

AWIPS SOFTWARE INSTALLATION NOTE 80

Operations Division

W/OPS12: KS

SUBJECT: Advanced Weather Interactive Processing System (AWIPS) Release OB9.2

PURPOSE: Provides installation instructions and related information for the software release.

SITES AFFECTED: All Weather Forecast Offices (WFO), River Forecast Centers (RFC), regional headquarters and National Centers for Environmental Prediction (NCEP).

AUTHORIZATION: The authority for this note is Request for Change (RC) 11991.

VERIFICATION STATEMENT: This procedure was tested and verified on test platforms at the National Headquarters in Silver Spring, MD (NMTW and NHOR), and the following operational platforms: Central Region Headquarters in Kansas City, MO (BCQ); Southern Region Headquarters in Ft Worth, TX (EHU); Pacific Region Headquarters in Honolulu, HI (PBP); Weather Forecast Offices (WFO) Blacksburg, VA (RNK); Taunton, MA (BOX); Omaha, NE (OAX); Norman, OK (OUN); Grand Rapids, MI (GRR); Salt Lake City, UT (SLC); Fairbanks, AK (AFG); Houston, TX (HGX); Raleigh, NC (RAH); Boulder, CO (BOU) and Portland, OR (PQR); River Forecast Centers Northwest in Portland, OR (PTR); Arkansas Red Basin in Tulsa, OK (TUA), and Middle Atlantic in State College, PA (RHA).

ESTIMATED COMPLETION DATE: All sites should complete installation by March 15, 2010. The installation date must be scheduled on the National Weather Service (NWS) Oracle AWIPS Schedule calendar.

TIME REQUIRED: Approximately 90 to 140 minutes, depending on the number of workstations.

ACCOMPLISHED BY: Electronic Systems Analysts (ESA) or their designee.

EQUIPMENT AFFECTED: AWIPS

SPARES AFFECTED: None.

PARTS/MATERIALS REQUIRED: AWIPS OB9.2 Software Maintenance Release Installation DVD.

SOURCE OF PARTS/MATERIALS: Raytheon

DISPOSITION OF REMOVED PARTS/MATERIALS: Not Applicable.

TOOLS AND TEST EQUIPMENT REQUIRED: None.

DOCUMENTS AFFECTED: File this note in EHB-13, Section 3.1.

- PROCEDURE:** These instructions are written for both RFC and WFO systems. As a result, some instructions may only be applicable to RFC systems, WFO systems or individual sites. Each step or section is clearly marked. **All steps are required unless otherwise directed in the instructions.**
- Script log output files for this release are available at https://www.ops1.nws.noaa.gov/Secure/awips_software.htm
- TECHNICAL ASSISTANCE:** For questions or problems pertaining to this note, contact the Network Control Facility (NCF) at (301) 713-9344 and ask for OB9.2 installation support.
- REPORTING INSTRUCTIONS:** Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in [EHB-4, Maintenance Documentation](#), Part 4, and Appendix F. Include the following information on the EMRS report:
- Maintenance Description (block 5): **Install AWIPS Release OB9.2**
- Equipment Code (block 7): **AWIPS**
- Serial Number (block 8): **001**
- Maintenance Comments (block 15): **Installed Release OB9.2 I.A.W. AWIPS Software Installation Instruction Note 80.**
- Mod No. (block 17a): **S80**
- A sample EMRS report is provided as Attachment F.

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Director, Operations Division

- ATTACHMENT A - Pre-Installation Instructions
- ATTACHMENT B - Main Installation Instructions
- ATTACHMENT C - WarnGen Template Changes
- ATTACHMENT D - Discrepancy Reports (DR) Corrected in OB9.2
- ATTACHMENT E - Additional Support Resources
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ATTACHMENT A - Pre-Installation Instructions

The identity of the system can be determined by checking the `$$SITE_TYPE` variable. Each AWIPS also has a unique site name, which can be determined by checking the `$$SITE_IDENTIFIER` variable.

A.1 General Information

The OB9.2 installation includes corrections to Discrepancy Reports (DR), which are listed in Attachment D. The installation will take about 90 to 140 minutes to complete.

A.1.1 Prerequisites

All sites: AWIPS Software Installation Note 79, Revision B - Release OB9.1

WFO Systems with CRS only: Section A.3 - OB9.2 Migration to NWRWAVES for NWEM Processing

A.1.2 Coordinate Installation Date

Coordinate the installation with backup sites, uplink sites, hub site pairs, and Center Weather Service Units (CWSU) as applicable.

1. The AWIPS system will be unavailable for operational use during the installation. Coordinate with backup sites to arrange for service backup as needed.
2. Weather Wire uplink sites must ensure that the backup Weather Wire site(s) are not upgrading to this release concurrently. Contact the AWIPS Regional Focal Point to request assistance with this coordination.
3. Wide area network (WAN) hub sites must ensure that the corresponding hub site pair is not concurrently doing similar upgrades. Hub site pairs are BOX/CTP, EAX/TSA, MPX/ILN, FFC/LIX, STO/PQR and SLC/FWD. Contact the AWIPS Regional Focal Point to request assistance with this coordination.
4. Sites with connections to CWSUs must coordinate the installation of this release with those sites, since there will be a disconnection during the release installation.

A.1.3 (WFO Systems only) WarnGen Template Information

The OB9.2 maintenance release delivers 2 templates into the baseline directory `/data/fxa/nationalData`. Additional information about the template changes is included in Attachment C.

A.2 Pre-Installation Procedures

Complete Section A.2.1 and A.2.2 prior to beginning the core installation in Attachment B.

A.2.1 Save Browser Bookmarks

The bookmarks on the Firefox browser may be removed during the install. Complete the following steps to save off a copy of the bookmark file. The saved off version can be restored to the browser during the post-install activities if the bookmarks are removed.

1. From Firefox's browser main menu, select **Bookmarks** -> **Organize Bookmarks**.
2. From the **Import and Backup** drop down menu, select **Export**.
3. Select filename and folder and then select **Save**.

These steps should be completed for each user to save individual bookmark files.

A.2.2 Check Software Installation DVD

Verify that the installation DVD is mountable and readable. If any errors are encountered mounting the DVD or reading files using the commands, contact the NCF at (301) 713-9344, and request OB9.2 Install support.

1. Insert the AWIPS OB9.2 Software Maintenance Release Installation DVD into the DX1 DVD-ROM drive.
2. From a Linux Workstation, open a terminal window and log on to the **DX1** as `root`.
3. As user `root` from **DX1**, type the following commands to mount and check the DVD: Instead of just checking a few files, use the `dd` command to verify the number of records in is equal to the number of records out.

```
mount /dev/cdrom
```

```
cd /media/cdrecorder
```

```
dd if=/dev/cdrom of=/dev/null          (Takes 5 to 10 minutes.)
```

Verify records in is equal to records out.

The DVD can remain mounted in the DX1 DVD-ROM drive until the installation is complete.

A.3 OB9.2 Migration to NWRWAVES for NWEM Processing

NOTE: From this point onwards, the remainder of Attachment A must be performed by **WFO Systems with CRS only**.

