

OB6 Content
April 13, 2005, 2005

- **Radar**
 - TDWR Products (mult. radars, WAN based RMR)
 - *Support multiple TDWR radars per site and Implement WAN based RMR. AWIPS needs to include the capability to request products from multiple non-associated TDWR radars in the same manner as the 88D radars.*
 - Snowfall Accumulation Products
 - *There are six new products with the Snow Accumulation:*
 - *OSW - One Hour Snow Water Equivalent*
 - *OSD - One Hour Snow Depth*
 - *SSW - Storm Total Snow Water Equivalent*
 - *SSD - Storm Total Snow Depth*
 - *USW - User Selectable Snow Water Equivalent*
 - USD - User Selectable Snow Depth
 - *The snowfall accumulation algorithm is part of RPG Build 6. The products have a resolution of 1 deg by .54 nm to a range of 124 nm, with 16 data levels and an associated alpha numeric product. The two product types are snow water equivalent and snow depth, while the three durations are one hour, storm total and user selectable.*
 - *These products shall provide radar algorithm estimated 1-hour snow water equivalent and snow depth accumulation images. The products shall be updated every volume scan. The products shall be available for 16 data levels. Each product shall include annotations for the product name, radar ID, date and ending time of the accumulation, the type of range/height correction (such as algorithm derived or static) has been applied to the accumulation, maximum data value, azimuth and range of the maximum value, radar position, radar elevation above MSL, and radar operational mode.*
 - *AWIPS handles these products almost exactly like the existing rainfall accumulation products. For example: a) like the 4-bit rainfall accumulation products, the data level thresholds could change, so get the data thresholds from the product description block.*
 - *The User Selectable Snow products (USW, USD) are handled like the User Selectable rainfall (USP) product (e.g., allow the user to request end hour and time span). c) Multiple versions of this product (different time spans/end hour) can be requested/obtained during the same volume scan and AWIPS should be able to pull each up for display. The time span can be as big as many as 30 hours (ROC intends to fix the ICD for this point). Tabular alphanumeric portions of the product are stored in development (e.g., CODE Build 6, and/or Denver WSR-88D is already running Build 6).*

OB6 Content
April 13, 2005, 2005

- MDA DMD Product Changes
 - *AWIPS software modifications are required to support new 2D component location and elevation angle data in the DMD product.*

- Modify the DMD.cdl file to include:*
 - two global arrays of elevation angles and elevation times The length of each array will be provided with the data.
 - arrays of 2-D component locations of latitude and longitude
 - Add a "name" attribute for the 2d_lat and 2d_lon fields in the CDL file because netcdf does not allow variable names starting with numbers. The new variable names are lat_2d and lon_2d.
 - Add a new class to HandleGeneric Msg to handle the new "name" attribute. If that attribute is in the CDL file, it uses the corresponding variable name. Otherwise, it uses the variable name that came with the data.
 - Remove the storage of the elevation angle and time from each 2-D component.

- Change to Clutter Filter Control Changes from ORDA.

The Clutter Filter Control (CFC) product is changing to remove the channel (Surveillance vs. Doppler) and notchwidth (low, medium, high) distinctions and increase the number of radials from 256 to 360. The version number within the CFC product will be 0 or 1, where 0 indicates the legacy version and 1 indicates the Open RDA version. AWIPS now properly handles either version. Currently, AWIPS issues a one-time request every 6 hours for each of the 4 CFC products (i.e., the Doppler and Surveillance channels for both the upper and lower elevation segment). These products are centrally collected and sent to NCDC for archive. The following changes to AWIPS have been identified:

 - Modify CFC product request GUI and product display to remove the Channel option.
 - Modify [color legend](#) to have just 4 values (0-force/filter off, 1-bypass map/no clutter, 4-bypass map/clutter, 7-force/filter on).
 - Modify product display to [change "Notch" time](#) to a more appropriate name
 - Modify cron job to request only elevation segments (not channel)

OB6 Content
April 13, 2005, 2005

- The product selection menus for RPS List Editor, OTR, and RMR applications have been reorganized into functional groupings with pull-right submenus.
- The RPG and RDA software version is now reported in the NEXRAD Unit Status Display.

