

# **AWIPS OB4 Release Notes**

## **Section I - New Functionality in OB4**

<b>1.0 D2D/TEXT/OTHER APPLICATIONS .....</b>	<b>1-1</b>
1.1 Local Storm Report (LSR) .....	1-2
1.2 Radar .....	1-2
1.3 System for Convection Analysis and Nowcasting (SCAN) and Flash Flood Monitoring Program (FFMP) .....	1-3
1.4 System on AWIPS for Forecasting and Evaluation of Seas and Lakes (SAFESEAS) .....	1-3
1.5 Text Workstation .....	1-4
1.6 Volume Browser/Grid Products .....	1-4
1.7 Data Monitor .....	1-4
1.8 Localization .....	1-5
<b>2.0 WATCH WARNING ADVISORY (WWA) .....</b>	<b>1-6</b>
2.1 WWA/WARNING BY COUNTY (WBC) .....	1-6
<b>3.0 HYDROLOGY .....</b>	<b>1-7</b>
3.1 Hydrobase .....	1-7
3.2 Site-Specific .....	1-7
3.3 HydroView/MPE .....	1-8
3.4 RiverPro .....	1-8
3.5 RFC .....	1-9
<b>4.0 SYSTEM .....</b>	<b>1-9</b>
4.1 Crons .....	1-9
4.2 Freeware/COTS Software .....	1-10
4.3 Processes .....	1-11
4.4 Process Monitoring .....	1-12
4.5 Purge .....	1-12
4.6 BUFR MOS Decoder .....	1-12
4.7 GRIB2 Decoder .....	1-13
4.8 Individual User Accounts .....	1-13
4.9 System Commands .....	1-13

## **1.0 D2D/TEXT/OTHER APPLICATIONS**

### **1.1 Local Storm Report (LSR)**

- The LSR GUI will make use of city priorities when making automatic city references.
- Handling of cities is improved so that more important locations appear in the list.
- You can now provide times in UTC time on the Create/Edit page.
- The resolution of the duplicate cities is improved. Also it was made clear how to use the arrow keys to navigate the city list and choose the correct duplicate city name.
- The format of the practice header has been corrected.
- The PIL pieces that the LSR GUI uses are now stored in a file, so it is possible to manually override them.
- The magnitude determination method designator has been added to the magnitude section of the LSR event format. (For example, "E" for estimated). This will be enabled at a specific date and time, nationwide. At the writing of this release notes, the date is set for 12 UTC, Dec 7, 2004.
- Several minor bugs related to proper latitude/longitude determination and proper spotter searching/matching have been fixed.

### **1.2 Radar**

**Note:** Starting OB3, the general organization of radar tables and RPS lists has changed a great deal in support of new Volume Coverage Patterns (VCPs) and ORPG Builds that will be coming on line in the near future. To become familiar with these changes, it is strongly recommended that the site's AWIPS/radar focal points, and any users involved in modifying or maintaining any radar functionality on-site, read the */awips/fxa/data/localization/documentation/radarLocalization.html* and *directives.html* documents for more detailed information. These documents are available by clicking on "Localization documentation" in the AWIPS General Information section of the AWIPS System Monitor, then scroll down to *radarLocalization*.

- New radar products include Tornado Rapid Update (TRU) and Digital Mesocyclone Display (DMD) algorithm.

- A new means of navigating all-tilts displays includes using the shift key with the up/down arrows on the keypad to move vertically within the volume. The left-right keys still move in time, and unshifted up/down changes loop speed.

### **1.3 System for Convection Analysis and Nowcasting (SCAN) and Flash Flood Monitoring Program (FFMP)**

- SCAN can now display the Digital Mesocyclone Display (DMD) product. The DMD Table has its own User's Guide, separate from the SCAN User's Guide.
- Now that SCAN can display the DMDs, which use circular icons to represent circulations, the storm cell icons needed to be changed from circles to hexagons, which is a compromise between the circles previously used and the rectangles used by Warning and Decision Support Software (WDSS).
- SCAN has been fully ported to Linux. This includes the display, the processor, and the Data Monitor.
- FFMP has been fully ported to Linux. This includes the display, the processor and the Data Monitor.
- Additional sources of QPF can now be ingested by FFMP, in order to compare to FFG. Digital Hybrid Reflectivity (DHR) radar product is the primary precipitation source for the FFMP table and display, but several other sources are available, including SCAN 1-Hour QPF, and several other QPF and QPE options. Note that the selection of these additional precip sources will not affect FFMP's background precipitation monitoring. FFMP will continue to tabulate precipitation totals based on the DHR product. Also note that except for the SCAN 1-Hour QPF, the displays for these extra sources will not auto-update, they must be re-selected to refresh.

