

***NATIONAL WEATHER SERVICE SOUTHERN REGION SUPPLEMENT 01-2004  
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SEPTEMBER 28, 2006***

***Operations and Services  
Readiness, NWSPD 10-22  
Backup Operations, NWSI 10-2201***

***SOUTHERN REGION BACKUP OPERATIONS***

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***SUMMARY OF REVISIONS:*** Added a new Section, “Radar Data Dissemination Backup” and a new Appendix, “Southern Region Radar Backup Assignments.” This document supersedes Southern Region Supplement 01-2004 dated February 22, 2005.

< Signed by >

September 14, 2006

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Date

Director, Southern Region

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1. Purpose.

This document provides instructions for the transfer of essential operational responsibilities from one Weather Forecast Office (WFO), Center Weather Service Unit (CWSU), or River Forecast Center (RFC) to another during backup situations.

Written instructions cannot cover every situation and personnel must use initiative and good judgment to ensure a continuation of essential services. If there are questions about this supplement during an emergency backup situation, contact Southern Region Headquarters (SRH) Regional Operations Center (ROC) at **817-978-1100**. Extension 197 at this number is the 24-hour Significant Weather Event hotline. If no one answers at extension 197, leave a message, and appropriate personnel will be paged.

2. Office Backup.

2.1 Definitions:

- a. **Sister Office** - Each WFO is paired with a Sister Office (see Appendix A) and is responsible for backing up all of the programs of their Sister Office (not just short duration or long duration products).
- b. **Full Backup** - All of a WFO's products, services and responsibilities (e.g. grids, data collection, etc.) need to be backed up by their Sister Office. See Appendix A in NWSI 10-22 for a list of critical products.
- c. **Partial Backup** - Some of a WFO's products, services and responsibilities (e.g. grids, data collection, etc.) need to be backed up by their Sister Office. For example, if only RiverPro is down, a Sister Office may only need to backup some hydrological products.
- d. **Primary Backup Responsibility** - If an office is rendered inoperative, the Primary Backup Sister Office will assume their designated duties, as defined in Sections b and c above (Full or Partial Backup).
- e. **Secondary Backup Responsibility** - If an office is rendered inoperative, and the Primary Backup Sister Office is either rendered inoperative or unable to assume backup responsibility due to circumstances beyond their control, the Secondary Backup Sister Office will assume the designated duties, as defined in Sections b and c above (Full or Partial Backup).
- f. **Dual Backup Responsibility** - In some extreme situations, both the Primary and Secondary Backup Sister Offices may have to share backup responsibilities of the inoperative office.

2.2 Implementation.

Catastrophic equipment malfunctions, extended power outages, prolonged

communication failures, planned and unplanned outages, and violent acts of nature may render an office incapable of fulfilling its operational responsibilities. The authority to invoke backup operations rests with the affected Meteorologist-In-Charge (MIC) / Hydrologist-In-Charge (HIC) or designee. If for any reason backup plans cannot be successfully implemented, notify SRH.

2.3 Interactive Forecast Preparation System (IFPS).

Backing up WFO grids is a necessary function during service backup to provide continued service to our customers. All grids are required to be prepared and disseminated during service backup. This is accomplished by importing the configuration and digital data from the site that is down from the national Central Backup Server. For specific details and instructions on setting up GFE for service backup operations and a list of ISC sites for each WFO, see the following websites:

**ISC Grids Received By Each Site:**

[http://www-md.fsl.noaa.gov/IFPS/14/ISC\\_List.html](http://www-md.fsl.noaa.gov/IFPS/14/ISC_List.html)

**Instructions For Failed Site:**

<http://www.nwstc.noaa.gov/nwstrn/swsbackup/Failed.html>

**How To Perform Service Backup:**

<http://www.nwstc.noaa.gov/nwstrn/swsbackup/Backup.html>

For service backup to function properly, it is critical that all offices ensure the latest configuration files for their site are uploaded to the Central Server after any changes are made to formatters or new software is loaded at their site.