A.3.1 Section Overview

This section provides general information concerning AWIPS OB9.2 “turn-key” operation from usage of CRS AWIPS Formatters Extended (CAFÉ) to NWRWAVES for processing of HazCollect Non-Weather Emergency Messages (NWEM) at National WFOs. The HazCollect system automates the distribution of NWEMs from authenticated and authorized federal, state, local, territory and tribal Emergency Management (EM) and other government officials to NWS dissemination systems, including the National Oceanic and Atmospheric Administration (NOAA) Weather Radio (NWR), NOAA Weather Wire Service (NWWS), and the NWS Telecommunication Gateway (TG). NWRWAVES is a comprehensive formatter for NWR products. NWRWAVES purpose is threefold:

1. Compliments all existing formatter capabilities found in the AWIPS Graphical Hazard Generator (GHG) program and replaces the capabilities found in CAFÉ.
2. Uses Valid Time Event Code (VTEC) found in an increasing suite of NWS products to better identify, produce and manage outbound CRS weather messages. The use of the Message Reference Descriptor (MRD) number allows sites to better automate their CRS Broadcast Cycle management.
3. Better sustainability over the numerous scripts used in the CAFÉ approach.

NOTE: No AWIPS or CRS installation is required using this section. It is intended to supplement the information in this software note.

This section provides information about the transition from the CAFÉ NWEM to NWRWAVES for processing of HazCollect generated NWEM products.

It is not intended to serve as an operations manual for HazCollect or NWRWAVES. Operation and maintenance of NWRWAVES is described in the *NWRWAVES Users Manual* and is not covered here. The NWRWAVES documentation is being updated to include a description of the HazCollect NWEM processing.

Section A.3 contains the following:

- Section and system overviews.
- NWRWAVES NWEM Formatter Description: describes NWEM Formatter on AWIPS
- CRS NWRWAVES NWEM Formatter Description: Automatic Configuration for OB9.2

Attachment E, *Additional Support Resources*, is also provided towards the end of this document.

A.3.2 System Overview

The Department of Homeland Security (DHS) provides the PC-based NWEM Toolset software to authorized officials to connect to the secure Disaster Management Interoperability Services (DMIS) network for communication with other DMIS users and to distribute NWEMs to external users and systems. Disaster Management Open Platform for Emergency Networks (DM_OPEN) collects emergency messages input from authorized users through the DMIS NWEM Toolset and third-party vendor NWEM authoring tools and forwards them as Organization for the Advancement of Structured Information Standards (OASIS) Common Alerting Protocol (CAP) messages to the HazCollect Server located in the NWS TG.

The HazCollect Server receives the CAP messages, converts them to World Meteorological Organization (WMO) messages and forwards them to the AWIPS and TG systems for dissemination.

AWIPS, the principal IT system used by NWS local office personnel, provides links to other local offices and to regional and national headquarters. Information exchanged through the AWIPS NCF is transmitted over the wide area network (WAN) and satellite broadcast network (SBN) elements of the AWIPS communications system. Local office AWIPS links to NWR provide a means of broadcasting weather information.

The TG interfaces with other user and agency systems to exchange weather information nationally and internationally.

HazCollect enhances all or part of these systems to automate the end-to-end dissemination of emergency messages as shown in Figure A-1.

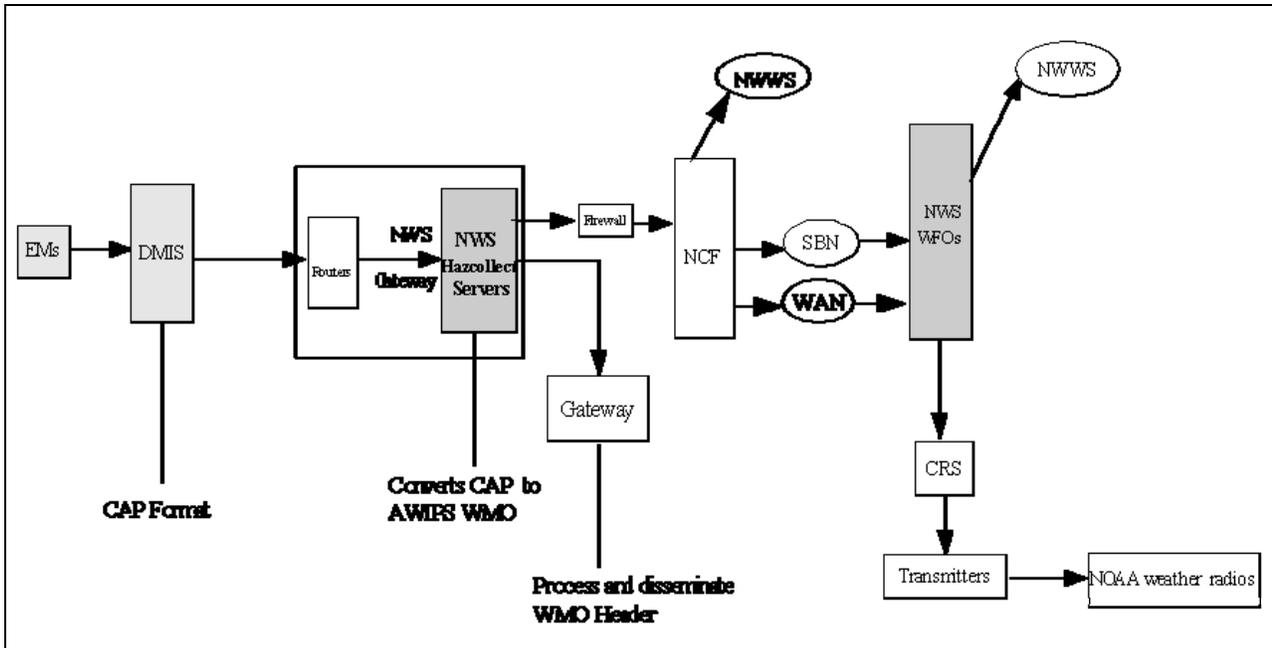


Figure A-1: HazCollect Architecture Overview

Messages undergo three stages of processing following entry by the user into the NWEM Toolset or other system:

1. DMIS receives the user inputs and converts them into a CAP formatted message for transmission to the HazCollect Server.
2. The HazCollect Server receives the CAP formatted message and converts it into a WMO/NWEM formatted message for transmission to AWIPS.
3. AWIPS receives and processes the WMO/NWEM formatted message, using the CRS AWIPS NWRWAVES Formatter software to convert it into a CRS formatted message, and transmits it to CRS.

A.3.3 CRS NWRWAVES NWEM Formatter Description

This section describes the CRS NWRWAVES NWEM formatter on the AWIPS system. **OB9.2** or later uses the NWRWAVES formatter for processing all NWEM messages. The old standalone CAFÉ NWEM formatter will no longer be used for HazCollect.

The NWRWAVES application replaces the CAFÉ NWEM formatter in AWIPS OB9.2. NWEM messages are required to be configured in a manner similar to that of all other NWRWAVES products. However, for the National and Statewide messages the statewide county Universal Geographic Code (UGC) "000" needs to be added to the `localUGCLookup.table` and `transmitter.cfg` file for HazCollect to work properly with the AWIPS and CRS system.

