NEXRAD NOW

Update on "Tales from the Hotline"

Currently 38 topics, 11 revised, 27 new, and 3 catalogs are available on the Hotline FAXBack system. Topics already on the system are updated, and new topics are added as staffing permits. We suggest that each site periodically request a catalog (Topic 1000) and then revision dates.

The FAXBack system can be reached at **800-874-6745**, and you will be voice-prompted through the process of requesting up to 5 documents per call. If you are an OCONUS DOD site without access to "800" numbers, you will need to call Tinker AFB at DSN 312-884-1110 and ask for offnet to 366-6559. If you expererience problems with the FAXBack system, please call the WSR-88D Hotline at 800-643-3363 and let us know.

We are pleased to announce that "Tales from the Hotline" is now available on the world-wide-web at **http://www.osf.noaa.gov/ops/ops.htm**. Note that new topics may be available on the FAXBack system earlier than the Web page.

Cindy Chrisman

Build 9.0 Training Materials

The Operations Training Branch prepared Build 9.0 training materials that went to sites in two phases.

The first set of training materials was sent out in early October prior to the release of the Build 9.0 software. This material included a CD ROM designed to help operators become familiar with the major changes in Build 9.0. Also, the CD ROM contains the software for the UCP simulator, updated for Build 9.0. In addition, this first package contained a document that has information similar to the information on the CD ROM. We recommend that this document be kept near the WSR-88D operations area and be used as a ready reference for operators. This document is also available on the OTB Web page.

Another training package accompanied the software in the release kit. This material contained "job sheets" aimed at increasing the proficiency of the operators by exercising the new functions, displaying new products, and changing adaptable parameters.

Build 9.0 offers significantly new capabilities and products. Our goal for these training materials is to help operators be able to rapidly use the enhanced capabilities that Build 9.0 offers.

Tim Crum

Streamlining the Documentation Process

The first meeting of the WSR-88D Documentation Team was held at the OSF on June 26 and 27, 1996. The main objective of the meeting was to immediately improve all aspects of Retrofit Documentation.

The discussion focused on the delivery of technical data in electronic format. Many ideas were discussed, such as using Internet, CD ROM, on-line manuals, and the facsimile machine. All of the ideas are good; however, a decision was made to first try the OSF's Business Fax capability for the release of small documentation packages, consisting of 15 pages or less. The documentation associated with the Heliax Cable Nut Replacement modification was the first test of this process. The OSF received very positive feedback from the sites concerning the Fax process. We will continue to send small documentation packages by the Fax machine and will brief the NEXRAD PMC in December on the outcome of this trial period.

Pete Grant

Director's Dialogue
James D. Belville, Director,
WSR-88D Operationl Support Facility

With the exception of the three additional WSR-88D's identified by the Secretary of Commerce, the deployment of systems within all 50 states is nearing completion. Hence, activities of the OSF have transitioned to primarily life cycle support and system evolution.

Upon receipt of NEXRAD Now, users of all three agencies should be receiving the Build 9.0 software and quickly becoming familiar with all of the new enhancements. Work will begin on software Build 10.0 in early December after system changes/enhancements are specified by the NEXRAD Program Management Committee (PMC). In addition, work involving the rehost of the RPG into an open system is showing considerable progress. The open system RPG will provide the WSR-88D with increased capabilities for generating new products, enabling the OSF to refine existing products, improve comunication capabilities, and allow for more frequent upgrade of software builds.

As the Operations Training Branch (OTB) spins down resident training, new activities utilizing distance learning technology have begun. The OTB is presently involved in beta testing interactive audiographics by providing UCP training for HMT's in the NWS Western Region.

As the tri-agencies gain experience with the WSR-88D, the OSF is taking the lessons learned and refining our operations to better respond to the requirements of our customers. Please let us know how we can better serve you.

Inside This Issue...

Editor's Notes
Christina M. Smith, Managing Editor

Our first issue of NEXRAD Now was very well received! Not only was the OSF praised for its efforts, but also received many wonderful suggestions. The suggestions were so good, that I will definitely use them. In fact, if you look closely, you might see one of your suggestions!

