AWIPS Build OB8 D2D software release notes

These are changes from Build OB7.2.

*Note:*These are working notes on GSD's part of the Build OB8 work. Some items may be modified or removed before OB8 hits the field. Official Release Notes will be posted at the NWS AWIPS site once the field release is ready.
These notes cover OB8.1, OB8.2, and OB8.3 features. If not tagged, items are released with OB8.1.

Infrastructure

Graphics/image workstation

New features

- Radar:
    - Estimated Actual Velocity. [OB8.2] A new tool is provided to compute actual wind velocity from the radial component and a user-supplied wind direction.
    - Super-resolution 88D products. [OB8.2] New 1/4km 1/2deg width base products (Z, V, SW) are added to the radar menus, and can be requested in RPS, OTR, and RMR applications. These products will become available with ORPG Build 10, in mid-2008.
    - Accommodation is made for dual-polarization radar products, including menu and Volume Browser entries. In the latter, many more height levels are included for new CAPPIs. Dual-pol products will become available with ORPG Build 11, which is slated for field release beginning mid-2009. [OB8.3]
    - Integrated radar/environment sampling. [OB8.3] This tool projects model analysis and forecast grids onto radar volume tilt surfaces and lets you sample the temperature, relative humidity, wind, equivalent potential temperature, wet-bulb temperature, and pressure at the height of the radar beam. A new '0' setting is added to the Density menu to support this, as the model fields are initially displayed 'invisibly.'
- Satellite:
- Volume Browser:
    - As noted above, several new dual-polarization radar fields are available in the Volume Browser menus. Under Field:Other, new items are Tilt Angle, Spectrum Width, Diff Refl, Corr Coeff, Spec Diff Phase, and Hydrometeor Class. [OB8.3]
- WarnGen:

- Warn By Polygon is implemented in OB8.1. What you'll see:
  - It's no longer possible to issue a warning that extends beyond your CWA (except for the extended-area dam break warning). While you can still draw a box crossing your CWA boundary, the polygon encoded in the LAT...LON line will follow the boundary.
  - The warned area may not be expanded for follow-ups.
  - A new TIME...MOT...LOC line at the bottom of the product encodes the time, motion (180DEG 0KT for flood warnings and other non-motion products), and location. This is used to better support follow-ups.
  - Warnings displays (NCEP/Hydro menu) now show each type (SVR, FLW, TOR, etc.) in a unique color, and the display will auto-update whenever a new warning is issued. The top section of the NCEP/Hydro menu now includes All Local Warnings and All Regional Warnings selectors.
- These Warn By Polygon enhancements are added with OB8.2:
  - It's now possible to either completely suppress partial-county descriptions or to suppress north-south or east-west distinctions. Both are set on a county-by-county basis. This also applies to zones - standard and marine.
  - Warning templates can be configured to list affected basins, just as they historically have listed counties. [deferred to OB8.3]
  - The Partial Backup option has been removed.

Improvements

- Radar:
  - Several changes have been made to the radar menus to accommodate the new super-res products. [OB8.2] Among others, these include
    - 4 Bit Prods, at the top, is now 4 Bit/Legacy Prods. Added here are the 3-bit SW and 8-bit (non super-res) Z & V products, and some old mesocylone graphics that will be going away in ORPG10.
    - DHR & HSR are moved from Derived>Other to Precip.
    - Refl Clut Prob (CLR) and Vel Clut Prob (CLD) are pushed down into a new Data Quality submenu. This also includes CFC, which is moved from Derived>Other.
  - On the (new) Data Quality menu, CFC is replaced by a set of five CFC segment products. The OTR/RMR request will no longer include selection of channel. [OB8.2]
- Satellite:
- Volume Browser:
  - New grid sources...
- WarnGen:
- Product Maker:
  - The Product Maker has been removed. (Raytheon)
- There is a new 30 min Local data QC plot on the main Obs menu. [OB8.2]
- MSAS obs (+QC) are now replicated on the Obs > Other Plots submenu (in addition to their old home in NCEP/Hydro > LAPS/MSAS Analyses > MSAS (MAPS)). [OB8.2]

