Update on NOAA's National Weather Service (NWS)
WSR-88D Level II Data Collection and Distribution Network

Updated 24 October 2011

PURPOSE:
Update Weather Surveillance Radar-1988 Doppler (WSR-88D) Level II data users, real-time and archive, on WSR-88D changes that may impact data format, data reliability, and data quality. **This update provides the status of software deployments, the Dual Polarization modification project, and the plan to increase the number of sites sending Level II data.**

CURRENT STATUS:

- The new WSR-88D (KLGX), Langley Hill, in Grays Harbor County, WA was added to the WSR-88D network in late September 2011.
- There are 140 operational sites connected to the Level II Data Collection, Distribution, and Archive Network. The List of Connected and Planned Network Sites is at: http://www.roc.noaa.gov/WSR88D/Level_II/Level2Info.aspx. The NWS plans to add 8 Air Force WSR-88D sites to the network in 2012. (The dates listed in NWS System Change Notice 09-51 available at: http://www.nws.noaa.gov/om/notif.htm has been delayed again.)
- New Software Builds. The field deployment of RPG Build 12.3 and RDA Builds 11.8 and 12.1 software began on 17 October. Build 12.1 is loaded on RDAs with the Dual Polarization modification while Build 11.8 is loaded on legacy RDAs. RPG Build 12.3 will enable the Automated Volume Scan Evaluation and Termination (AVSET) algorithm to be used at all sites.

FUTURE CHANGES:
Dual Polarization Modification. The Dual Polarization Program is now retrofitting operational WSR-88D systems. Information on the deployment status, schedule, and other topics is available at: http://www.roc.noaa.gov/WSR88D/DualPol/Default.aspx. Once the Dual Polarization modification has been completed, the following dual polarization moment data are available in the Level II data stream: Differential Reflectivity, Correlation Coefficient, and Differential Phase. Unfortunately, the RDA Build 12 accompanying the Dual Polarization modification does not support the Clutter Mitigation Decision (CMD) and AVSET algorithms.

Future Software Releases. The next major software releases will be RPG Build 13 (June 2012) and RDA Build 13 (July 2012 release to Dual Pol sites). This build will merge the Dual Pol contractor's RDA software baseline with the government's changes since RDA Build 10 that was used for the contractor's baseline. Among other changes, Build 13 will include a return of the CMD algorithm, using Dual Pol variables; and a return of the AVSET algorithm to all sites.

The Level II Data Collection and Distribution Architecture Update. The major portion of the NWS's updated architecture of the Level II data collection and distribution was completed in the summer of 2010. The regional aggregation points have been replaced by a central aggregation point (staffed 24/7) with full redundancy at an off-site location (WSR-88D Radar Operations Center). OPSNet communications are used to send the data to the central aggregation point(s). This has resulted in a greatly increased reliability of data flow. A recent AMS IIPS paper on the new architecture is at: http://www.roc.noaa.gov/WSR88D/PublicDocs/Level_II/2011_IIPS.pdf.

ADDITIONAL INFORMATION:
Family of Services Briefing (FOS). The radar presentation used at the 29 June 2011 FOS meeting in Silver Spring, MD is available at: http://www.roc.noaa.gov/WSR88D/PublicDocs/Level_II/0611FOS.pdf. There will be a radar presentation at the next FOS meeting on 26 January 2012 in conjunction with the American Meteorological Society annual meeting in New Orleans, LA.

Those who use CODE (Common Operations and Development Environment) to process Level 2 data can update to Build 12.3 at http://weather.gov/code88d/. The ROC web site (http://www.roc.noaa.gov/ssb/cm/sbuilds/) provides a list of the changes in recent software builds and planned for Build 13. The Build 13 version of CODE will be available approximately when field deployment begins in August 2012.

NWS-Maintained Level II Status Monitoring Site Available: The following web site provides the status of Level II data flow to the NWS Telecommunications Operations Center: http://weather.noaa.gov/monitor/radar2/. The site contains a color-coded display of radars on the Level II network, by NWS region. The colors help the user differentiate between radars with just a Level II outage and radars with both Level II and III outages (implying the radar is inoperable). In addition, users can click on the site of interest and view any applicable Operator Notes/Recent Free Text Messages, which provide more information on the radar's status. Apparent data latencies are also provided.

The Radar Operations Center (ROC) has a WSR-88D Hotline System Status Monitor On-line at: https://ssm.roc.noaa.gov/hotline/main_ie.asp for users to obtain:

1. The software loaded and current VCP being used at each site, and
2. Central Server Level II and III Status and FTMs via the Central Server.

Information about the Level II network is at:
http://www.roc.noaa.gov/wsr88d/Level_II/Level2Info.aspx .

If you have specific questions or comments in regard to this update, please contact the ROC webmaster at: http://www.roc.noaa.gov/WSR88D/Comments.aspx.