic vorticity on the Basic menu and vertical circulation and ageostrophic vertical circulation on cross section basic. Fields removed include cloud base, cloud top, icing potential, TKE, and section normal wind.
- Radar items:
  - The menu now includes USRA (user definable total precip).

- Radar cross-section requests now display the az/ran, and also include a selector to choose 3-bit or 4-bit data. Further, the new interactive baselines capability makes it easier to set up the section.
  - There's a new color table for the CFC product.
  - The GSM is displayed in the radar status bar only if information has changed from the previous GSM.
  - Alert Area Request now includes Clear and Revert options.
- Radar archive:
  - When you enable continuous store mode on the radar archive, you get immediate feedback. (Previously, it took up to two minutes for the button to indicate continuous store was invoked.)
  - The "View Media" button in the archive restore list now shows information on all tapes (name and time range only for unloaded tapes).
  - If an old archive tape is loaded, a general info message will be displayed (bottom of the screen) indicating that the restore is in progress. This can take as much as an hour. Other archive messages are also now displayed, as well.
- WarnGen items:
  - The default "line of storms" now has two vertices. The line of storms wording is improved, and also is now controlled by the templates.  
Note that the default wording describes only the two end points, regardless of how many vertices are used. If you desire to include mention of all points in the text, change the template as follows:  
[ 2799 , ~TO~ ] [ -401 ]  
needs to be replaced with  
[ -2199 , ~TO~ ] [ 1 ]
  - Time zone is now optional in time strings.
  - Pathcast will mention the county name if no cities are in the storm path.
  - Distance units (default is miles) can be set in the templates.
  - Up to 9 products are now allowed in the top-level menu (former limit was 3).
  - You can now generate WRKSLS from the WarnGen interface. (Unfortunately, an error in the template results in the wrong map being displayed. You can just display the counties map manually.)
- Family graphics are now automatically set up. Thus, there will be more entries on the Volume menu. Comparison families for 500 hPa heights and MSL pressure (only) are also constructed, using data from all available models. In these, the model which goes farthest out in time (e.g., the MRF on larger scales), goes in overlay 1, then others match to it.
- Product Maker items:
  - The longitude list has been expanded west to 160 W.
- LDAD plots will now merge reports with the same time stamp containing different weather elements.
- Labeling of Redbook graphics has been improved. Better logic is used to place label strings at upper left, vice within the graphic. (The former remain fixed with zoom/pan operations.)
- The skew-T parameter table has been rearranged to be more logically laid out.
- The RAOB menus have been reorganized. Within sections, they are now all alphabetized by station ID. Also, Mexico and Atlantic are split into separate submenus.

## Bug fixes

- In the skew-T code, morning soundings (06-18Z) mix a 50 hPa layer to get a representative dew point for lifting with the forecast max temperature, and evening soundings lift the reported surface temperature and dewpoint. Previously, the rules for dew point were inadvertently reversed, so a 12Z sounding used reported dew point and 00Z mixed the layer.
- From the legend pop-up, you can now individually magnify the VR shear (and other extensions) overlay. Previously, the only way to modify the size of extensions graphics was as part of a global magnify.
- Time series of negatively-scaled data (such as omega) now display.
- On mercator-projection Redbook graphics, bogus lines no longer traverse the screen.
- Previously, one row and one column of the RUC were being discarded on ingest. The grid dimensions have been corrected.
- On occasion, coordinates did not appear in WarnGen messages immediately after pressing Redo Box. Now fixed.
- Digital Hybrid Scan Reflectivity is now properly referred to as DHR, not DHS.
- The RMR server and LDAD scheduler now save state on exit. This means that requests are not lost from the queue in the case of a DS failover.
- High-resolution wave height and last-hour peak gust are now processed by the maritime decoder.
- In 4.2, some radar images generated very large printer files that filled up buffer space and caused printing to fail or even a crash of the workstation. Printed resolution of images is now limited to prevent this problem.
- The map backgrounds menu once again responds to scale changes. That is, selectors for maps that are not available on a given scale are dimmed.
- Missing dew point in an AUTO METAR observation no longer results in a failure to plot the temperature. This was a routine problem at several Canadian sites, and also for many winter Alaskan obs.