Table A-1 contains the list of NWEM products to be added as required to the database trigger file.

Table A-1: Non-Weather Emergency Products

Event Code	Event (Product) Name	AWIPS Priority
ADR	Administrative Message/Follow up Statement	Other/General
AVA	Avalanche Watch	Watch/High
AVW	Avalanche Warning	Warning/Exclusive
CAE	Child Abduction Emergency	Watch/High
CDW	Civil Danger Warning	Warning/Exclusive
CEM	Civil Emergency Message	Warning/Exclusive
DMO	Practice/Demo Warning	Configurable
EQW	Earthquake Warning	Warning/Exclusive
EVI	Immediate Evacuation Warning	Warning/Exclusive
FRW	Fire Warning	Warning/Exclusive
HMW	Hazardous Materials Warning	Warning/Exclusive
LAE	Local Area Emergency	Watch/High
LEW	Law Enforcement Warning	Warning/Exclusive
NUW	Nuclear Power Plant Warning	Warning/Exclusive
RHW	Radiological Hazard Warning	Warning/Exclusive
SPW	Shelter In Place Warning	Warning/Exclusive
TOE	911 Telephone Outage Emergency	Watch/High
VOW	Volcano Warning	Warning/Exclusive

Sites should review their `product.cfg` file to verify that all products listed in Table A-1 have been configured properly by the remote NWEM configuration script.

A.3.4 Configuration of NWEM Products

Upon installation of OB9.2, each of the 18 Non-Weather Emergency products (listed in Table A-1) are preconfigured to be in compliance with parameters in *National Weather Service Instruction (NWSI) 10-1710* (see Table A-2 in Section A.3.7).

To examine/change the NWRWAVES settings for each of the 18 Non-Weather Emergency products, use the NWRWAVES setup utility window (Figure A-2; see NWRWAVES Users Manual).

NOTE: In most cases the default setting should be used, but some regions may require changes based on regional policy. For example, Eastern Region's requirement of no SAME or 1050Hz tone for the ADR event code.

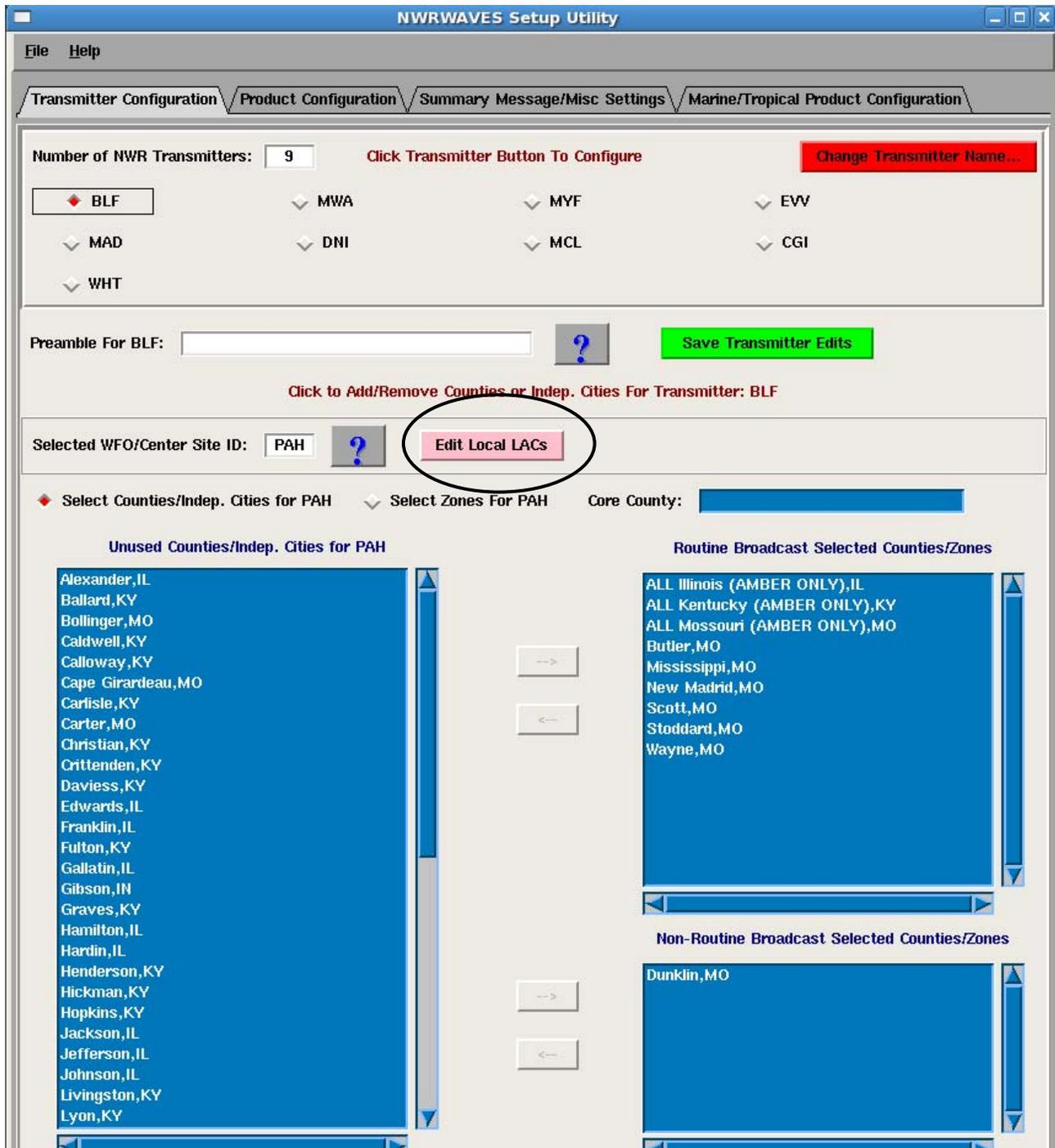


Figure A-2: Example of the NRRWAVES Product Configuration Window

A.3.5 Configuration of Statewide Code "000"

All National and Statewide NWEMs will use "000" in the UGC rather than individual county Listening Area Codes (LACs). For example, a statewide message for Kentucky would be encoded as "KYC000-" rather than "KYC007-035-039-" for the three counties in the state. The "KYC000" code needs to map to every transmitter that will broadcast to any part of Kentucky.

The following is the procedure for adding county "000" in NRRWAVES:

1. Create an entry of county code "000" for `localUGCLookup.table` for each state in the site's listening area.
2. Select NRRWAVES setup utility window from NRRWAVES browser. The *Transmitter Configuration* tab displays (Figure A-2). The first transmitter (BLF in Paducah's case) will be selected by default.
3. Click the **Edit Local LACs** button (circled in Figure A-2). The *NRRWAVES LAC Editor* displays (Figure A-3).

Figure A-3: NRRWAVES LAC Editor

Fill in the fields pertaining to the WFO. As an example:

- WFO ID: **LWX**
- UGC Code: **VAC000**
- Area Name: **ALL Virginia** (HazCollect Only)
- State ID: **VA**
- Time Zones(s): **E**

This information will be saved in the `localUGCLookup.table` and they appear as follows:

Sterling, VA, LWX, E, VAC000

For help with entries select the ? button and the *NRRWAVES Help Message* displays (Figure A-4). Note the possible entries for time zones.

