

Operational “Tid Bits”

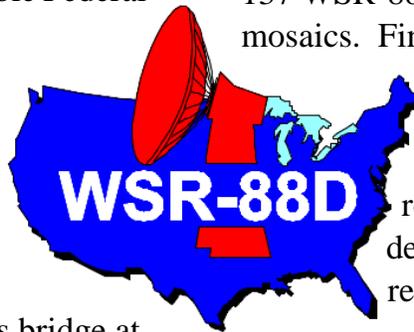
Terminal Doppler Weather Radar (TDWR) Data Flow

Several Weather Forecast Offices (WFOs) have experienced frustration with extended TDWR outages and having the outages addressed in a timely manner. The Radar Operations Center (ROC) recommends that the availability of TDWR data be checked during shift changes. If there is an outage, the first call should be to the applicable Federal Aviation Administration (FAA) Maintenance Operations Control Center (MOCC). If the MOCC cannot find or correct the issue, call the WSR-88D Hotline for assistance. The ROC will begin deployment in late January 2010 of a replacement for the communications bridge at the TDWR shelter, which should improve communications reliability. The ROC recommends the WFO Meteorologist in Charge (MIC) or Electronic Systems Administrator (ESA) contact the MOCC supervisor for TDWR maintenance and arrange periodic meetings at the MOCC and at the WFO.

The ROC also encourages WFOs to exchange in-person visits with Department of Defense (DOD) WSR-88D maintenance staff. These visits can develop a better working relationship and help DOD WSR-88D and FAA TDWR maintainers better understand how the WFO uses the FAA TDWR and DOD WSR-88D data in forecast and warning operations.

WSR-88D Redundant Channels

Consider periodically changing channels on redundant WSR-88Ds, whether National Weather Service (NWS) or FAA, to help ensure the operational status of the other channel. The status of the FAA channels can be reviewed at: http://ssm.roc.noaa.gov/faa_channel.asp.



NCDC WSR-88D Archives and Display Tools

The National Oceanic and Atmospheric Administration’s (NOAA) National Climatic Data Center (NCDC) is an on-line and no-charge source for all the centrally collected TDWR (all 45 operational sites) and WSR-88D (155 sites) products (http://www.nws.noaa.govtgrpcdds_radar_products.pdf). In addition, NCDC archives the Level II data from 137 WSR-88Ds and has hourly NEXRAD national mosaics. Find inventories of archived radar data at: <http://www.ncdc.noaa.gov/nexradinv/choosesite.jsp>. Data ordered is sent to an FTP site for retrieval in usually less than an hour – depending on the amount of data requested.

The NCDC has some excellent visualization tools. NOAA's Weather and Climate Toolkit is an application that provides simple visualization and data export of weather and climatological data archived at NCDC.

The Multi-Function Phased Array Radar (MPAR) Update

NOAA, the Office of Atmospheric Research and NWS are collaborating with the FAA, Air Force, Department of Homeland Security (DHS) and other federal agencies to study the feasibility, viability, and cost-effectiveness of replacing today’s air surveillance and weather radars with a common system using phased array radar (PAR) technology. No decision has been made as to whether a PAR-based system will be deployed, and multi-mission PAR technology is likely at least a decade away from being ready for possible operational use. Also, no decision has been made as to where the possible radars will be sited.

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The second MPAR Symposium was held November 17 - 19, 2009 in Norman, OK. The theme of the symposium was based on the three risk-reduction objectives of demonstrating service improvements, multi-functionality, and cost reduction. The overall schedule called for an optional workshop or “short course” on the first morning of the symposium to provide general technical information on phased array radar, an afternoon introductory session followed by a session on multi-functionality. The second day’s sessions focused on service improvements, with sessions on the final morning dealing with cost reduction followed by wrap-up activities. Tours of the various facilities at Norman were offered in the afternoon. Additional information on the Symposium and the MPAR Project is located at: http://www.ofcm.noaa.gov/homepage/text/spc_proj.htm.

What the ROC Really Said about “Faster” Volume Coverage Patterns (VCPs)

During the summer there were many discussions and emails about whether the use of “faster” VCPs would cause more repairs and maintenance. There was also a discussion point that the ROC had suggested limiting the use of VCP12 on an as “really needed” basis. To be clear, the ROC’s bottom line position has been that antenna movement rates in all VCPs are within the design limits of the radar and forecasters should use the VCP that maximizes their use of the WSR-88D for forecast and warning support.

Western Washington

On May 28, 2009 US Senator Maria Cantwell announced that Congress had appropriated \$2 Million to start a project for a new weather radar along the Washington State coast. Subsequently, the FY10

Omnibus Appropriation Bill included \$7 Million needed to buy the radar, prepare the land, and install the radar. The radar will be a high-power, high-resolution long-range S-band Doppler radar with Dual Polarization capability that integrates seamlessly with the NEXRAD network. The ROC is working with NWS Office of Science and Technology (OS&T), NWS Western Region Headquarters, and others in the NWS and NOAA, to plan and execute this project with a scheduled operational date of September 2012.

Level II Data Collection, Distribution, and Archive Update

The NWS will add the 4 FAA WSR-88D sites in Hawaii to the Level II network in February 2010. Then beginning with the deployment of software Build 12.0 in July 2010, the NWS will begin to add the remaining 8 CONUS DOD WSR-88D sites to the Level II network. The NWS will add the three dual polarization moments to the Level II data stream from NWS sites, as the dual polarization modification is installed beginning in 2010. Last, but not least, the NWS will implement a new architecture for the Level II network in 2010. The new architecture will use NOAANet communications to send the data to two aggregation points – the NWS Telecommunications Operations Center as the primary and the Radar Operations Center as a backup. The new architecture will be more reliable, remove the NWS regional headquarters as aggregation points, replace hardware that is reaching end of service life, and provide data to the same four “top tier” distribution centers located at Purdue University, the University of Maryland, Oklahoma University, and the Educational Research Consortium of the Western Carolinas.

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