### **1.4 System on AWIPS for Forecasting and Evaluation of Seas and Lakes (SAFESEAS)**

- Direction, height, and period for both primary and secondary swells have been added to the variables monitored and displayed by SAFESEAS.
- The SAFESEAS trend is expanded to 24 hours.

## 1.5 Text Workstation

- A change in the data ingest system allows very large text products (>131kbytes or approx 1800 lines) to store without truncation.
- The warning expiration reminder now applies only to SMW, SVR, TOR, FFW, and FLW products.

## 1.6 Volume Browser/Grid Products

- Full Eta12 runs to 84 hours are now available. Vertical velocity at 850, 700, and 500 is added to the UKMET grids.
- DGEX grids (Downscaled GFS and Eta Extension; 12km Eta to 192 hours) are now being ingested.
- Volume Browser *Fields* now includes Parcel LI for the 12km Eta. The menu entry is under Sfc/2D -> Convective.
- eta80 only goes out to 60 hrs from the 12Z run (no 18Z run).
- eta20 only goes out to 48 hrs on the 18z run.

## 1.7 Data Monitor

- In the AWIPS Netscape Data Monitor there is a page to restart or to administer LDAD and MSAS files. Since a new webserver (apache) is being used there is a new way to change the passwords to access these pages:

To modify the passwords:

**for the ldadAdmin user** (used to access the LDAD/MSAS Admin page)

log onto px1f as user *root*:

```
ssh ds "chmod 777 /data/fxa/data/htdocs/passwords"  
/usr/local/apache/bin/htpasswd /data/fxa/data/htdocs/passwords ldadAdmin
```

**for the awipsAdmin user** (used to access the LDAD/MSAS restart page):

log onto px1f as user *root*:

```
ssh ds "chmod 777 /data/fxa/data/htdocs/passwords"  
/usr/local/apache/bin/htpasswd /data/fxa/data/htdocs/passwords awipsAdmin
```

## 1.8 Localization

- There are 3 marine zones: Coastal marine zones, Offshore marine zones and High seas marine zones. Currently, only one marine zone can be displayed as a map background. Sites can choose one zone as the default marine zones by re-localization.

Some OCONUS WFOs with marine responsibility need to display all three marine zones simultaneously so that forecasts can be prepared for all the marine zones. They need buttons for all three marine zones in D2D Maps menu.

Sites can download shapefiles for 3 marine zones from NOAA1 and choose one marine zone as their default marine zone in localization. The shapefiles of the default marine zone should be named as: *marine\_zones.dbf*, *marine\_zones.shp.Z*, *marine\_zones.shx*. In localization, the marine zone map file *marine\_zones.bcd* will be created by script *makeMapFiles.csh*. The marine zone location plot info file *marine\_nums.lpi* will be created by the script *makeStationFiles.csh* from *reg\_marine.id*. The file *reg\_marine.id* is created by script *makeWWAtables.csh* from the default marine zone shapefiles.

To display all 3 marine zones, below shapefiles (9 files) will be added to the *nationalData* directory:

```
coastal_zones.dbf  
coastal_zones.shp.Z  
coastal_zones.shx  
offshore_zones.dbf  
offshore_zones.shp.gz  
offshore_zones.shx  
high_seas_zones.dbf  
high_seas_zones.shp.Z  
high_seas_zones.shx
```

Since the default marine zone shapefiles (*marine\_zones.dbf*, *marine\_zones.shp.Z* and *coastal\_zones.shx*) are used by WWA and SAFESEAS scripts to generate some tables, they will remain in the *nationalData* directory and sites should update them in the same way as before (copy data files from one zone they preferred). This will make sure WWA and SAFESEAS functions will not be affected.