2.4 Backup Preparations.

For backup plans to be implemented in an orderly and efficient manner, each office will supply its sister backup office with a current copy of its Station Duty Manual (SDM) or office instructions. See Appendix B for backup preparatory activities.

3. Backup Procedures.

3.1 Procedures for an Inoperative Office:

a. When an office is rendered inoperative, its staff will do the following:

- (1) Notify the Sister Office of the situation. If your telephone lines are inoperative, use the office emergency cellular phone, National Warning System (NAWAS) or a personal cellular telephone. The cost of any personal calls will be reimbursed. If you are unable to reach the Sister Office, call SRH for assistance. (You can call SRH directly or use the Significant Weather Event hotline at extension 197. If no one answers

ext. 197, leave a message, and SRH personnel will be automatically paged.) If commercial telephone circuits and cellular phone services are out-of-service, the office staff must become resourceful to make

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contacts. There have been cases where ham radios were used to ask an amateur radio point-of-contact to call the backup office or SRH. Offices should document actions taken while invoking backup procedures.

- (2) If at all possible, send an Administrative Alert message (**SRHADASRH**) addressed to ALL [in the AWIPS header block text window] notifying other offices that the backup process has been initiated. In the forwarding "TO" line of the ADA, include the three-letter ID of the surrounding WFOs. (All WFOs need to ensure SRHADASRH is locally configured to *alarm audibly* on the Advanced Weather Interactive Processing System (AWIPS).)

Example:

NOUS74 KEHU 152104  
ADASRH

ALERT ADMINISTRATIVE MESSAGE  
NATIONAL WEATHER SERVICE SOUTHERN REGION  
HEADQUARTERS  
404 PM EST SAT MAR 15 2003

TO: MOB...TBW...FFC...BHM...JAX  
FROM: NWS WFO TALLAHASSEE

NWS WFO TALLAHASSEE IS EVACUATING THE OFFICE DUE TO AN EMERGENCY. BACKUP OPERATIONS HAVE BEEN INITIATED. WILL ADVISE WHEN WE HAVE RETURNED TO NORMAL OPERATIONS.

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- (3) If not already notified and time permits, call SRH (either directly or using the Significant Weather Event hotline) to notify them of the situation.
- b. Once operations are restored:
- (1) Send an **SRHADASRH** to ALL notifying your office has resumed normal operations. Example:

NOUS74 KEHU 152153  
ADASRH

ALERT ADMINISTRATIVE MESSAGE  
NATIONAL WEATHER SERVICE SOUTHERN REGION  
HEADQUARTERS  
453 PM EST SAT MAR 15 2003

TO: MOB...TBW...FFC...BHM...JAX  
FROM: NWS WFO TALLAHASSEE

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NWS WFO TALLAHASSEE PERSONNEL HAVE RETURNED TO THE OFFICE AND RESUMED NORMAL OPERATIONS. THANKS FOR YOUR ASSISTANCE.

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- (2) Notify SRH of the return to normal operations.

3.2 Procedures for an Office Backing Up an Inoperative Office:

- a. When an office is backing up an inoperative office, its staff will do the following:
  - (1) Send an SRHADASRH to ALL notifying others your office has assumed operational responsibility for your Sister Office. (This additional notification step is to ensure offices are aware of the backup situation in case the original ADA from the downed office was not sent or not received.)

Example:

NOUS74 KEHU 152105  
ADASRH

ALERT ADMINISTRATIVE MESSAGE  
NATIONAL WEATHER SERVICE SOUTHERN REGION  
HEADQUARTERS  
405 PM EST SAT MAR 15 2003

TO: MOB...TBW...FFC...BHM  
FROM: NWS WFO JAX

WFO JAX HAS ASSUMED OPERATIONAL RESPONSIBILITY FOR WFO  
TLH UNTIL FURTHER NOTICE.