- WSR-88D Archive Level 3 Status Product
 - *Add system status product, modify AWIPS to issue a OTR at 1Z, 9Z, and 17Z for this product and centrally collect this product periodically like other Level 3 products and archive it at NCDC*

- All 88D products from neighboring offices
 - *Allow sites to establish a temporary dedicated interface to request and generate any product and optionally become the radar product sending site. This supports continued central collection of Level 3 products and WFO service backup. Note: In RPG Build 8, all AWIPS WAN based ports (4 OTR and 2 dedicated ports) will share an aggregate flow control of 128 kbps. With RPG Build 7, the flow control is 64 kbps for each of the 2 WAN OTR ports.*

- **Satellite**
 - Polar Visible and IR imagery
 - *Satellites: NOAA-16 – Primary afternoon POES. NOAA-17 – Primary morning POES.*
 - *Instruments: POES: AVHRR,*
 - *Channels: AVHRR: all channels (Appendix B lists the AVHRR channels), OLS: visible (0.4 - 1.1 μ m) and IR (10 - 12 μ m)*
 - *Resolution: AVHRR: 1-4km (It appears that HRPT and LAC AVHRR imagery is unavailable over portions of the AWIPS area of interest (such as the southwest US). Therefore it is proposed that GAC data be used (or perhaps some combination of HRPT&GAC). This choice will determine the resolution since HRPT/AVHRR is available at ~1.09km resolution while the resolution for GAC is ~4km. HRPT coverage is shown in Appendix C), OLS: 0.5-1km*
 - *Geographic Domains: The AWIPS East/West Maps from the NESDIS/AWIPS ICD should be satisfactory.*
 - *Eastern CONUS Lambert: Lower Left: 16.369N 113.133W, Lower Right: 14.335N 65.091W, Upper Right: 57.289N 49.385W, Upper Left: 59.844N 123.044W -*
 - *Western CONUS Lambert - Lower Left: 12.190N 133.459W, Lower Right: 17.514N 92.720W, Upper Right: 61.257N 91.444W, Upper Left: 54.536N 152.855W.*

OB6 Content
April 13, 2005, 2005

- *Off-CONUS requirements will be defined for Alaska, Hawaii & Puerto Rico (on the ICD-defined “National” maps). It is possible that a new Guam-area map will be defined as well.*

- **Decision Assistance**
 - SCAN Enhancements:
 - SCAN VIL Density:
With the goal of hail forecasting in mind, several forms of VIL Density have been provided as displays in SCAN. These displays are still somewhat experimental, thus we are looking forward to hearing feedback from users as to the value of VIL Density, in both gridded and storm cell-based forms.

 - SCAN Time of Arrival:
SCAN has provided an interactive tool to help calculate when a user-defined item will reach a user-defined location. This is a graphical package that behaves similar to the line drawing tool and WarnGen, both of which already exist in the D2D.

 - SCAN MDA usage:
SCAN has traditionally used the M radar product for its handling of the Mesocyclone Detection Algorithm output. With recent ORPG and SCAN changes, the traditional SCAN display (Storm Cells) will use the MD product instead of the M product. This reflects the use of a different and improved algorithm, but should be transparent to the user.

 - FFMP Enhancements:
 - FFMP Basin Trace
FFMP provides a method to choose a small basin and then see the up and/or down stream basins related to that small basin in the D2D. The intent is to provide a bit of connectivity information, in anticipation of a full hydro model. (This hydro model is not a part of FFMP.)

 - FFMP Gage Removal
The user can now define various gages he/she wants FFMP to ignore. Selecting gages automatically for inclusion into FFMP is not as easy as it seems, so this method was provided to reduce the number of Virtual Gage Basins (VGBs) that FFMP analyzes.

 - FFMP Multiple Monitor Times

OB6 Content
April 13, 2005, 2005

Traditionally, FFMP could only monitor for one attribute and one time frame. Now, the user can define 3 time frame and attribute sets to monitor. The sample text information from the FFTI button will indicate which set is at which state, the worst state being the one shown in the FFTI button color.