To ensure that each element within the National Weather Service community receives NEXRAD Now, we will be sending an additional office copy to the Electronics Technicians. In addition, all those who requested being added to the distribution list have been.

I wholeheartedly welcome your input for Letters to the Editor and From the Field. I realize that this is only our second issue, but these two features can't be done without you!

As always, if you have any questions or comments, please feel free to contact me.

Field Sites Change Algorithm Adaptable Parameters

In 1995 the OSF authorized WSR-88D field sites to lower the Threshold Pattern Vector (TPV) adaptable parameter in the Mesocyclone Algorithm from the default value of 10 to any number between 10 and 6, inclusive. This change results in the Mesocyclone Algorithm detecting smaller features.

In 1996 field sites were authorized to reduce the Threshold TVS Shear (TTS) adaptable parameter from the default value of 72 to any value between 72 and 18, inclusive. This change results in the TVS algorithm triggering on weaker areas of shear upon mesocyclone identification.

Both proposed changes were based on initial studies performed at the OSF and reports from field sites that TVS detections were relatively rare.

The OSF Web page now contains a list of sites that have contacted the OSF and the parameter values they are using. This information can be viewed on the OSF Applications Branch Page. The address is: http://www.osf.noaa.gov/app/app_bl5.htm

Bob Lee

Build 9.0 Success Story

A week after having Build 9.0 installed for the Beta Test at Albuquerque, New Mexico, MIC Charlie Liles sent this e-mail to Southern Region Headquarters. Thanks for the positive feedback, Charlie!

"Just wanted to give you guys a first impression of our Build 9.0 test going on. Within 3 hours of bringing the 88D up, we got a "hail flag" for 1" hail NW of LVS. We later got a report of dime size hail in that area.

The 2nd day...the "cell trends" gave us a 100% probability of severe hail over NE ABQ...with max diameter of 2". Two volume scans later, hail up to golf ball size began falling in NE ABQ...lasted 20-30 minutes.

Since then (last Friday), we've had quite a few flags for 3/4 to 1.5 inch hail. We have felt confident enough to go ahead with warnings although most of these storms have been in areas we could not get ground truth. So far...so good".

Christina Smith

WSR-88D Depot Level PMI

At the end of FY96, the Sacramento Air Logistics Center (SM-ALC) Antenna and Radome Preventive Maintenance Inspections (PMI) Teams had completed 57 sites. The schedule for FY97 for approximately 70 sites is being coordinated with Sacramento. Each team performs the depot level PMIs on the radome, antenna, and tower.

For the radome, this includes tightening all the bolts, washing the outside of the radome, caulking the seams, patching small holes, and evaluating the need to repaint the domes. The team repairs spinner nuts, which spin within the fiberglass panels and can't be tightened to specifications.

The antennas are leveled, and all bolts in the dish and supporting arms are tightened. The pedestal bolts are tightened and any oil leaks are identified.

The entire tower is checked for corrosion and treated as needed. Rusted or corroded nuts, bolts, and fasteners are sanded and repainted, or replaced if necessary. The team checks the grounding wires, grounding plates to the buildings, and cadwelds, the welding spots where the grounding wires are connected. The stairs, handrails, and platforms are checked and retorqued as necessary. In addition, all of the

Build 9.0 Beta Test

Software Version (Build) 9.0 is ready for system-wide release in early November. The OSF recently put the software through its final testing phase, the Beta Test. The Beta Test began on July 23, 1996, and extended through October 2, 1996. The OSF and agency NEXRAD representatives selected eight WSR-88D systems that represent the spectrum of WSR-88D configurations, agency ownership, and geographic regions as sites for the Beta Test. The OSF sent a Test Team to each RDA-RPG host unit to perform a system checkout, observe the loading of software, execute some tests, and obtain feedback on the new Build 9.0 functionality and training materials. A few minor software problems were discovered during the Beta Test, but have been corrected and retested. The Beta sites are listed below.