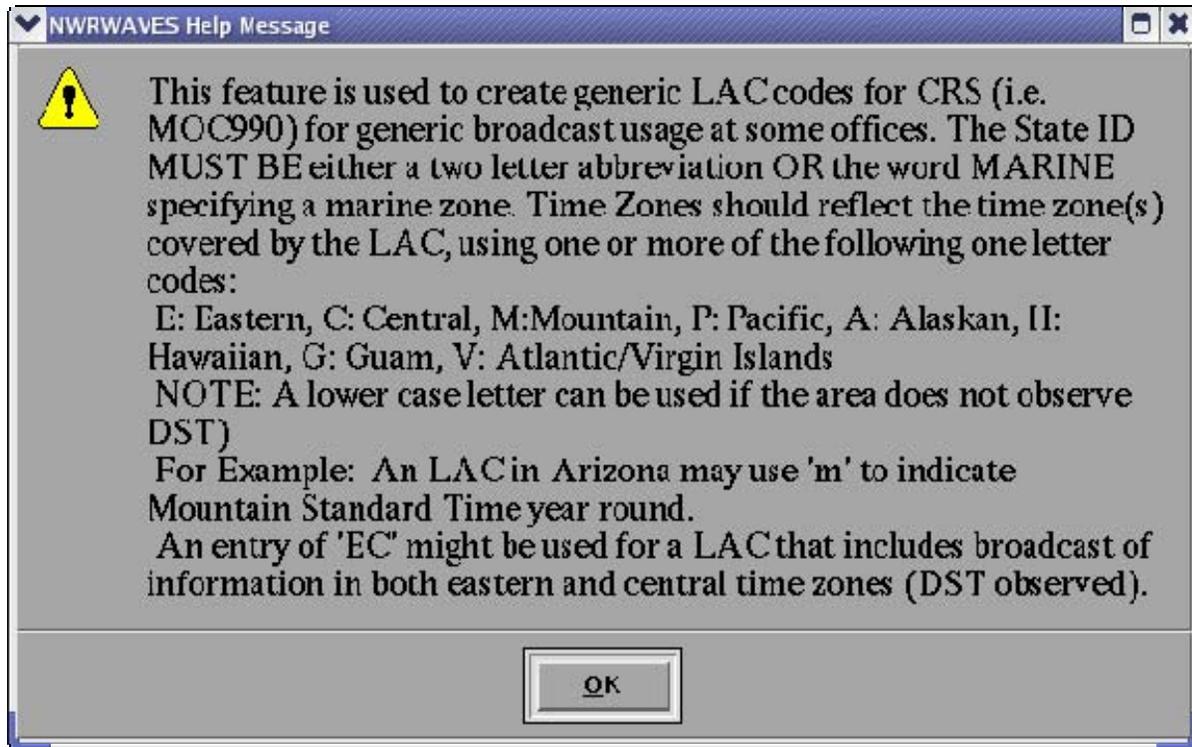


Figure A-4: NRRWAVES Help Message

4. Enter each entry accordingly for creating "<WFO>000".
5. Select **Add LAC**.

NOTE: If the current configuration already contains a Statewide "000" entry then *Save Edits* will appear.

6. Repeat steps 3 to 5 for each state in the Broadcast Service Area (BSA) (e.g. "ILC000" and "MOC000" for Paducah).

When completed, the `localUGClookup.table` file in `/awips/adapt/NRRWAVES/bin` directory should contain:

```
#LOCAL UGC LOOKUP TABLE CREATED BY NRRWAVES
ALL Kentucky (HAZCOLLECT ONLY),KY,PAH,C,KYC000
ALL Missouri (HAZCOLLECT ONLY),MO,PAH,C,MOC000
ALL Illinois (HAZCOLLECT ONLY),IL,PAH,C,ILC000
```

7. For each transmitter, add the newly created county code(s) depending on the BSA of the transmitter. For example if one of the transmitters covers three states, then add three of the newly created county codes for that transmitter.
 1. Locate the lower left scroll window for *Unused Counties/Indep. Cities for SiteID* (e.g. PAH).
 2. Left click on the "000" county code (e.g., KYC000).
 3. Select the → button associated with the *Routine Broadcast Selected Counties/Zones* on top right scroll window.

4. Repeat steps 1 to 3 if the site involves multiple states.
5. Select **Save Transmitter Edits** (Green button).
6. Select **File → Save & Exit**.

Once the county code of “000” is defined and configured, the NWRWAVES should be able to locate the newly defined UGC code (e.g. KYC000, ILC000 and MOC000).

A.3.6 How the NWRWAVES NWEM Formatter Works

The processing of NWEM messages is similar to the procedure for all products configured to be processed by NWRWAVES. When a NWEM text weather product is stored in the AWIPS text database it triggers `/awips/fga/bin/startTransmitHazWarnings.csh`. The final product is sent either to CRS or AWIPS NWRBrowser depending on the configuration parameters set in section A.3.4. If the product is a Spanish text product, the characters (6-9) of the file input file name must be SPN so that allows NWRWAVES to create the proper CRS Spanish header for CRS.

Example: WBCADRSPN

Triggers for each of the NWEM products are automatically created for the site during the OB9.2 installation. You can verify by looking at the database trigger file (`/awips/fga/postgres/fgatextTriggerActions.txt`):

Example of entries in `/awips/fga/postgres/fgatextTriggerActions.txt`:

```
SFDADRPAAH | /awips/fga/bin/startTransmitHazWarnings.csh GEN
WBCADRLWX  | /awips/fga/bin/startTransmitHazWarnings.csh GEN
WBCAVALWX  | /awips/fga/bin/startTransmitHazWarnings.csh GEN
WBCAVWLWX  | /awips/fga/bin/startTransmitHazWarnings.csh GEN
WBCCAELWX  | /awips/fga/bin/startTransmitHazWarnings.csh GEN
WBCCDWLWX  | /awips/fga/bin/startTransmitHazWarnings.csh GEN
WBCCEMLWX  | /awips/fga/bin/startTransmitHazWarnings.csh GEN
```

A.3.7 Explanation of Some Config Parameters

By default (in accordance with *NWSI 10-1708, All-Hazards Emergency Message Collection System (HAZCOLLECT)*), all NWEMs may be configured to be created and held to the pending side of the NWRWaves browser, and subsequent manual transmission by the forecaster to CRS. The default settings for the CRS Interrupt and Tone parameters should be based on *NWSI 10-1710*.

NOTE: Read the rows in Table A-2 from left to right. For example, for Hurricane Warning there is a **Y** (Always) for NWR SAME overnight, but that is only if it is the initial warning issuance for a given location.