## Remaining bugs

- The default load mode (Valid Time Sequence or Latest Model Run) is restored after a swap, instead of whatever mode you had set when that information was in the large pane.
- Once you're in 4-panel mode, you stay there until explicitly **Clearing** the screen. If you select products on a different scale, you'll get the same thing loaded in each panel.
- Samples on skewT charts include a degree sign in front of K.
- If you turn lat/lon readout on, then bring up a skewT and sample it, you'll get lat/lon info for the previously displayed map (in addition to the chart information that you want). The pop-up correctly does not include the lat/lon toggle button, so you can't turn it off.
- Sounding plots are computing bad wet-bulb zero heights near the surface when there should be no wet-bulb zero crossing.
- The Product Maker provides access to satellite images only on the Northern Hemisphere, CONUS, and Regional scales.
- If you select MSLP as the field in the Product Maker, you must select a(ny) pressure level, in order to display it.

- When as1 fails over to as2, you see a red banner that tells you so, and says that you may need to restart in order to continue to get auto update and product time updates on the menus. In fact, this is not necessarily the case. To minimize the disruption for restarts, you should monitor radar or other frequently-updated products to see if you are getting notification of new products (display or menu update). Only if not should you restart the workstation.
- A torn-away Product Maker Source menu does not respond to scale changes. This can lead to one selecting a model source that is invalid for the scale.
- This is not really a bug, but the way the alert area request application works may be a little confusing.

The alert area request can display/edit only two areas at a time, one Area 1 and one Area 2. They can be for the same radar or, for those sites that have more than one dedicated connection, for different radars. For example, you can use Area 1 for radar A and Area 2 for radar B. However, if you start with Area 1 for radar A and then try to display/edit Area 1 for radar B it won't work; you must first clear the display and select another radar if you want to display/edit another Area 1.

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## **Text workstation**

### **New features**

- After loading a product and clicking in the display window, you can use the left and right arrow keys to go to previous and later versions.

### **Improvements**

- In the SLS product, UGC codes no longer appear at the top, but rather only in each section.
- When you click on the (now somewhat smaller) alarm bell, the Text Alarm Queue window now comes up in a fixed location on the left side of the display. Then, when you click on a product to display, the Alarm Display Window opens at a fixed location to the right of the queue window. Thus, the queue is no longer obscured by the display, so you can make other selections without moving windows.

### **Bug fixes**

- Now, when you add a product to the alarm/alert list, the first receipt of the product will trigger the alarm. (Previously, you had to click twice on "Save and Exit" or wait for the second arrival of the product.)