RDA/RPG Sites
Laughlin AFB, TX (DOD)
Springfield, MO (NWS CR)
Missoula, MT (NWS WR)
Wilmington, OH (NWS ER)
King Salmon, AK (FAA)
Albuquerque, NM (NWS SR)
Molokai, HI (FAA)
Memphis, TN (NWS SR)

APUP Sites
Wright-Patterson AFB, OH (AFIT)
Wright-Patterson AFB, OH (Wx Unit)
San Antonio WSFO, TX
Kirtland AFB, NM
Honolulu WSFO, HI
FAA CERAP Honolulu, HI

Pearl Harbor, HI (USN)
Hickam AFB, HI
MCAS Kanehoe Bay, HI
NAS Barbers Point, HI
Wheeler AAF, HI (Army)
WSR-88D Hotline - OSF

River Forecast Center (RFC) NAPUP Sites
Cincinnati RFC
Kansas City RFC
Anchorage RFC
Salt Lake City RFC
Atlanta RFC
Ft Worth RFC
Slidell RFC
Tulsa RFC
Portland RFC

National Center NAPUP Sites
FAA Central Flow Control Facility (2)
Hydrometeorological Prediction Center (2)
Air Force Global Weather Central (Offutt AFB) (2)
NSSFC/SPC (3) Kansas City, MO/ Norman, OK
HQ National Weather Service (Silver Spring, MD)
HQ Air Weather Service (Scott AFB, IL)
National Climatic Data Center (Asheville, NC)

NWS Region NAPUPs
Eastern Region HQ
Southern Region HQ
Central Region HQ
Western Region HQ

Build 9.0 is the first OSF release with major functionality changes at the RPG and PUP (e.g., new SCIT

and Hail algorithms and products.) These changes produced some unavoidable incompatibilities between the builds. The specific incompatibilities between the software builds are as follows:

Build 8.0 PUP accessing a Build 9.0 RPG:
- **One-Hour Precip (OHP), Three-Hour Precip (THP) and Storm Total Precip (STP) products will display as blank or corrupted products.**
- **Storm Track Information (SI) product - corrupted data is displayed**
- **Hail (HI) product - corrupted data is displayed.**
- **Composite Reflectivity (CR) - Combined Attributes grid blinks**
- **Storm Structure (SS) - product does not display**
- **The Hail (Volume and Forecast Groups), Max Storm Velocity (Volume and Forecast Groups), and Storm Volume (Volume and Forecast Groups) alert categories will not work at a Build 8.0 APUP.**

Build 9.0 PUP accessing a Build 8.0 RPG:
- **Cannot display a time lapse of precip products (OHP, THP, or STP)**
- **Probability of Hail (Volume and Forecast Groups), Probability of Severe Hail (Volume and Forecast Groups), Maximum Expected Hail Size (Volume**

and Forecast Groups) will not work at a Build 9.0 APUP

- **The User Selectable Precip (USP) and Clutter Filter Control (CFC), which are Build 9.0 functionality cannot be requested o r displayed**
- **Supplemental Precipitation Data (SPD) will not display**
- **Volume scan time for alerts (S,AL) is not properly displayed on the PUP screen.**

The current plan is for Beta Test Sites to remain on Build 9.0, unless the local site believes Build 9.0 is adversely impacting operations. Hence, these incompatibilities will affect Build 8.0 PUPs through the installation of Build 9.0 on their PUP. To mitigate compatibility problems during the final release and installation of Build 9.0, Associated PUP sites should install Build 9.0 prior to, or at the same times as, the installation of Build 9.0 on the host RDA and RPG. We suggest that the Unit Radar Committees carefully coordinate the transition from Build 8.0 to 9.0.

For questions concerning Build 9.0 software, contact the OSF Hotline.

Major Ed Ciardi
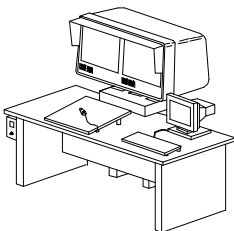
Audiographics: What's it all about?

As the WSR-88D operations residence course begins to wind down, the Operations Training Branch (OTB) has begun exploring supplementary methods to provide follow-up radar training. In February of this year, OTB hosted the NWS Heads of Training meeting. As part of this meeting, the Heads of Training members and several OTB staffers attended a Managers Workshop on Distance Learning conducted by the Tele-training Institute located in Stillwater, Oklahoma. The purpose of this workshop was to evaluate alternative training delivery methods that are more cost effective and as efficient as residence training.