Table A-2: Use of NWR SAME, 1050 Hz WAT and Program Interrupt for Weather Related and Non-Weather Related SAME/EAS Events

AME/EAS Event	NWR SAME code	AWIPS NNN	NWR SAME		1050 Hz WAT		Intrp
			Y/N	Ovngt	Y/N	Ovngt	
EVENT: Administrative							
Practice/Demo Warning	DMO	DMO	Y	Y	N		N
SAME/EAS Event	NWR SAME code	AWIPS NNN	NWR SAME		1050 Hz WAT		Intrp
			Y/N	Ovngt	Y/N	Ovngt	
EVENT: Non-Weather Related							
State and Local Codes (Optional for FCC regulated broadcast stations)							
Administrative Message	ADR	ADR	Y	N	N		N
Avalanche Warning	AVW	AVW	Y	Y	Y	Y	Y
Avalanche Watch	AVA	AVA	Y	LTO*	Y or RR	LTO*	N
Child Abduction Emergency	CAE	CAE	Y	N or RR	N		N
Civil Danger Warning	CDW	CDW	Y	Y	Y	Y	Y
Civil Emergency Message	CEM	CEM	Y	LTO*	Y	LTO*	Y
Earthquake Warning	EQW	EQW	Y	Y	Y	Y	Y
Evacuation Immediate	EVI	EVI	Y	Y	Y	Y	Y
Fire Warning	FRW	FRW	Y	Y	Y	Y	Y
Hazardous Materials Warning	HMW	HMW	Y	Y	Y	Y	Y
Law Enforcement Warning	LEW	LEW	Y	Y	Y	Y	Y
Local Area Emergency	LAE	LAE	Y	N	N		N
911 Telephone Outage Emergency	TOE	TOE	Y	N	N		N
Nuclear Power Plant Warning	NUW	NUW	Y	Y	Y	Y	Y
Radiological Hazard Warning	RHW	RHW	Y	Y	Y	Y	Y
Shelter in Place Warning	SPW	SPW	Y	Y	Y	Y	Y
Volcano Warning	VOW	VOW	Y	Y	Y	Y	Y
Column Headings: NWR SAME code - The three character event code that is transmitted to NWR receivers NWR SAME - Use of the NWR SAME data burst 1050 Hz WAT - Use of the NWR 1050 Hz Warning Alarm Tone Intrp - Use of Program Interrupt for EAS message Y/N - Whether (or not) the tone or data burst is used Ovngt - Whether (or not) the NWR SAME or WAT is used during overnight hours							
Table Entries: Y - always N - never I - yes for initial issuance for a county/city only		LTO - Immediate or near-term Life Threatening situations Only RR - Regional or Local Requirements as addressed in Directives Supplement(s) * when that capability becomes available					
Definition of Life Threatening: Action must be taken to prevent injury or death to those who will be affected by the event.							

A.3.8 NWRWAVES Automatic Configuration OB9.2 Description

Prior to the distribution of AWIPS OB9.2 there will be a **NWRWAVES NWEM** Automatic Configuration via a remotely executed script. The script, called `HazConfigNWEM.sh`, will:

- automatically interrogate a site's current NWRWAVES Configuration, find and remove all existing NWEM type entries from the current WFO site NWRWAVES `product.cfg` file, and store the refreshed `product.cfg` file to a temporary location.
- append a generic NWEM template with default product settings, dictated by *NWSI 10-1710*, to the temporary `product.cfg` file.
- save the original `product.cfg` file to `product.cfg.OB9` and archive all deleted entries to `product.cfg.REMOVED`.

This remote procedure will transparently provide the necessary NWRWAVES configuration for WFO sites to process NWEM messages post installation of AWIPS OB9.2. The only manual intervention required by the WFO(s) is to configure the all-county code ("000") [Section 2.2], which is necessary for distribution of national and Statewide NWEM products. The only other manual change would be if the site's regional policy for specific products differs from *NWSI 10-1710*.

The pre-install steps are complete. Proceed to Attachment B for the main installation.

ATTACHMENT B - Main Installation Instructions

B.1 Installation Procedure for the OB9.2 Software Upgrade

B.1.1 Notify the NCF

Before starting the installation, open a trouble ticket with the NCF by calling (301) 713-9344. If problems are encountered during the install, contact the NCF and ask for OB9.2 install support.

B.1.2 Prepare AWIPS System for Software Upgrade

1. Initiate service backup, if needed.
2. Terminate all D2D sessions and log out of the **LX** workstations.
3. Log out of all text workstations, and terminate any local and AWIPS applications open.
4. (**PACE sites**) Switch off PACE input during the installation.
5. (**ASOS sites**) Prevent ASOS from dialing into LDAD by turning off the dial-in phone lines on the LDAD.
6. (**Radar sites**) Send a message indicating radar unavailability during the installation.
7. (**RRS Sites**) Disconnect the Ethernet cable from the back of the RWS and pull the Upper Air modem from the AWIPS modem rack to prevent RRS from transmitting data to the local AWIPS system while it is down. RRS will automatically go to the second dial backup site after three failed dial attempts to the local system.
8. Sites with data feeds to the Federal Aviation Administration (FAA) should notify them of the installation.
9. Weather Wire uplink sites should contact Dyncorp, and ensure a backup uplink site is not expected to be in service backup.
10. Sites with a CWSU connection should request that the CWSU log out of their D2D application. Unplug the wire to the CWSU.
11. Log into any workstation as `root`, open a terminal window, and log into **DX1** (as `root`).
12. (**RFC Systems only**) Stop decoders in preparation for the AX installation script. As user `root` from **AX**, type the following commands:

```
su - oper
```

```
/rfc_arc/scripts/decoders/stop_raw_decoder
```

```
/rfc_arc/scripts/decoders/stop_processed_decoder
```

B.1.3 Remove Test Software

As a general rule, sites testing software via AWIPS Test Authorization Note (ATAN) should remove the software before the upgrade.

B.1.4 Check for Stale NFS Mounts on AWIPS Devices

Stale mounts are often caused by powering off external devices that host verification directories, such as `/data/verify` and `/data/BOIverify`, without first un-mounting them on AWIPS devices. In most cases, it is NOT necessary to power off these external devices for AWIPS software upgrades.

In a terminal window, log into each AWIPS device and issue the **df** command.

If the prompt does not return within a few seconds, a stale mount likely exists. If this occurs on any device, please contact NCF Installation Support before proceeding to the next section. Unresolved stale mounts can cause a significant delay in software installations.

B.1.5 Install OB9.2 Software

This section is the core installation. Complete each step as directed.