- **LSR Enhancement:**
 - LSR Quick List
For the Event Type and Event Source selections, the user can now populate and use a QuickList, for the event types and sources that get used much more frequently than others. This will eliminate scrolling of the larger list.

- **SAFESEAS:**
 - *Table sampling parameters,*
 - *Processor Enhancements,*
 - *Customizability changes*
 - Fog Monitoring
SAFESEAS fog monitoring will monitor GOES satellite images for indications of fog as the images are received on the WFO's AWIPS system, (2) keep the forecaster informed of the current fog threat as determined from the monitored images, and (3) at the user's request, display the fog threat on an AWIPS workstation as a fog threat image and in a zone fog threat table.

- **Data:**
 - Gridded MOS (CONUS & OCONUS)-5km grid, issued 2x daily
 - *Produce gridded forecast on 5km CONUS grids at this point. The grids will be produced twice per day at 0Z and 12Z, with the resolution initialized locally by the forecaster. The data will include: Temperature, Dew point, Wind speed, Wind direction, Thunderstorm, Snow fall. Grids are provided in GRIB2 format.*

 - MOS Guidance for Coop Sites
 - *MDL just developed new MOS guidance for 4500 – 6000 COOP sites. The guidance is available from 4 cycles of GFS. The guidance includes: Max temperature, Min temperature, Snow fall*
 - *Sites currently use local applications to decode the text message and initialize GFE and perform model/MOS comparisons using local applications. The COOP text message shall be provided to be provided to the field along with the Gridded MOS, to provide continuity to the forecasters, and also to ensure the MOS text values are close to what is provided in the gridded data.*

OB6 Content
April 13, 2005, 2005

- Enhancements to marine MOS
 - *AWIPS is sending marine message to 120 sites (CONUS, AK, PR (Hawaii)) forecasting wind direction and wind speed. This task requires adding more lines to the GFS and ETA text message to include temperature and dewpoint.*
- Ingest/Display Gridded MOS Data
 - *Produce a 5km CONUS grid of MOS data including temperature, dewpoint, wind speed, wind direction, Thunderstorm and snowfall*
- Full GFS
 - *180 hrs for 4 cycles at maximum resolution*
- GFS Ensemble data
 - *192 hrs/12 members*
- Ingest Gridded Probabilistic Winds from TPC
 - *Event driven product associated with each tropical cyclone forecasted with TPC domain (does not include western Pacific)*
 - *Product contains probabilistic winds above a certain threshold*
- Ingest Global Model Visibility guidance
- Ingest Global Model Ice Accretion guidance

- **GFE**
 - Provide capabilities for generation of Gridded Watches and Warnings in IFPS

- **Disseminations**
 - All Hazards
 - *Allow authenticated and authorized external emergency managers at the Federal, state and local levels to submit non-weather emergency messages (NWEMs) for broadcast over NOAA/NWS dissemination systems (such as NOAA Weather Radio)*

 - *AWIPS performs the following tasks:*
 - *Receives WMO/NWEM from HazCollect Server*
 - *Transmits WMO/NWEM to NWWS Uplink*
 - *Converts WMO/NWEM to NWR broadcast format*
 - *Conversion done via CAFÉ formatter*
 - *Transfers to CRS*
 - *CRS sends to NWR for broadcast*

- **New Science**
 - Ingest/Display MAROB marine coop observations
 - *New marine data source from volunteered vessels at sea*

- **Hydrology**
 - Convert All Operational Hydrologic Databases From Informix to PostgreSQL
 - Update All Applications for Linux OS Upgrade from 7.2 to RHEL 3.0u4

OB6 Content
April 13, 2005, 2005

- *Assure All Applications Compile Correctly with New gcc 3.4.3 Compiler*
- Reconfigure Persistent Processes & Cron Jobs for AS/DS Decommissioning
- Implement New Application, HydroGen (formerly local app RivDat), Into AWIPS Baseline Software
- Update WHFS RiverPro for New Test Message Policy Requirements
- Update Diurnal Disaggregation Parameters for the Future Portion of Mean Areal Temperature Computations in NWSRFS
- Add Probability Verification Measures to RFC Forecast Verification Application
- Incorporate Hydro & Warngen VTEC into OB6 baseline

