WSR-88D Program Software Changes
That May Impact
Radar Product Central Collection Dissemination Service (RPCCDS) Users

Updated 2 April 2008

PURPOSE:
This summary is intended to assist RPCCDS users plan for WSR-88D changes which
may impact data format, availability, uses, or data quality.   This updates the 15
September 2007 summary posted on the RPCCDS home page. **The major change in
this document is an update on the Build 10 software release.**

CURRENT:
Build 10 Summary: The Build 10 Beta Test and Beta Use period is underway. Below is
the status and schedule for installing Build 10 at the Beta sites:

> Paducah, KY WSR-88D - INSTALLED
> Yuma, AZ WSR-88D - INSTALLED
> South Kauai, HI WSR-88D - INSTALLED (no Level II available)
> Edwards AFB, CA WSR-88D – Week of April 1 (no Level II available)
> Minneapolis, MN WSR-88D - INSTALLED

Even though the WSR-88D will begin to produce "super resolution" data in Build 10, the
product data available via the RPCCDS will remain the same. The RPG product data and
algorithms will be based on "recombined" super resolution data that will produce nearly
identical display data and algorithm output compared to the legacy resolution data

Volume Coverage Pattern (VCP) 121 will not change format in Build 10, but its
performance in reducing range folded data will be increased.   The new VCP121
implements the Sachidananda – Zrnic Algorithm (SZ-2) processing and Multi-Pulse
Repetition Frequency Dealiasing Algorithm (MPDA) to mitigate range/velocity aliasing
(the Doppler Dilemma).   An example of the improved performance of VCP121 is
available in the WSR-88D presentation made at the January 2008 Family of Services
meeting which is available at:
http://www.roc.noaa.gov/NWS_Level_2/NEXRAD_FOS0108_Rev4.pdf. More details
on the new VCP121 are available in: Zittel et al, 2008: Combined WSR-88D technique to
reduce range aliasing using phase coding and multiple Doppler scans. 24th Conf. on
Interactive Information and Processing Systems (IIPS) for Meteorology, Oceanography,
and Hydrology, New Orleans, LA. Paper P2.9.

Training Material: Warning Decision Training Branch (WDTB) Build 10 training
materials prepared for WSR-88D NEXRAD agency operators are available at:
http://www.wdtb.noaa.gov/buildTraining/Build10/index.html. While some of the
changes discussed in the training materials are not available on the RPCCDS, the training

material provides information on new capabilities provided to NEXRAD Agency WSR-88D users and will help external users in regard to Build 10 changes.

RPG Software Available: The NWS has prepared a LINUX version of the WSR-88D RPG software called "The Common Operations and Development Environment" (CODE). The version of the Build 10 software being used in the Beta Test is available on the National Weather Service CODE web site (http://www.weather.gov/code88d/).

FUTURE CHANGES:
Build 11: Deployment of RPG Build 11 software is scheduled to begin in March 2009 (after a Beta Test at select sites beginning in January 2009).

>   (1) The Severe Weather Probability algorithm and product (Product # 47) will be removed from the software baseline and no longer be available via the RPCCDS. Surveys indicated very few users of this product.
>   (2) It is possible that a new algorithm to remove clutter, the Clutter Mitigation Decision Algorithm, will be ready for operations in Build 11. If so, users should see reduced residual clutter in the base products, even though the product formats themselves will not change.

Dual Polarization: Deployment of the dual polarization hardware/capability is planned to begin in 2010. The deployment will likely take over two years. The addition of dual polarized products to the RPCCDS data stream has yet to be determined.

ADDITIONAL INFORMATION:
The ROC has a URL (https://www.roc.noaa.gov/ops/ssm.asp) for users to obtain:

>   (1) A list of sites and which RPG and RDA software build the site is using, and
>   (2) A list of sites and which volume coverage pattern the site is using, during the last automated hourly ROC call to the RPG.

Send suggestions, comments and questions concerning this summary to:
Tim.D.Crum@noaa.gov.