\$\$

- (2) As weather conditions permit and if the inoperative office has not already done so, call SRH and notify them of the details of the situation.
- (3) Monitor the weather across the County Warning Area (CWA) of the inoperative office, issue grids and issue routine and/or warning products as needed until the office has resumed functions.

As specified in Directive 10-1701, Section 4.2.3, all products issued by a backup office will contain the product identifiers and mass media headers of the office being backed up. For example, if WFO Midland experiences an outage requiring backup, WFO San Angelo will issue the Midland zone forecast using the appropriate Midland product identifier, along with an ISSUED BY NATIONAL WEATHER SERVICE SAN

ANGELO TX line. This will insure proper dissemination. The mass media header format should follow the examples shown in NWSI 10-1701.

3.3 Planned Outages.

For planned outages (for example, an IFPS upgrade), follow the same procedures in Sections 3.1 and 3.2, but notify the Sister Office ahead of time so appropriate measures can be taken (for example, providing for adequate staff and/or plans to deploy forecasters to a nearby office).

3.4 Evacuations.

If an office is evacuated, notify SRH as soon as possible upon departure and upon return. Call SRH directly or use the Significant Weather Event hotline at extension 197. If no one answers extension 197, leave a message, and SRH personnel will be automatically paged. If commercial telephone circuits and cellular phone services are out-of-service, the office staff must become resourceful to make contacts.

4. Backup Assignments for WFOs.

Appendix A details the Sister Office backup pairings. Appendix B lists preparatory backup activities for Sister Offices.

5. Radar Data Dissemination Backup.

With the completion of AWIPS OB6 and ORPG Build 8 software installations in the Summer of 2006, it is possible to reliably provide service backup for a downed office's radar products. The assumptions are that the downed office is still on the AWIPS WAN and that the WSR-88D is still functional. If a site has a scheduled, or non-scheduled, outage expected to last for several hours or more, a site's radar backup can act as the transmission site for the downed offices radar data.

More detailed information regarding the setup of radar backup can be found in your site's Radar File Help Sheet maintained by the ROC and sent to each site's Radar Focal Point. Also, Appendix C shows the radar backup sites for the Southern Region.

Before entering into or terminating radar backup, site(s) should contact the NCF for support.

6. River Forecast Center (RFC) Backup.

- a. RFCs will ensure that staff are trained in the use of the mobile RFC backup system, including procedures to serve as the "sister dissemination office" to another RFC.
- b. RFCs should use the mobile (or stationary) RFC backup system during AWIPS system or communication outages. The service backup can originate from the local office or a location remote from the collocated facility dependent on the type of outage.

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- c. RFCs will identify external facilities to conduct RFC backup operations. RFCs should ensure that they have access to a reliable Internet Service Provider and an adequate telephone system to support RFC backup operations.
- d. RFCs will determine the best off-site location to store their mobile RFC backup system. Since off-site RFC backup will require the relocation of RFC staff to an alternate location, WFOs should be prepared to handle hydrologic situations without RFC support for up to 24 hours. RFCs must provide information to ensure that the WFOs can meet these forecast requirements for the 24-hour period specified.
- e. RFCs will periodically upload observed and model data to a SRH Server system, as necessary, to initialize the backup forecast system in a reasonable time period. It is recommended that uploads take place at least once per day.
- f. RFCs will use the mobile (or stationary) RFC backup system to generate and disseminate a core suite of hydrologic products to support WFO hydrologic operations. See Appendix A in NWSI 10-22 for a list of critical products.
- g. RFCs will ensure that the mobile RFC backup system is configured with the latest software (e.g., NWS River Forecast System, local applications, etc.) to support hydrometeorological operations at the RFC. If required, ABRFC will provide technical support for the RFCs.
- h. RFCs will conduct a test of the mobile RFC backup system on a semi-annual basis. This will allow staff members to gain experience and confidence with the mobile RFC backup system. The results of the test will be forwarded to the Hydrologic Services Branch.
- i. SRH, in coordination with the Hydrologic Services Branch and the RFCs, will provide information technology support for RFC backup operations.
- j. Notify the Hydrologic Services Branch (HSB) at SRH if an extended disruption in services is expected by calling the Regional Operations Center directly at 817-978-1100, ext 147. If no one answers extension 147, leave a message, and SRH personnel will be automatically paged.



