

# AWIPS Build 5.0 D2D software release notes

These are changes from Build 4.3.

*Note:* These are working notes on FSL's part of the Build 5.0 work. Some items may be modified or removed before Build 5.0 hits the field. Official Release Notes will be posted at the NWS AWIPS site once the field release is ready.

---

---

## Infrastructure

- The volume browser now accommodates data sources using more than one MSL pressure reduction method.
- Most point data have been converted to storing in netCDF. Plotting now uses a technique called [Adaptive Plan View Plotting](#). Station plot layouts are controlled by so-called design files; you will notice some slight differences in plot appearance. This approach allows local control over station models in data plots. Data access from netCDF also accommodates sampling of all datasets; samples now come from the netCDF files, not the text database. For example, LDAD plots can now be sampled to view the CSV report for each station.
- Raob data are now stored in netCDF, thus making them available for local applications use.
- Localization now automatically builds depictor tables used for optimizing high-res radar zoom. The high-res zoom tables are much more efficient than in Build 4.3. Four-panel radar displays will always use high-res zoom.
- MSAS first guess is now drawn from the Eta instead of the NGM. The obs time window is broadened to allow for the ingest of more Mexican and mesonet obs. Also, Great Lakes marine obs with missing elevation are assigned a reasonable elevation value.

## Graphics/image workstation

### New features

- A new application, imageMaker, allows you to generate GIF representations of graphics. The application runs in the background, and is not started from the D2D menu. See the [imageMaker write-up](#) for instructions on its use.
- Another application allows you to move the LAPS analysis area, for example, to accommodate various weather regimes. You start this by selecting LAPS Tools... from the Tools menu.
- Several new tropical storm graphics are on the Surface menu. These include position updates from TCE products, guidance from CHG products, and strike probabilities from SPF products. (The hurricane suite is now in a pull-right (cascading) menu.)

- A new item on the Tools menu, Az/Ran Overlay, puts up a radial overlay that you can position where you wish. The initial center is at the Home location, wherever it might be.
- Non-FSL work that affects the UI:
  - A new SCAN pull-down menu is added between Radar and Maps, containing various SCAN products. These include storm cell ID; QPF in various categories; SCTI; the FFMP basin table; current, 3-hr, and 6-hr precip accumulations; and 1-, 3-, and 6-hr FFMP flash flood guidance. Also there are 1-, 3-, and 6-hr FFMP precip - FFG difference and precip:FFG ratio on grids, counties, and basins.
  - Two new buttons on the tool bar are used for SCAN/FFMP monitoring. The buttons, for flash flood and severe storms, change color to alert you to significant radar-detected events. If you place the pointer over the button, a "tool tip" popup shows the maximum index over the CWA. The SCTI tip says what the index means, and the FFG tip says which type (precip or ratio) is being described.

## Improvements

- Additional products are available on the Surface->MSAS menu:
  - **Analyses:** RUC/MSAS MSLP, altimeter setting, theta advection, and theta-e advection
  - **Observations:** NWS MSLP, MSAS MSLP, altimeter, pressure change, wind, theta, dewpoint, dewpoint depression. These are paired products - observations and QC plots overlaid.
- SHEF-encoded MSAS QC (QCMS) messages are stored.
- The hurricane track plotter has been split into several products. To improve speed of display, separate selectors are now used for Atlantic, Eastern Pacific, and Western Pacific. In addition, displays of individual storms are available, which include wind and seas radii on an hourly basis.
- The maritime decoder now stores station pressure and swell direction, period, and height in the netCDF files. They are not displayed in the standard buoy plot, but can be seen by creating an appropriate design file.
- A new MSL-ceiling/visibility plot is on the menu, in addition to the previous AGL version.
- These new color tables are added to the standard menu: gray scale water vapor, SCAN CWA Threat Index, Lifted Index, Precip Water, Skin Temp, Cloud Top Pressure, FFMP Difference, FFMP FFG, FFMP Ratio, FFMP Accumulation, LAMP QPF Best Category, and LAMP Gridded Data.
- Numerous additional Redbook graphics are added to the NCEP Graphics menu. They include
  - Day 6-7 fronts
  - Day 6-7 temp/PoP
  - 30-day temp anomaly
  - 90-day seasonal temp outlook
  - Marine is now a submenu, and has added
    - dense fog
    - freezing spray
    - west Atlantic fronts/pressure