- **Infrastructure**
 - Linux OS Upgrade to ER3.0U4
 - Migrate to Postgres (7.4.7)
 - *Applications, Database, crons/apps*
 - **Additional Frame Capability**
 - *Increase the number of available frames for each D2D pane., (NOTE: this has not been implemented in OB6 yet. It may still be implemented at some point in OB6.)*
 - Replacement Text trigger functions on AWIPS workstation
 - *The text trigger replacement functionality in AWIPS is being gradually replaced with a new function that accepts text notifications for products from either the SBN or the text database. This function, called NotifyTextProd was originally written for GFE to satisfy its requirements to get text products from the SBN into IFPS.*
 - Display a subset of GFE parameters on D2D
 - *Locally created GFE grids*
 - *x/y dimensions variable per site*
 - *grid corner points differ per site*
 - *finite list of parameters (not all GFE parameters are valid)*
 - *RH_Sfc, WindWave, WaveHeight, Swell, T, Gust, MinT, Td, PoP, QPF, Heat Index, MaxT, Wind, Tp*
 - *note: NO U+V components for wind, Wind Speed and Direction*
 - *Files no more frequent than one minute. Irregularly spaced time intervals.*
 - Grids produced by the Multisensor Precipitation Estimator algorithm are available for display on the State(s) and WFO scales. These can also be found in the Hydro section of the NCEP/Hydro menu, under QPE. MPE grids are displayed using a new 'truncated' grid color table which shows zero values in gray to let you see the limits of the site-specified domain.
 - *Locally created QPE forecast grids*
 - *x/y dimensions variable by site*
 - *grid corner points differ by sites*

OB6 Content
April 13, 2005, 2005

- *only precipitation parameters for OB6*
 - *hourly plus forecaster edited*
- Remove Verification from the Baseline
 - *Replaced with new verification system, Point Forecast Matrices (PFM's)*
- Remove ICAT from the Baseline
- Test/ Practice Mode
 - *It SHALL be possible to place a workstation in "Practice" mode*
 - *Products generated in Practice mode SHALL (x) not leave the WFO.*
 - *Products generated in Practice mode SHALL have specific language inserted into the header and test indicating "TEST"*
 - *Products generated in Practice mode SHALL not store test products in the text database.*
 - *User shall have tools to read the practice text product.*
 - *Practice text product will have any appropriate QC applications performed*
 - *It SHALL be possible to place a workstation in "Test" mode.*
 - *Products generated in Test mode SHALL leave the WFO.*
 - *Products generated in Test mode SHALL have specific language inserted into the header and test indicating "TEST"*
 - *Products generated in Test mode SHALL store test products in the text database*
 - *Products generated in Test mode SHALL be checked to insure the word "Test" is in the message.*
 - *Practice text product will have any appropriate QC applications performed*
 - *The mode status of a workstation SHALL apply to an AWIPS graphics workstation (lxN-<siteid>) and to its associated text workstation (xtN-<siteid>). That is, the graphics workstation will be in same mode as the text workstation.*
 - *It SHALL be possible to run a workstation in Test mode without interfering with the other operational workstations.*
 - *The mode of the workstation SHALL be clearly displayed visually and/or audibly.*
 - *The visual technique will disable any "iconification"*
 - *The visual technique will always be visible (pop to front, no way to disappear)*

OB6 Content
April 13, 2005, 2005

- *A workstation SHALL be in test mode if and only if there is a noticeable test mode notice displayed on ALL graphics and text workstation screens.*
 - o *The test mode notice will apply (and be visible to) all three screens/heads of a forecaster workstation*
- *Log entries SHALL be generated when a workstation enters and leaves test mode.*
- *Implement WWA like “stop” sign for all Warning applications.*
- *Insure software meets directive requirements for testing*
- *For WWA only, notify the forecaster when the mode has changed*
- *For RiverPro provide an automatic QC capability*