## New or remaining bugs

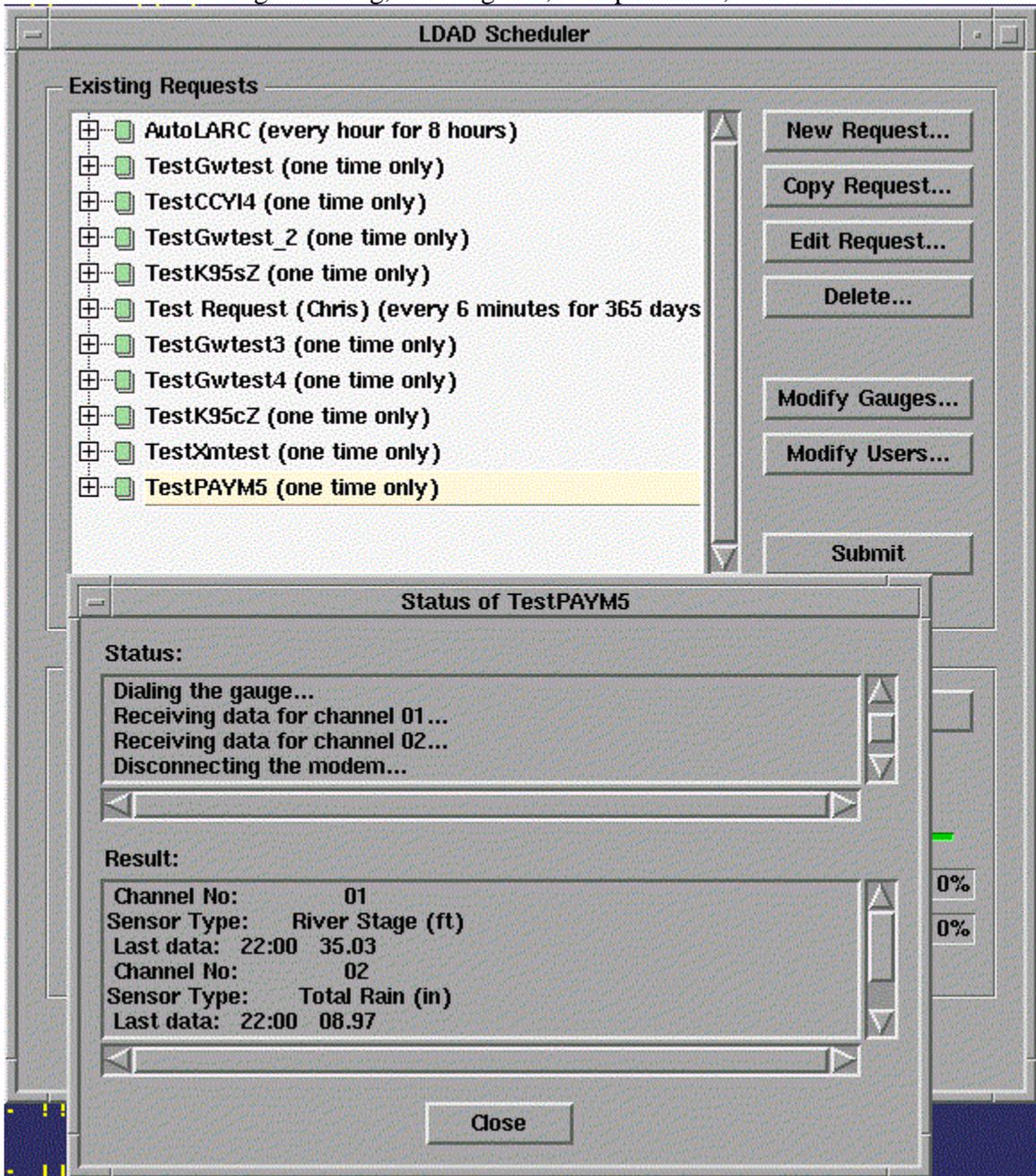
- The WarnGen window occasionally doesn't pop up automatically. Workaround: Request WRKWGx from any window. (The warning expiration reminder won't work in this case.)
  - The text subsystem still uses 3-character station IDs. As a result, the Help function in the browser and the button-2 popup station ID info on METAR messages can't distinguish between Kxxx and Pxxx. Usually, both are shown, leaving it to the user to figure out which one applies.
  - The text database distinguishes products by length. "Long" products (> 2000 bytes) are stored in a separate part of the database, and must be defined as such; if a product exceeds the limit, but is not specified on the list of long categories, it will be truncated. Your AWIPS site manager can move products to the long-products storage area.
  - Like many other products, pilot reports come in a collective and are stored under the site ID instead of your local CCC. Thus, a pilot report referenced to DHN would be stored as BHMPIRDHN. Some erroneously get stored by 2-letter state ID under your local CCC, e.g., PIRAK. Most of the latter are duplicated in the site-ID style.
  - The "ss.NNN" construct does not work.
  - To effectively remove an item from the Alarm/Alert list, it's necessary to click "Product List" after "Save and Exit."
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## LDAD

### Improvements

- The old LDAD xmain GUI ("LDAD DB Maintenance...") has been retired. All of those maintenance functions have now been added to the LDAD collection/dissemination GUI.
- LDAD monitor scripts now respond to changes in configuration files. Previously, if you modified acquisition or dissemination product lists or time-outs, you had to restart the monitors or wait for the nightly restart to see the changes.
- On the acquisition and dissemination monitors, a "file not found" message is now accompanied by a blue question mark, similar to the D2D data monitor. (However, these are not reflected in the counts on the summary panel in the main monitor page.)
- As illustrated below, when you interrogate a LARC gauge via the LDAD Scheduler, the data will be displayed in a window that pops from the Scheduler interface. This window

also includes a running status log, showing dial, receipt of data, and disconnect.



## Bug fixes

- A bug in the timeliness check for LDAD datasets has been corrected. Previously, many datasets showed green on the data acquisition and dissemination monitors, when they were actually late.