- north Atlantic sfc, fronts/pressure, wind/wave
    - east Pacific fronts/pressure
    - north Pacific sfc, fronts/pressure, wind/wave
  - CPC threats charts are reorganized, and several are added:
    - day 3-7 Heat Index charts
    - day 6-10 Heat Index charts
    - day 8-14 Heat Index charts
  - a new Tropical Analysis submenu is added, including
    - Tropical Sfc Analysis
    - Atl 850MB Wind Anal
    - Atl 200MB Wind Anal
    - Atl Deep Layer Mean Cir
    - Atl Winds/Shear Anal
    - Eastern Pac Wind/Seas
    - Pac Deep Layer Mean Cir
    - Pac Winds/Shear Anal
    - Caribbean Wind/Seas Fcst
  - 30 day precip anomaly
  - 90 day seasonal precip outlook
- New under Satellite is this pull-right menu:
  - 
  - GOES Sounder Derived Product Imagery
  - Lifted Index
  - Total Precip Water
  - Cloud Top Pressure
  - Skin Temperature
- Volume Browser:
  - New gridsets include SeaIce and GWW. RUC80/RUC40 (depending on scale) replace RUC. A new Pacific region (grid 225) AVN dataset is also supported.
  - The forecast range for the mesoEta is extended from 33 to 48 hours.
  - Second MSLP fields are included for RUC and Eta. RUC also now includes max theta-e, equilibrium level, and gust speed.
  - To accommodate additions to the Sfc/2D menu, several pull-right menus have been added.
  - New RUC fields include pressure VV, helicity, CAPE, CIN, best LI, LI, precip H2O, and snow water. New levels include MaxEquPoT, HghstTropFrz, and EquilbrmLvl for RUC40.
  - UKMET grids include more levels for many parameters; all standard levels are now available.
  - The menu now includes theta advection and theta-e advection.
  - New LAMP fields include 1h and 3h precip, saturation deficit, mixing ratio, mixing ratio divergence, 2h change in latter two, and 2h change in SLP.
- Radar items:
  - Product labels now include data resolution, where available.
  - In the radar request dialogs, USRA (User Selectable Rain Accumulation) has been changed to USP (User Selectable Precipitation). (This is still called User Def Total Precip on the menu.)

- Radar text products now include date/time stamp.
- The 1km and 4km CZ products now include a multi-page overlay of the combined attribute table. The latter can be displayed separately. In addition, the composite reflectivity contours (CZC) product is now split into 6 overlays.
- There are several changes in the Alert Request GUI
  - The "Save" button is removed from the Alert Request dialog
  - The "Load Area" button is changed to "Load/Edit Area"
  - In the exit warning dialog, the "Save/Exit" button is now "Exit"

In addition, these function changes have been made:

- The Clear button clears only the primary files.
- Clicking on the "Revert" or "Revert/Exit" reverts the latest sent request to primary.
- Clicking on the "Exit" button in the exit warning dialog has no effect on the saved files - it simply exits the application.
- Radar archive:
  - The size calculation for restore is more accurate.
- WarnGen items:
  - The output format for the HLS county list has been improved.
  - Service backup product headers now read "ISSUED BY NWS <office>" vice "ISSUED BY <office>".
  - Localization now sets up the PILs in warnGen templates, using the CCC and XXX (if any) in <LLL>-mainConfig.txt. (XXX defaults to the localization ID, and usually need not be set.)
- Theta-e calculations now use the adiabatic formula vice an isobaric one.

## Bug fixes

- Vertical visibility is now properly decoded. (I've not yet seen the plotting results.)
- These Volume Browser fields have been renamed:
- 
- Tot Wave Hgt                      Sig Wave Hgt
- Wnd Wave Dir                      Mean Wave Dir
- Wnd Wave Per                      Mean Wave Per
- Prim Wav Dir                      Peak Wave Dir
- Prim Wav Per                      Peak Wave Pd
- 2nd Wav Dir                      Wind Wave Dir
- 2nd Wav Per                      Wind Wave Pd
- When initialized, the radar archive GUI now correctly marks the items that are in the active continuous-store list.

## Remaining bugs

- The SBN-delivered paired radar products lack the text portion. These include
- 
- VAD Wind Profile (VWP)

- Storm Track Information (STI)
- Hail Index (HI)
- Mesocyclone (M)
- Tornadic Vortex Signature (TVS)
- Combined Shear Contour (CSC)
- One-hour Surface Rainfall Accumulation (OHP)
- Three-hour Surface Rainfall Accumulation (THP)
- Storm Total Rainfall Accumulation (STP)
- 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.
- 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.

---

## Text workstation

### New features

- A new text retrieval method is available. You can request data by WMO ID, as well as AFOS ID. A new "WMO Search" is added to support the former (in addition to the old

browser, which is now identified on the menu as "AFOS Browser"). If you type in the TTAA, CCCC, or NNNXXX (AWIPS ID) entry boxes and press <Enter>, the new WMO/AWIPS search dialog will pop up to allow you to complete the request. (If a single product satisfies a partial ID entry, it will be displayed without bringing up the dialog.)

- Non-FSL work that affects the UI:

The root menu now includes a "Start tafedit" selector.

## **Improvements**

- The warnGen window no longer includes an accumulate button. This virtually eliminates the possibility of accidentally including other text products in a warnGen-initiated message.

## **Bug fixes**

- It's no longer necessary to click "Product List" after "Save and Exit" to effectively remove an item from the Alarm/Alert list.

## **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.
- 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.

---

# **LDAD**

## **New features**

- While not part of D2D, the new Web-based dissemination interface is worth noting. This is the means by which outside users, such as emergency management officials, will access AWIPS-generated products.  
[This is being tested at a few offices. General release is not scheduled until Build 5.1.2 .]

- Ingested CSV products are now stored in the text database. This is controlled by entries in \$LDAD\_INTERNAL\_DATA/LdadWmoAwipsId.tbl, which assigns a WMO ID and AFOS PIL to each data set.

## **Improvements**

- As noted above, you now can sample LDAD mesonet plots. The "raw" CSV text is displayed.

## **Bug fixes**

- Observations stamped with local time now are correctly adjusted to reflect standard/daylight time.