Non-GSD work that affects the UI

- The Product Maker has been removed. (DR16920; Raytheon)
- On the NCEP/Hydro menu under HPC>Precipitation, there are three new HPC QPF products. (Raytheon)
- In OB8.2, HPC gridded excessive rainfall products are included. (DCS3437; Raytheon)
- On the NCEP/Hydro>LAMP/MOS Forecasts menu, the NGMLAMP and NGMLAMP QPF sections have been removed. (Raytheon)
- The Satellite>Derived Products Imagery menu now includes Low Cloud Base at the bottom of the GOES section. An accompanying Low Cloud Base color table is added to the Sat section of the color tables menu. [OB8.2] (SEC)
- New grid source ECMWF-HiRes allows display of 1-deg ECMWF grids. These are available via the Volume Browser for NH, N. American, CONUS, and Regional scales. Fields include height, MSLP, RH, T, wind, precip, Td (sfc), and 3-h/6-h max/min temps. There are new entries in the VB Sfc/2D Fields menu for these latter grids. (Raytheon)
- NamDNG5 grid source shows 5km downscaled NAM grids for NDFD. Fields include T, Td, Tmin, Tmax, wind, precip, categorical rain, cloud, snow water equiv, visibility, and geometric height, 3h increment out to 84 hours. [OB8.2] (DCS 3405; Raytheon) In OB8.3, added fields include surface T, Td, and wind, plus 3h max sfc RH. Max and min temps are now available for 3h and 12h periods. These latter three, along with 12h max RH, 3h POP, and 3h total precip, are in a new "NAM DNG 5km" submenu at the bottom of the Sfc/2D set in the Volume Browser. (DR19684,DCS3456,DR20144; Raytheon)
- Also in OB8.3, NamDNG5 grids are available for Alaska, Hawaii, and Puerto Rico. (RA8-137; Raytheon)
- New TDWR products include MD, DMD, ET, STI, HI, VIL, TVS, CZ, DHR, HSR, DSP, DPA, USP, STP, OHP, THP, and SPD. These will be added to the TDWR menus as appropriate and to the RPS, OTR, and RMR applications. [OB8.2] (SEC)
- The Four-Dimensional Storm Cell Investigator (FSI) can be launched by selecting FSI from the Tools, kxxx, or Radar menus (Applications section of latter two) and clicking with Mouse Button 3 at a location of interest. The application brings up a separate four-panel display of radar that allows rapid interactive quasi-3D viewing of radar volumes. [OB8.2] (NSSL, MDL)
- RUC13 now includes an additional level for CAPE and CIN, plus a model terrain field. [OB8.2] (DCS3424; Raytheon)
- New elements for gridded MOS include sky cover, wind gusts, QPF6hr, and QPF12hr. [OB8.2] (DCS3381; Raytheon)
- TPC wind probabilities now are split into incremental and cumulative components. To support this, in the Fields:Sfc/2D>TPC Guidance menu, Prob34Knot, Prob50Knot, and Prob64Knot have been replaced by Cumulative Prob Wind Speed > 34 [50, 64] knots and Incremental Prob... [OB8.2] (DCS3434; Raytheon)
- Dam Break and Flash Flood Statement templates have been updated to provide more cause options, and to use a site-specific LLL-dam_info.txt file from $FXA_CUSTOM_FILES. The latter can cause WarnGen to draw a pre-defined area for the warning and include dam-specific text. This is accompanied by a new button in the Redraw Box on Screen from: section titled "Dam Break Threat Area". [OB8.2] (DCS3388; Raytheon)

- A new **Configure Monitor's Station Vis. Thresholds** entry joins **Configure Monitor Area** and **Configure Monitor Thresholds** (now Monitor *Algorithm* Thresholds) on the appLauncher Fog Monitor Apps menu. [OB8.2] (DCS3267; MDL)
- A set of aviation products is added to a new Aviation pull-down on the main menu bar. Products include AIRMETs (icing, turbulence, visibility), SIGMETs (convective, icing, turbulence, visibility, tropical, volcanic), the National Convective Weather Forecast (NCWF), and the Collaborative Convective Forecast Product (CCFP). This includes a new NCAR Convective Forecast color table in the Satellite section. [OB8.2] (DCS3436; Raytheon)
- More aviation changes in OB8.3 include several maps in a new FAA pull-right menu; new VB 'Other' fields turbulence, icing, and supercooled large droplet threat; a selection of heights from 1kft to 45kft (using 'FLxx' terminology 18kft+); and new Center Weather Advisory, SigWx, and VAA displays. New AVIATION Turbulence Index, AVIATION Icing Severity, and AVIATION SLD color tables are used for some of these products. (DCS3457; Raytheon)
- A new radar watchdog will send an alert if certain products are not received within appropriate times, as specified in file /awips/fxa/data/radarWatchdog.txt. [OB8.2.1] (DRs19180, 19550, 19672, 19675; Raytheon)
- Probabilistic storm surge is added to the VB (source TPCSurgeProb). Fields (on the Sfc/2D menu) include probabilities of several surge heights and 10% chance of exceedence height. [OB8.3] (DCS3449; Raytheon)
- High-res scatterometer winds are added. There are now two menu items: QuikSCAT (now higher resolution) and ASCAT winds. [OB8.3] (DCS3458; Raytheon)
- Several new wave grids are available, as part of the WAVEWATCH III package. [OB8.3] (DCS3454; Raytheon)
- Gridded MOS/NDFD grids are available for Alaska [OB8.3] (DCS3460; Raytheon)
- In OB8.3, new BiasHPE and HPE grid sources are added to allow you to display Storm Tot Precip (actually, one hour, in most cases) and Precip Rate estimated from radar. These grids are computed from DHR and DSP (256-level STP) radar precipitation products, and are used as input to FFMP. (DCS3479; OHD)
- The SCAN menu now includes a radar Rate Display item at the bottom of each section. (DR19886; MDL)
- Hawaii and Puerto Rico AOR (RTMA) grids are available in OB8.3. (DCS3455, DR19800, DR19828; Raytheon)

Remaining bugs

Our old list of not-quite-what-we-want features...

- 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 **Clear**ing 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.

Text workstation

New or remaining bugs

This is the standard bugs list. These have been around long enough that we could call them "undesirable features" at this point...

- 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.