A distance learning team was formed to investigate the possibility of using distance learning within the National Weather Service. A search was begun for current users of remote training technology, vendors, and teletraining experts. After much brain storming, audiographics was decided upon as the remote training delivery system that would best meet our users' needs.

Audiographics is a PC conferencing system that allows two-way audio and shared graphics using a standard analog telephone line. This conferencing can be point to point, or multi-point using an audiobridge. Audiographics is currently being extensively used by Xerox and the U. S. Postal Service, among others. Research shows that there is significant cost savings for these companies and improved retention of subject matter compared to residence training.

Audiographics presentations have been given to various regions within the National Weather Service, including Headquarters personnel, Air Weather Service, the Watch Decentralization Team, and the Transition Management Meeting. Overall, comments have been very favorable. In addition, Jami Boettcher, Don Rinderknecht, and Joe Baalke conducted a one hour training module on clutter suppression for the Eastern Region's Service Hydrologists using audiographics. Regional and field personnel were both very supportive of the technology and would like to see more training conducted in this format.

A pilot project using audiographics will be conducted during the fall of this year. WSR-88D training will be delivered to the HMTs in the Western Region. Lessons learned in this initial project will be applied to future WSR-88D modules.

If you have any questions about audiographics, please contact the Operations Training Branch at (405)366-6560 Joe Baalke (ext: 4261), Jami Boettcher (ext: 4263), or Don Rinderknecht (ext: 4279).

Joe Baalke

Operations Tips

WSR-88D Communication Documentation Notebooks

National Weather Service Operations Handbook 9 (WSOH-9) will soon be delivered to all NWS WSR-88D field sites. The WSOH-9 Chapter 11, *WSR-88D Telecommunications,* will establish policy for NWS site management of WSR-88D communications, and communication documentation. Air Weather Service (AWS) Headquarters is leading the effort to author a Technical Order (TO) for WSR-88D communications management, similar to the WSOH-9, that will govern tri-agency site responsibility for WSR-88D communications management. In both cases, some of the communication documentation referenced may not be readily available or identifiable to field site system managers.

To help managers assemble this material, the WSR-88D Hotline is compiling site-specific *WSR-88D Communication Documentation Notebooks,* and distributing them to all full-thread sites. The notebooks will contain the most up-to-date version of nearly all the documentation required by both the WSOH-9 and the Communications TO.

Each site's notebook will include the Hotline-originated *WSR-88D Communications - Telco Reporting Form,* the *Communications Outage Log*, and current copies of the site's most recent NBComm database output, including an NBComm Trouble Shooting Info Sheet for each PUP. Also included will be an updated *NEXRAD RPG Narrowband Circuit Report* obtained from OSF Engineering, and a verified *NEXRAD Jack Layout*, from Sprint.

The Notebook also furnishes the WSR-88D system managers with softcopies of much of this documentation, provided on a 3.5" floppy disk in WordPerfect 6.1 (MS Word 2.0 for AWS) format. The WSOH-9 requires, and AWS recommends, that system managers use these softcopies to locally update the WSR-88D Communication Documentation Notebook to reflect any subsequent changes to communication configurations. WSR-88D communication configuration changes include additions/deletions of both dial and dedicated lines, which will occur primarily with non-NEXRAD-CS (non-Sprint) Telco providers. Changes to the initially delivered communication configurations may include area code changes on commercial dial lines, Telco service-provider changes, addition/deletion of circuits and circuit number identifiers, trouble-logging procedures (Telco vendor call-back phone numbers), and so forth.

For NWS sites, the WSOH-9 requires that up-to-date copies of all the documentation contained in the Communications Documentation Notebook be posted at both the UCP (where it is readily accessible to WSR-88D operators) and in the Station Duty Manual. AWS HQ recommends that duplicate copies be maintained at both the UCP and RPG. The WSOH-9 also charges system managers with ensuring that site personnel are aware of how to apply the communication documentation to troubleshooting WSR-88D communication problems.