- k. Primary Backup RFC offices are responsible for running the LDAD dissemination software for the RFC in backup mode. The assignment of RFC backup dissemination offices are as follows:

Office in Backup Mode	Primary Backup Dissemination Office
ABRFC	WGRFC
LMRFC	SERFC
SERFC	LMRFC
WGRFC	ABRFC

7. Center Weather Service Unit (CWSU) Backup.  
CWSU backup information is located in Appendix B of NWSI 10-803. CWSUs should ensure they receive the SRHADASRH product.
8. Drills.  
Service backup is a complex operation that requires Sister Offices to be familiar with each other's programs and responsibilities. It is a requirement of offices to conduct at least one service backup drill annually. Notify CWWD at SRH prior to backup tests.

Appendix A - Sister Offices

<b>Disabled WFO</b>	<b>Primary Backup</b>	<b>Secondary Backup</b>
ABQ	EPZ	AMA
AMA	LUB	ABQ
BMX	FFC	HUN
BRO	LCH	EWX
CRP	EWX	HGX
EPZ	ABQ	MAF
EWX	CRP	BRO
EYW	MFL	JAX
FFC	BMX	MRX
FWD	SHV	OUN
HUN	JAN	BMX
HGX	LCH	CRP
JAN	HUN	SHV
JAX	TAE	EYW
LCH	HGX	LIX
LIX	MOB	LCH
LUB	AMA	SJT
LZK	MEG	TSA
MAF	SJT	EPZ
MEG	LZK	OHX
MFL	EYW	TBW
MLB	TBW	SJU
MOB	LIX	TAE
MRX	OHX	FFC
OHX	MRX	MEG
OUN	TSA	FWD
SJT	MAF	LUB
SJU	MFL	MLB
SHV	FWD	JAN
TAE	JAX	MOB
TBW	MLB	MFL
TSA	OUN	LZK

**Appendix B - Sister Offices Preparatory Activities**

The goal of Sister Office Backup is to ensure continuation of essential products and services and to ensure offices are familiar with the programs, products, and customers of their backup partner. Sister Offices were selected on the basis of similar service programs, weather regimes, and proximity. Familiarity with each other's programs and responsibilities ensures an effective backup process. The following is a list of activities Sister Offices should consider:

- 1) Exchange Station Duty Manuals (SDM) or office instructions.
- 2) Keep current examples of the various products your Sister Office issues.
- 3) Make sure the Administrative Alert message (SRHADASRH) from all affected ISC sites is alarmed on AWIPS.
- 4) Make sure all minor format differences between your products and your Sister Office's products are completely understood.
- 5) Make sure AWIPS is configured to support the duties of your Sister Office.
- 6) Provide your Sister Office with a list of emergency managers and storm spotters in your CWA along with necessary phone numbers and email addresses.
- 7) Share any local applications.
- 8) Make sure to have all maps and backgrounds for any computer programs such as Xnow, WarnGen, etc.
- 9) Conduct seminars and training sessions with your Sister Office.
- 10) Compare local climatology and meteorological nuisances that your office has discovered through experience and any rules-of-thumb or local forecasting techniques.
- 11) Introduce your Sister Office to your emergency managers.
- 12) Play a vital role in staff training. An example is a new MIC being assisted by the Sister Office MIC.
- 13) Share with your Sister Office lessons learned from severe weather or unusual weather events or forecasts.
- 14) Promote staff participation in Sister Office visitations.
- 15) Have mutual customer service workshops or customer advisory committee meetings.
- 16) Coordinate active customer service outreach programs.
- 17) Conduct a meteorological case study with someone in your Sister Office.
- 18) Coordinate any focal point activity with your Sister Office (e.g. severe weather, hurricane, hydrology, AWIPS, marine, aviation, radar, weather radio, climatology, etc.).
- 19) Notify emergency managers of the backup plan.
- 20) Develop a forecaster exchange program. Forecasters can be exchanged for a day or two to fully experience the programs of their Sister Office.
- 21) Make sure the office emergency phone is charged.
- 22) Share web-based capabilities like Intranet webpages or severe weather email links.
- 23) Ensure ham radio operators can help others in other CWAs.