1. Execute the following script to install AWIPS application software updates. Ignore any CD-ROM error messages.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installLinuxOB92.out  
cd /media/cdrecorder  
./installLinux_OB92 (Takes 65 to 75 minutes.)  
exit
```

2. Start the security patch installation script. This will start parallel installations in the background on all hosts for the security patches. Processes will be monitored in step 6 for completion.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installPatchesOB92.out  
cd /media/cdrecorder  
./installPatches_OB92 (Takes 1 to 3 minutes to kick off other scripts)  
exit
```

3. Execute the following script to install the Hydrology software. Ignore any `chmod` messages.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installOHOB92.out  
cd /media/cdrecorder  
./installOH_OB92 (Takes 1 to 3 minutes.)  
exit
```

4. **(WFO Systems only)** Execute the NWRWAVES scripts.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installNWRB92.out  
cd /media/cdrecorder/NWRWAVES  
./installNWRWAVES.sh (Takes < 1 minute.)  
exit
```

5. Execute the AX script to update the Archive Server.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installAXOB92.out
cd /media/cdrecorder
./installAX_OB92          (Takes 10 minutes at RFCs; a few seconds at WFOs)
exit
```

6. Check the status of the security patch installation script that was started in step 2. It takes approximately 15 minutes for the security patches to be installed on all hosts. The logs for each machine are located in `/data/fxa/INSTALL/ob92_sec_patches`.

As user `root` on **DX1**, type:

```
cd /media/cdrecorder
./monitorPatches_OB92
```

Repeat the command in 5-minute intervals until all hosts report completed. If any system completes with errors, contact the NCF before proceeding.

CAUTION

Do not proceed until all hosts report completed.

7. Execute the post-install script. For most sites, the script will take between 25 and 30 minutes. However, sites with multiple radars will take up to 70 minutes to complete, due to the `ffmp` localization.

As user `root` on **DX1**, type:

```
script -a -f /local/install/postinstallOB92.out
cd /media/cdrecorder
./postinstall_OB92          (Takes 25 to 30 minutes.)
exit
```

<p>NOTE: The GFE Core script has an extra requirement for sites that have site IDs different from the localization IDs (such as National Centers, Test Systems and Regional Headquarters). Those sites must add the site ID as a second parameter to the script command. For example, Southern Region Headquarters has a localization ID of <code>FWD</code> and a site ID of <code>EHU</code>. In this case, the correct command to be used is:</p> <pre>./masterGFEInstall FWD EHU</pre>

8. Execute the GFE Core script. The `XXX` and optional `SITEID` variables must be in upper case.

As user `root` on **DX1**, type:

```
script -a -f /local/install/gfeOB92.out
cd /media/cdrecorder/gfe
./masterGFEInstall XXX [SITEID]          (Takes 7 to 12 minutes.)
exit
```

9. **(WFO Systems only)** Execute the AVNFPS install script.

As user `root` on **DX1**, type:

```
script -a -f /local/install/installAVNFPSOB92.out
cd /media/cdrecorder
./installAVNFPS.sh /media/cdrecorder    (Takes about 1 minute.)
exit
```

10. Unmount the DVD from the DX1 DVD-ROM drive.

As user `root` on **DX1**, type:

```
cd /
eject /dev/cdrom
```

11. Remove the DVD from the DX1 DVD-ROM drive.

B.2 Post Install

B.2.1 Restore the System

Complete or review the following steps to return the system to full operation.

1. Permit users to log back on to AWIPS.
2. **(PACE sites)** Turn the PACE input back on.
3. **(Radar sites)** Send a message regarding the return to service of the radar.
4. **(ASOS sites)** Turn on the dial-in phone lines to allow ASOS to access LDAD.
5. **(RRS Sites)** Reconnect the Ethernet cable from the back of the RWS and reseal the Upper Air modem in the AWIPS modem rack.
6. Baseline crons (such as the `px1cron`) were delivered during the install. Verify crons such as `climate` are set to the proper run time.
7. Start the Mozilla browser and verify that servers and processes are processing normally.
8. Verify that radar products are being stored locally. Sites that send radar products should verify radar products are disseminated via the Wide Area Network (WAN) by checking the following site: <http://weather.noaa.gov/monitor/radar>
9. Restore the CWSU connection, if applicable, and relay to CWSU staff of system availability.

B.2.2 Notify the NCF

Contact the NCF and close the trouble ticket that was opened for the installation.

B.2.3 Restore Browser Bookmarks (Optional)

If the bookmarks on the Firefox browser were removed during the install, complete the following steps to restore a copy of the bookmark file.

1. From Firefox's browser main menu, select **Bookmarks -> Organize Bookmarks**.
2. From the **Import and Backup** drop down menu, select **Import HTML**.
3. Select the choice **From a HTML File** and select **Next**.

4. Select filename and folder of the saved (exported) html file and then select **Open**.

These steps should be completed for each user to restore individual bookmark files.

A workaround exists for DR21025 (SCAN/FFMP Data Monitor System [DMS] loading problems). Since OB7.1, when Netscape switched to Firefox, various buttons (FFMP, HWR, SCAN) for the DMS no longer existed. To restore this bookmark functionality to the personal toolbar folder, perform the following:

- From Firefox's browser main menu, select **Bookmarks -> Organize Bookmarks**
- From the **Import and Backup** drop down menu, select **Import HTML**
- Select the choice **From a HTML File** and select **Next**.
- As necessary, select the **Type a file name** icon until the **Location** box appears.
- In the **Location** box, type `/awips/fxa/data/AWIPSbookmarks.html` and select **Open**.

B.2.4 (WFO Systems only) NWRWAVES Information

Discrepancy Report 20012 added the ability to select Ash Fall Warning (AF.W) and Marine Ash Fall Warning (MH.W) VTEC product types. Instructions on how to add new products to the NWRWAVES application can be obtained through the NWRWAVES user manual at <http://www.weather.gov/ops2/crs/nwrwaves.htm>

B.2.5 Select Default Radar Color Tables (Optional)

The color tables for reflectivity, velocity, spectrum width, and storm total precipitation products have been updated in this release (see DR 20734). The new color tables, as defined in `/awips/fxa/data/colorMaps.mark`, are 104 for reflectivity, 105 for velocity, 107 for spectrum width and 106 for storm total precipitation.

No action is required if the users are satisfied with the new set of color tables. However, the default color tables can be modified to previous defaults through the `LLL-mainConfig.txt` file if preferred. The `LLL-mainConfig.txt` file is located in either `/awips/fxa/data/localization/LLL` (affects a single machine) or `/data/fxa/customFiles` (affects all machines).

Prior to OB9.2, the reference of PUP_TABLES in `mainConfig.txt` set the default color table. If the variable was set to TRUE (e.g. `@@@PUP_TABLES TRUE`), then the OSF color tables were set as default. If the variable was set to FALSE or did not exist, then the GSD tables were set as default.

In OB9.2, the variable PUP_TABLE is no longer used, although it may still be found in `mainConfig.txt`. The presence of the variable will not cause problems, but can be removed if updating `mainConfig.txt`. If user preference is to revert to either the OSF or GSD color tables, then add the following lines to `LLL-mainConfig.txt` as user `fxa`:

To set OSF tables as default, add

```
@@@OSF_TABLES TRUE
```

Or to set GSD tables as default, add

```
@@@GSD_TABLES TRUE
```

To make the change effective, run a radar localization as user `fxa` on each machine.