The Hotline soon plans on posting some of the WSR-88D communication troubleshooting procedures found in the WSOH-9 Chapter 11, and an example of a WSR-88D Communication Documentation Notebook, to the Hotline's web site **http://www.osf.noaa.gov/ops/ops.htm**. Contact the WSR-88D Hotline at **1-800-643-3363,** should you have any questions relating to this documentation.

Mark Albertelly

Letters to the Editor

Daryl Covey, Field Support Section Chief, sent this e-mail regarding a call the Hotline received:

Wayne Hall (ESA at Slidell, LA) called to report that his AC1 unit locked up. When the core was hosed out, the alarm went away. He said that it was badly clogged with dirt, mold, etc. Whenever a site calls in with AC alarms, Wayne suggests cleaning out the unit before calling in the specialists.

Thanks for the great advice, Wayne!

Kim Runk, Science and Operations Officer at the National Weather Service Office in Las Vegas sent this e-mail regarding the OSF Web page:

I recently reviewed the OSF homepage. I like the organization of the page, and was particularly impressed with the OTB section. The online version of Build 9.0 precursor material and the Adaptable Parameters Handbook have proven to be excellent training resources. What additions are forthcoming in the near future?

Recently, the Engineering Branch added a listing of their current projects, and will update this as needed to include new projects. Since each of the five OSF branches have their own Web page, this general principle applies to the other branches as well.

The System Support Branch currently has a mission statement only. In the near future, however, we will be adding a link to the Web page of Office of Systems Operations (OSO) that will allow users to access their real time RC status user menus. Also, a report on the status of documentation and retrofit kits will be added and updated each month.

As you noted, the Operations Training Branch has an outstanding page. For those of you that haven't seen it yet, here is a quick summary: There is a quick link for the PC video configuration for the Build 9.0 CBT; a description of OTB Courses; Build 9.0 Items/Documents, such as, PUP Job Sheets, Build 9.0 Precursor Training, Guidance on Adaptable Parameters Handbook, Volume 1, RPG; Meteorological topics that include Mesocyclone Characteristics of Mini Supercell Thunderstorms, a paper written by OTB's Brad Grant and Robert Prentice that examines the possibility of the mini supercell mesocyclone as a tornado predictor. Topic 8, Lesson 5: Precipitation Algorithms and Products from the Student Guide is available. There are both classroom and supplementary training materials that cover various issues of radar operations and/or interpretation. AND, a Student Services page for anyone coming to Norman to attend an OTB Course in the future.

Some highlights from the other branches include several field surveys and studies, as well as a very useful overview of WATADS from the Applications Branch. Look for their additions and updates in the future. The Operations Branch has an online version of 'Tales from the Hotline, which gets updated on a routine basis. The first issue of NEXRAD Now has been added, and subsequent issues will be added as they are published. Our address is **http://www.osf.noaa.gov.**

Thanks for the question and the feedback on our Web page, Kim.

Real-Time Wideband Access

The OSF and National Severe Storms Laboratory have teamed together to develop the capability to provide real-time access to WSR-88D wideband data. This interface is called the Radar Interface and Data Distribution System (RIDDS). The NWS and FAA have acquired a limited number of wideband interface workstations and funded on-going support for the connections. Nine of these interface connections are in operation supporting NEXRAD agency activities such as algorithm and product development.

These wideband data connections can be made with internal or external users (users not part of a NEXRAD agency). The PMC has approved the guidelines under which external connections may be made. The OSF will act as manager of this program for the NEXRAD agencies. The OSF has sent information concerning the RIDDS to the sites where connections are proposed. If you would like information on the RIDDS, contact your head-quarters or Tim Crum at (405)366-6560 ext. 4226.

Tim Crum

WSR-88D Depot Level PMI cont'd

cables and fansteners that hold the pressurized wave guide and cables are checked.

Radome paint tests are ongoing at Sacramento. Entire radome panels are being tested in anechoic chamber with both wet and dry tests. Nine different paints are being tested for effects on transmissivity and how the paint adheres to the panels. Once these tests are completed and a suitable paint is selected, sites will be scheduled for either immediate repainting or repainting during one of the next scheduled PMI visits.

Rich Rasmussen

Season's Greetings From The OSF Staff