**Appendix B - Continued**

The following should be made available to their Sister Offices:

- a. Appropriate product preformats, macros, maps, etc. Appropriate files and/or guidance should be provided to update WarnGen, GFE Hazards Generator (GHG) software, AWIPS, etc., for office backup.
- b. E-19s that provide flood damage information, historical crests, and other hydrological information.
- c. Listings of automated gages, sensors, and Automated Surface Observing System (ASOS) units with associated phone numbers, etc.
- d. Listings of severe weather spotters and cooperative observers with corresponding phone numbers.
- e. Listings of meteorological and hydrological products on AWIPS.
- f. Listings of any needed RFC products on AWIPS.
- g. Examples of product formats and specific instructions necessary to prepare and issue products.
- h. Any additional materials the backup office may require to fulfill their backup responsibilities.
- i. Have a ready-to-go Emergency Manager Kit available/ready. This could be very helpful for the office who you are asked to perform backup services for.

## Appendix C

## NWS Southern Region Radar Backup Assignments

<b>WFO System</b>	<b>Provides Primary “radar” backup for...</b>	<b>and Secondary “radar” backup for ...</b>
<b>ABQ</b>	KEPZ & KHDX	KAMA
<b>AMA</b>	KLBB	KABX & KFDX
<b>BMX</b>	KFFC & KJGX	KHTX
<b>BRO</b>		KEWX & KDFX
<b>CRP</b>	KEWX & KDFX	KHGX
<b>EPZ</b>	KABX & KFDX	KMAF
<b>EWX</b>	KCRP	KBRO
<b>EYW</b>	KAMX	KJAX & KVAX
<b>FFC</b>	KBMX & KMXX	KMRX
<b>FWD</b>	KSHV	KTLX, KFDR & KVNK
<b>HUN</b>	KDGX & KGWX	KBMX & KMXX
<b>HGX</b>	KLCH & KPOE	KCRP
<b>JAN</b>	KHTX	KSHV
<b>JAX</b>	KTLH & KEOX	KBYX
<b>LCH</b>	KBRO & KHGX	KLIX
<b>LIX</b>	KMOB & KEVX	KLCH & KPOE
<b>LUB</b>	KAMA	KSJT & KDYX
<b>LZK</b>	KNQA	KINX & KSRX
<b>MAF</b>	KSJT & KDYX	KEPZ & KHDX
<b>MEG</b>	KLZK	KOHX
<b>MFL</b>	KBYX & TJUA	KTBW
<b>MLB</b>	KTBW	TJUA
<b>MOB</b>	KLIX	KTLH & KEOX
<b>MRX</b>	KOHX	KFFC & KJGX
<b>OHX</b>	KMRX	KNQA
<b>OUN</b>	KINX & KSRX	KFWS & KGRK
<b>SJT</b>	KMAF	KLBB
<b>SJU</b>		KMLB
<b>SHV</b>	KFWS & KGRK	KDGX & KGWX
<b>TAE</b>	KJAX & KVAX	KMOB & KEVX
<b>TBW</b>	KMLB	KAMX
<b>TSA</b>	KTLX, KFDR & KVNK	KLZK