```
cd /awips/fxa/data/localization/scripts
./mainScript.csh f -radar
```

B.2.6 (WFO Systems only) Customize the New WarnGen Templates

If appropriate, customize the two new WarnGen templates using the information in Attachment C.

B.2.7 (WFO Systems only) Run Backup Localizations

A backup localization needs to be run (as user `fxa`) on each workstation before WarnGen can be used in backup mode. An example of the command used is:

```
cd /awips/fxa/data/localization/scripts
./mainScript.csh f -WS BBB LLL
```

(where *BBB* is the backup site and *LLL* is the local site ID)

ATTACHMENT C - WarnGen Template Changes

C.1 Overview

This attachment should be provided to the WarnGen focal point at each WFO.

Legacy (vintage OB9 or earlier) customized WarnGen templates may be used after OB9.2 is installed. However, updates should be merged into the local customized templates as soon as practical. The OB9.2 maintenance release delivers two WarnGen templates into the baseline directory, /data/fxa/nationalData.

C.2 Templates Affected

The following two WarnGen templates are delivered in OB9.2:

```
wwa_flood_wrn.preWWA
```

```
wwa_flood_sta.preWWA
```

The template changes add a floodgate release as a possible immediate cause in the Areal Flood Warning and Areal Flood Warning followup statement. AWIPS Discrepancy Report DR 20535 documents this change. There are six other WarnGen related DR fixes delivered in OB9.2. The six DRs are 20276, 20338, 20454, 20535, 20552, 20588 and 20907. A list of all the OB9.2 DR fixes is included in Attachment D, along with a reference to detailed descriptions of each DR.

C.3 Recommended Template Implementation

The two OB9.2 Areal Flood templates contain major changes. Therefore the recommended method to implement the changes would be to copy the baseline OB9.2 Areal Flood templates to /data/fxa/customFiles, add the site specific changes, then localize the workstations using ./mainScript.csh f -wwa.

C.4 Line By Line Differences Between OB9 and OB9.2 WarnGen Templates

The following is annotated output (annotations in bold *italics*) from the Linux diff command showing the line by line differences between OB9 WarnGen templates and OB9.2 templates. Lines beginning with < are from OB9 and lines beginning with > show the corresponding OB9.2 items.

```
***** wwa_flood_sta.preWWA *****
```

```
26c26,33
```

```
< <VAR |test=$$HYDRO_VAL!.ne. |value=hide |var=PCAUSE__show>
```

```
---
```

```
> {***** [lock  
X.eq.X|}]
```

```
> {* If either "include small streams" or "include urban areas [lock  
X.eq.X|}]
```

```
> {* and small streams" above was selected, "floodgate [lock  
X.eq.X|}]
```

```
> {* opening" in primary cause below should not be selected. [lock  
X.eq.X|}]
```

```
> {* If "floodgate opening" is the desired option, do not select [lock  
X.eq.X|}]
```

```
> {* "include small streams" or "include urban areas and small [lock  
X.eq.X|}]
```

```

> {* streams". [lock
X.eq.X]|}
> {***** [lock
X.eq.X]|}
41a49,52
> {<PCAUSE>=.DR.= Floodgate opening|
> <VAR |lead=DR |var=imCause >
> <VAR |lead=A DAM FLOODGATE RELEASE |var=textCause2>
> }
99a111
> <VAR |test= $$imCause!.eq.DR |value=FOR A FLOODGATE RELEASE |value=
|var=floodgate>
101c113
< ...THE FLOOD WARNING REMAINS IN EFFECT UNTIL <EXPIRE | clock | local >
---
> ...THE FLOOD WARNING $$floodgate! REMAINS IN EFFECT UNTIL <EXPIRE |
clock | local >
106c118
< ...THE FLOOD WARNING HAS BEEN CANCELLED FOR$$wrnType! $$cntyList!...&
---
> ...THE FLOOD WARNING $$floodgate! HAS BEEN CANCELLED FOR$$wrnType!
$$cntyList!...&
111c123
< ...THE FLOOD WARNING $$expPhrase! FOR$$wrnType! $$cntyList!...&
---
> ...THE FLOOD WARNING $$floodgate! $$expPhrase! FOR$$wrnType!
$$cntyList!...&
117c129
< AT <NOW | clock | local> !** warning basis **!
---
> AT <NOW | clock | local> !** warning basis statement and expected
impacts **!
119c131
<!-- OPTIONAL DESCRIPTION OF THE PATH OF THE FLOOD. --!
---
> %!* !** forecast path of flood or sequence of locations to be affected
**!