Three localization scripts are modified to create the *.bcd* map files and *.lpi* location plot info files for the 3 marine zones:

<i>makeMapFiles.csh</i> :		
<i>marine_zones.dbf</i>	<i>marine_zones.bcd</i>	(current)
<i>coastal_zones.dbf</i>	<i>coastal_zones.bcd</i>	(new)
<i>offshore_zones.dbf</i>	<i>offshore_zones.bcd</i>	(new)
<i>high_seas_zones.dbf</i>	<i>high_seas_zones.bcd</i>	(new)

```

makeWWAtables.csh:
marine_zones.dbf,      reg_marine_gsf.txt      reg_marine.id   (current)
coastal_zones.dbf,     reg_coastal_gsf.txt    reg_coastal.id  (new)
offshore_zones.dbf,    reg_offshore_gsf.txt   reg_offshore.id (new)
high_seas_zones.dbf,   reg_high_seas_gsf.txt  reg_high_seas.id (new)

makeStationFiles.csh:
reg_marine.id          marine_nums.lpi        (current)
reg_coastal.id         coastal_nums.lpi      (new)
reg_offshore.id        offshore_nums.lpi     (new)
reg_high_seas.id       high_seas_nums.lpi    (new)

```

This design will keep all current marine zone data files so that AWIPS D2D will work just as before. The only change is that new marine zone buttons are added and all 3 marine zones can be displayed in D2D.

## **2.0 WATCH WARNING ADVISORY (WWA)**

- In OB4, WWA is now "self-contained;" that is, the finished product is created within WWA, without final editing in a text workstation window.

### **2.1 WWA/Watch By County (WBC)**

- WWA county map and Watch by County Notification (WCN) geography lists will include the marine zones
- Increased ingest executable logging
- Correct segment ordering - Cancel, Replace (Cancel/New), New, Extension/Expansion and Continue
- WCN template change for marine and independent cities. Separate WCN NWR template creation.
- There are two major switchovers, the turn-on of VTEC and the change from unsegmented followup statements to segmented followup statements.
- As with AWIPS OB3.1, the templates were changed yet again. This was to support the switch from unsegmented statements to segmented statements and a new optional default stationary storm motion for flash flood products. In AWIPS OB3.3 and merged into AWIPS OB4, the user will be able to issue an expiration up to 10 minutes after the product expires, and the purge time of expirations and

cancellations will be pushed back 10 minutes from the issue time to accommodate weather radio distribution. Additionally, a simple mechanism has been introduced that allows individual products to be configured such that they can be generated for areas beyond the CWA boundary.

- A new version of *VTECparsingInfo.txt* was distributed with AWIPS OB3.3 and merged into AWIPS OB4. The first line in the file will contain the string '0050208\_0000'. This is the date of the operational VTEC turnon. The only case where a user should modify this file is if the scheduled date of the operational VTEC turnon changes. The purpose of this date is to tell the VTEC encoding software to reset ETNs to one immediately after that date even if some experimental VTEC products of the same type were issued earlier in the year. The rest of the contents of this file are being used to augment the internal parsing defaults and should not be changed. This file will *not* need to be changed at the time of the transition.

## 3.0 HYDROLOGY

### 3.1 HydroBase

- Primary and Secondary Backup HSA Backup fields have been added to the RiverPro Forecast Groups/Points window.

### 3.2 Site-Specific

- Site-Specific now runs the Sacramento model in addition to the Kansas City model.
- RFCs may now send data for the Sacramento model to their WFOs through a WAN data transfer process. If RFCs set up the process, their WFOs will ingest the data.
- The Site-Specific GUI has been modified. The GUI now has functionality needed to run the Sacramento model.
- If your site has local entries in the virtual field table (*/data/fxa/customFiles/virtualFieldTable.txt*) for different temperature at the surface and higher levels when using ETA40 from the volume browser you will need to modify your entries as follows:

```
Sfc-950 | |N|Sfc-950 mb Lapse Rate >=4 |C|CONTOUR, IMAGE, OTHER| | \
*Difference,Layer|T, Surface|T, 950MB

Sfc-900 | |N|Sfc-900 mb Lapse Rate >=9 |C|CONTOUR, IMAGE, OTHER| | \
*Difference,Layer|T, Surface|T, 900MB

Sfc-850 | |N|Sfc-850 mb Lapse Rate >=13 |C|CONTOUR, IMAGE, OTHER| | \
*Difference,Layer|T, Surface|T, 850MB
```

```
Sfc-750 | |N|Sfc-750 mb Lapse Rate >=22|C|CONTOUR,IMAGE,OTHER| | \
*Difference,Layer|T,Surface|T,750MB
```

to this:

```
Sfc-950 | |N|Sfc-950 mb Lapse Rate >=4 |C|CONTOUR,IMAGE,OTHER| | \
*Difference,Layer,mesoEta212|T,2FHAG|T,950MB| \
*Difference,Layer|T,Surface|T,950MB

Sfc-900 | |N|Sfc-900 mb Lapse Rate >=9|C|CONTOUR,IMAGE,OTHER| | \
*Difference,Layer,mesoEta212|T,2FHAG|T,900MB| \
*Difference,Layer|T,Surface|T,900MB

Sfc-850 | |N|Sfc-850 mb Lapse Rate >=13|C|CONTOUR,IMAGE,OTHER| | \
*Difference,Layer,mesoEta212|T,2FHAG|T,850MB| \
*Difference,Layer|T,Surface|T,850MB

Sfc-750 | |N|Sfc-750 mb Lapse Rate >=22|C|CONTOUR,IMAGE,OTHER| | \
*Difference,Layer,mesoEta212|T,2FHAG|T,750MB| \
*Difference,Layer|T,Surface|T,750MB
```

Prior to this workaround the product mixed ETA40 and ETA20 resulting in bad products. The full fix will be in AWIPS OB5.

- The */tmp/orbit* files in the *temp* directory on the workstation will not let user's log in. In such a case, delete */tmp/orbit\** files on workstation. To help prevent problem,  
log out from center monitor (0:0) and close all applications before completely logging out.

### 3.3 HydroView/MPE

- HydroMap/MPE now supports two new MPE fields, Local Bias Satellite Precip and Local Bias Multisensor Mosaic.

### 3.4 RiverPro

- RiverPro has been modified to support VTEC Service Backup. Information about issued products is sent between the site with the primary responsibility for a station and its two backup sites. If the primary site is backed up, information about the products sent during the backup time by a backup site can be restored to the primary site.

- RiverPro supports the Operational, Experimental, and Test VTEC modes. RiverPro VTEC Event Tracking Numbers (ETNs) are drawn from the same pool for each of these modes.
- RiverPro product issuance and backup info receipt logs are written to log files separately and named for each day.

### **3.5 RFC**

- The RFC Archiver has a new flat file viewer and some administrative functions have been added.
- The RFC Verification program is now hosted on the RFC archiver.
- The Ensemble Streamflow Prediction Verification System now incorporates the CPC Long Lead Outlook products.
- The two RFC archive SHEF decoders (raw and processed) will use the same parser as the IHFS SHEF decoder.
- The format of the log files (daily and product) has been changed to the log files of the IHFS SHEF decoder.
- The incoming directory for the *shef\_decode\_raw* will remain on the DS and be mounted to the RAX, while the *shef\_decode\_processed* incoming directory will remain on the RAX with no mount back to the DS.

## **4.0 SYSTEM**

### **4.1 Crons**

- The *purge\_mpe\_files* cron runs twice a day on DS.
- The *run\_db\_purge* cron runs twice per day on DS.
- The *nwrWatchDog.sh* cron, which watches that *nwrTrans.pl* has not died and restarts if it has died, has been added to DS.
- The *hwrnwr* and *hwrnwws* crons have been moved to PX2.
- The *sendOTR.sh 136* cron has been replaced with *waitUpTo.pl 600* scron on DS.

- The following crons have been moved to the PX: *WFOA\_MSAS\_Sfcnmc.run*, *WFOA\_MSAS\_Surface.run*, *WFOA\_MSAS\_Asos.run*, *WFO\_MSAS\_QCstage1\_2.run*, *WFO\_MSAS\_QCstage1\_2\_late.run*, and *WFO\_MSAS\_QCday.run*.
- The *MOSdriver NGM*, *LAMPHOURLIES*, *createTDL*, *LAMP MOS\_00*, and *LAMP MOS\_12* crons have been removed from AS2.

## 4.2 Freeware/COTS Software

- blt 2.4z (HP and Linux)
- openssl 0.9.7d (Linux and HP buildtime)
- PostgreSQL 7.4.2 (Linux and HP runtime)
- Tcl/Tk 8.4.4 (Linux and HP runtime)
- Python Mega Widgets 1.2 (Linux and HP runtime)
- Python Numeric 23.1 (Linux and HP runtime)
- Python-tk 2.3.2 (Linux and HP runtime)
- Scientific Python 2.4.3 (Linux and HP runtime)
- netCDF 3.5.1 (beta 13) (Linux and HP runtime)
- postgres 7.4 (Linux and HP runtime)
- java 1.4.1 (Linux runtime)
- SWIG 1.3.19
- apache 1.3.29 (Linux runtime)
- python-biggles 1.6.3 (Linux runtime)
- PMW (Linux and HP runtime)
- Plotutils 2.4.1 (Linux runtime)

- Snack 2.1.1 (Linux runtime)
- Jasper 1.700.51 (Linux runtime)

### 4.3 Processes

As a part of HP-UX AS decommissioning many processes previously on AS1 and AS2 have been moved to PX1 or PX2 in AWIPS OB4.

- *CollDBDecoder, StdDBDecoder, WarnDBDecoder, DataController TextDBController.config* and *DataController WarnDBController.config* have been moved from AS2 to PX2.
- *RadarTextDecoder* has been moved from AS2 to DS1.
- *AircraftDecoder* and *DataController BufrMOScontr.config* have been moved from AS1 to PX2.
- *DataController SCANcontroller.config, DataController FFMPcontroller.config, SSController.config, MaritimeDecoder, FFMPprocessor, profilerDecoder, SCANprocessor, SSprocessor* (SAFESEAS), and *SFSfacServer* have been moved from AS1 to PX1.
- *RaobBufrDecoder* and *textNotificationServer* have been moved from AS1 to PX2.
- *hwrnwr, hwrnwws* and *hwrxnit* have been moved from DS1 to PX2.
- *DataController TextCont3.config* was moved from PX2 to PX1.
- *appsLauncher* runs on all LXs and *RadarNotify* runs on LX1.
- *DataController TextCont\_px2.config* runs on PX2.
- *DataController TextCont\_px1.config* and *DataController TextDBCont\_px1.config* runs on PX1.
- *DataController TextDBCont\_ds1* runs on DS1.
- The minimum number of *acqserver* processes on PX1 is 3 and is typically 8.
- The number of *BufrDriver* processes on PX2 is 5.

## 4.4 Process Monitoring

- The CPU monitor, available from the Ingest Processes section of the Netscape SystemMonitor, now includes the Linux workstations.
- Since AS2 no longer runs any persistent AWIPS processes, the AS2 column in the process monitor has been removed.

## 4.5 Purge

- On the PXs, the *master.purge.px* cron executes the *fxa-data.purge.px* script, in addition to an optional site-supplied *~fxa/bin/fxa-data-addons.purge.px* script. It runs twice an hour on PX1 and PX2 and writes logs to the */data/logs/fxa/master.purge.log.px* file.
- To add cron jobs to the REP, update the *REPCron1* and *REPCron2* crontab files in */etc/ha.d/cron.d*. These crontab files are system crontab files and can run cron jobs for multiple users, so the user name must be included as the sixth field in the table. Note, the updated crontab files must be installed in the */etc/ha.d/cron.d* directory on all nodes. This change will take place when restarted or when the resource group is swapped.

## 4.6 BUFR MOS Decoder

- The *AVNDecoder*, *MRFDecoder*, *MosDecoder* and *HPCDecoder* have been replaced by a single decoder, *DecoderMOS*, and moved from AS1 to PX2.
- The *startingest* scripts *startIngest.px2* and *stopIngest.px2*, and the configuration file *BufrMOScontr.config*, have been updated.
- The following four configuration files were eliminated from */awips/fxa/data*: *MRFBufrDescTable.txt*, *MRBufrDescTable.txt*, *AVNBufrDescTable.txt* and *HPCBufrDescTable.txt*.
- The following four pattern files have been combined into *MOSBufrPattern.txt*: *MRFBufrPattern.txt*, *AVNBufrPattern.txt*, *HPCBufrPattern.txt* and *MOSBufrPattern.txt*.
- Some of the advantages of this new decoder include:
  - ▶ Fewer executables and source code to maintain
  - ▶ Easy to deliver new types of MOS

- ▶ Easy to accommodate any changes made to the existing MOS

## 4.7 GRIB2 Decoder

- The *GRIB2Decoder* has been installed on PX1. It functions the same way as the *GRIBDecoder* except that it processes the GRIB2 raw data files from the table and translates the unpacked values from the data. DGEX and Eta12 data are processed through the *GRIB2Decoder*.

## 4.8 Individual User Accounts

- The existing login accounts *awipsusr* and *textdemo* have been removed, and each user of AWIPS software must have his/her own individual user account.
- Home Directories will be on shared NFS partitions (*/home*) so that the users have the same home directory on all platforms.

## 4.9 System Commands

- The *telnet*, *ftp* and *rlogin* commands have been replaced with *ssh*, *sftp* and *slogin* commands, respectively, except where performance was an issue within the AWIPS code.