**** wwa_flood_wrn.preWWA ****
23a24,31

```

```

> {***** [lock
X.eq.X]}
> {* If either "include small streams" or "include urban areas [lock
X.eq.X]}
> {* and small streams" above was selected, "floodgate [lock
X.eq.X]}
> {* opening" in primary cause below should not be selected. [lock
X.eq.X]}
> {* If "floodgate opening" is the desired option, do not select [lock
X.eq.X]}
> {* "include small streams" or "include urban areas and small [lock
X.eq.X]}
> {* streams". [lock
X.eq.X]}
> {***** [lock
X.eq.X]}
38a47,50
> {<PCAUSE>=.DR.= Floodgate opening|
> <VAR |lead=DR |var=imCause >
> <VAR |lead=A DAM FLOODGATE RELEASE |var=textCause2>
> }
76a89
> { [$$imCause!.eq.DR] | ~~$$textCause2! IN...& }
90c103
< * AT <NOW | clock | local> !** warning basis **!
---
> * AT <NOW | clock | local> !** warning basis statement and expected
impacts **!
92c105
< !-- * OPTIONAL DESCRIPTION OF THE PATH OF THE FLOOD. --!
---
> %!* !** forecast path of flood or sequence of locations to be affected
**!

```

ATTACHMENT D - Discrepancy Reports (DR) Corrected in OB9.2**D.1 List of Discrepancy Reports**

The following list of Discrepancy Reports (DR) is corrected in OB9.2. Detailed descriptions of each DR can be found at http://sec.noaa3.awips.noaa.gov/dr_display/

1. 15334 DamCrest - fails to store new Dam Failure Scenario
2. 18720 Neighb. ofcs. do not see ISC grids during duration of SCEC hazard
3. 19013 Small Enhancement: Provide user ability to order data for time series display
4. 20012 Small enhancement: Add AshFall Warning (AF.W) & Marine AshFall Warning (MH.W)
5. 20191 SRM display uses WarnGen track even though average STI is selected
6. 20269 RiiverPro uses leading 0 in MND date the first 9 days of month
7. 20276 OB8.3 TextQC: Incorrect WarnGen FLS ETN Error Message
8. 20338 Two flash flood warnings with the same VTEC number
9. 20391 AvnFPS: TAF No Significant Weather (NSW) not correctly
10. 20392 AvnFPS: Balloon Message does not appear when mouse over 'wnd' indicator
11. 20402 Incorrect time zone in HWR products for SJU
12. 20409 OB8.3: SPC watches incorrectly displayed over Lake Michigan
13. 20417 GFE: watch should get CAN instead of UPG with ongoing warning
14. 20420 OB8.3: update grib config file to decode AK HPCguide POP
15. 20441 VB data loading incorrectly on top of plan view radar data
16. 20453 RUC precip rate graphics inncorrectly scaled
17. 20454 OB8.3: WarnGen: Error in SVS format causes lack of polygon display
18. 20459 FFMP: use of forced FFG negative values
19. 20479 GFE: MergeHazards should not give conflict for marine hazards and tropical watch
20. 20481 GFE: HLS needs to be redesigned to meet field needs
21. 20483 Ldad drops data during Ldad processes are restarted
22. 20488 GFE: MWS needs to removed as VTEC product
23. 20492 D2D: Incorrect value/units displayed in DMD table
24. 20506 NWRWAVES: Not able to parse dual-time zones with a '/'
25. 20521 Typos in tdwrDepictKeys.template for 3 tilt angles
26. 20522 OB8.3: OHD - HPE not displayed in D2D at HFO; N/A for FFMP
27. 20527 Problem handling null DMD product
28. 20531 GFE: Sites occasionally drop off of the IRT
29. 20532 Incorporate Q2 grids into MPE
30. 20534 RADAR: TLAS product of elev 1.0 is messed up with elev 0.8
31. 20535 WarnGen: VTEC Immediate Cause missing for FLW/FLS Reservoir Release

32. 20543 AvnFPS: Date/Time groups at beginning of months flagged incorrectly
33. 20544 AvnFPS: TUG code does not handle transition from warm to cold seasons
34. 20545 AvnFPS: Use LAMP as input to rltg indicator
35. 20564 Purging too many versions of the HI-RTMA products
36. 20588 OB8.3.1 : WG : CAN portion of text product missing on second creation.
37. 20592 Improper issuance of Hazcollect Products when return from Service Backup
38. 20614 Daily QC function doesn't properly handle Cooperative Observer Max/Min Temps
39. 20619 Need a better way to update UGClookup.table file
40. 20627 GFE: ISC grids not received due to lockfile
41. 20628 GFE: Start time of an already-in-effect hazard should not be able to be changed
42. 20629 GFE: Incorrect VTEC start time given for a zone whose hazard had not begun
43. 20636 Radar products received via RMR may not update in D-2D
44. 20656 SRM changes unexpectedly when changing storm track
45. 20677 HydroBase program aborts when null values are in hd_ob9 database location table
46. 20683 SAFESEAS OB9: Table sometimes does not appear
47. 20699 NWRWAVES: Fails on 12/31/08 when expiration time crosses into a new year
48. 20705 GFE: Saving via a command-line procedure should trigger ISC
49. 20708 FFMP: valid time does not match first loaded if it's too far in the past
50. 20734 RADAR: Correct Radar Color Tables to Make Defaults Useful
51. 20738 NWRWAVES: Fails in process AFD, SYN and PNS products
52. 20781 OB9.2 - AF: Disable channel configuration on CPSBN after system reboot
53. 20786 AvnFPS: TUG fails when official TAF has winds in conditional groups
54. 20810 Add java 1.6 AWIPS COTS
55. 20850 Incorrect ETNs for NPW products
56. 20857 HydroGen In Backup Mode Generates Wrong Originator in XML files
57. 20866 Tpo Indicator not monitoring properly
58. 20869 Add Java hooks for MHS
59. 20893 Various minor anomalies in MPE Editor
60. 20906 Add AWIPS 2 support to LDAD
61. 20907 Cannot Update Valid SVR After Hitting Save on Other SVR
62. 20931 OB9.2: Increase /home partition to 100G
63. 20932 OB9.2: Increase /data/local by 100GBs at RFCs
64. 20944 OB9.1: amirunning no longer works in RH5

ATTACHMENT E - Additional Support Resources

Here is a list of resources/contacts to turn to if further assistance is needed:

LOCAL:

CRS Focal Point, AWIPS Focal Point, WCM, ITO

REGIONAL:

Regional Dissemination Leads/NOAA Weather Radio Focal Points

Eastern Region:	John Koch	631-244-0104	John.Koch@noaa.gov
	Harvey Thurm	631-244-0124	Harvey.Thurm@noaa.gov
Southern Region:	Mike Mach	817-978-1100 x108	Mike.Mach@noaa.gov
Central Region:	Gregory Noonan	816-268-3111	Gregory.Noonan@noaa.gov
Western Region:	Darone Jones	801-524-4000 x 262	Darone.Jones@noaa.gov
	Craig Schmidt	801-524-4000 x 266	Craig.Schmidt@noaa.gov
Alaska Region:	Duane Carpenter	907-271-5127	Duane.Carpenter@noaa.gov
	Jim Jones	907-271-5119	Jim.Jones@noaa.gov
Pacific Region:	Bill Ward	808-532-6415	Bill.Ward@noaa.gov

HazCollect Working Group POC

Eastern Region	John Koch	631-244-0104	John.Koch@noaa.gov
	Rick Watling	631-244-0123	Richard.Watling@noaa.gov
Southern Region	Walt Zaleski	817-978-1100 x106	Walt.Zaleski@noaa.gov
	Mike Mach	817.978.1100 x108	Mike.Mach@noaa.gov
Central Region	Greg Noonan	816.891.7734 x301	Gregory.Noonan@noaa.gov
	Jim Keeney	816-268-3141	Jim.Keeney@noaa.gov
Western Region	Craig Schmidt	801-524-4000 x266	Craig.Schmidt@noaa.gov
	Jeff Lorens	801-524-4000 x265	Jeffrey.Lorens@noaa.gov
Alaska Region	Jeffrey Osiensky	907-271-5132	Jeffrey.Osiensky@noaa.gov
	Carven Scott	907-271-5131	Carven.Scott@noaa.gov
Pacific Region	Bill Ward	808-532-6415	Bill.Ward@noaa.gov

NATIONAL:

NCF

CRS-Talk List Service (<http://www.weather.gov/ops2/crs/document/crstalklist.pdf>)

CRS Help Desk (<http://weather.gov/ops2/crs/crshelp.html>)

Phone 301-713-0191

Facsimile 301-713-0959

OCWWS Dissemination Services

Herb White 301-713-0090 x146 Herbert.White@noaa.gov

Art Kraus 301-713-0090 x161 Arthur.Kraus@noaa.gov

ATTACHMENT F - Sample EMRS Report

GENERAL INFORMATION

WFO*
 Document No.*

1. Open Date:
 Open Time:
 2. Op Initials:
 3. Response Priority:
 Immediate
 Low
 Routine
 Not Applicable
 4. Close Date:
 Close Time:

5. Maintenance Description:
 481 characters left
 AWIPS

EQUIPMENT INFORMATION

6. Station ID*:
 7. Equipment Code*:
 8. Serial Number:
 9. TM:
 10. AT:
 11. How Mal:

Alert: Time Remaining: (For Block 12 use only)

13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="New Row"/>
				<input type="button" value="Delete Row"/>

14. WORKLOAD INFORMATION

a. Routine		b. Non-Routine		c. Travel		d. Misc		e. Overtime	
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
<input type="text"/>	<input type="text" value="2"/>	<input type="text" value="20"/>	<input type="text"/>	<input type="text"/>					

MISCELLANEOUS INFORMATION

15. Maintenance Comments:
 665 characters left
 [View Status History](#)
[Attachments](#)

Contract Maintenance Disclaimer
 16. Tech Initials:

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.:
 b. Mod Act/Deact Date:
 c. Block C:
 d. Trouble Ticket No.:
 e. USOS Outage Doc No.:

18. Work Order Information:

Work Accomplished by:
 Region Headquarters
 Electronics
 WFO/Office
 Facilities
 Est. Cost or Bid: \$
 Req. Completion Date:

Maintenance Contractor
 Contractor Maintenance Time:
 Hours:
 Minutes: