

***NATIONAL WEATHER SERVICE CENTRAL REGION SUPPLEMENT 05-2003
TO NWSI 10-1603
August 29, 2003***

***Operations and Services
Performances NWSPD10-16
Significant Event Report NWSI 10-1603
SPECIAL REPORTS***

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(Signed by Dennis H. McCarthy) 8/15/03
Dennis H. McCarthy Date
Director, Central Region

SPECIAL REPORTS

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1. Introduction. This supplement covers procedures to be used by Central Region Weather Forecast Offices (WFOs), River Forecast Centers (RFCs), and Center Weather Service Units (CWSUs); collectively referred to as field offices. This supplement covers procedures for field offices to report significant weather, hydrological, and other specified major events to Central Region Headquarters (CRH).
2. Aircraft Accident. Aviation events include any aircraft accident involving one or more of the following:
 1. Weather is a known or suspected factor
 2. Fatalities
 3. An air carrier involved (Flights are classified as air carrier if they involve the transport of passenger and/or freight for hire.)
 4. A well-known person on board (e.g., government official; movie, television, or media celebrity)
 5. Missing aircraft

2.1 Instructions For CWSUs. For events meeting the criteria in section 2 of this supplement, CWSUs will contact the appropriate WFO as soon as possible, once preliminary facts are known. Use local National Weather Service (NWS) county warning area map as a guideline. CWSUs will establish a person to person contact. Due to the urgency of the situation, a voice mail contact or an email contact is not acceptable. The WFO will contact CRH per instructions in section 2.2 of this supplement.

2.2 Instructions For WFOs. For events meeting the criteria in section 2 of this supplement, other field offices will make initial contact with CRH as soon as possible, once preliminary facts are known. Initiate a phone call as soon as the situation allows - any time, 24 hours a day, 7 days a week. Do not delay the call for further investigation once the basic facts are known. If there is any doubt as to whether or not contact with CRH should be made for an event, initiate a call. Do the following:

- a. Notify CRH via the answering service: **888-303-0532**.
- b. Request page for **Aircraft Accident** .
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field office:
 1. Type of aircraft
 2. Time of accident
 3. Location of accident
 4. Fatalities
 5. Injuries
 6. Extent of damage

7. Media coverage
 8. Did terminal aerodrome forecast (TAF) and/or flight advisories reflect conditions at time of accident.
- e. Issue a Notification Report (commonly known as OAV) according to instructions in [NWSI 10-2004, Section 3.2](#)
3. Facilities Failure. For a failure in a part of the facilities, field offices should use Table 1 as a guideline:

TABLE 1

FACILITIES FAILURE EVENTS

**REPORT IMMEDIATELY VIA
ANSWERING SERVICE**

**REPORT VIA E-MAIL BY
NEXT BUSINESS DAY**

- | | |
|--|---|
| <ol style="list-style-type: none">1. Failure of electrical systems resulting in complete loss of power and/or equipment failure during weather or hydrologic conditions that would pose a threat to public safety.2. Heating, Ventilation, and Air Conditioning (HVAC) fails without backup system operating and is a threat to public safety.3. Structure failure, including loss of roof, during weather or hydrologic conditions that would pose a threat to public safety.4. Other Facilities related failures that could pose a threat to public safety. | <ol style="list-style-type: none">1. Failure of electrical systems that does not pose a threat to public safety.2. Heating, Ventilation, and Air Conditioning (HVAC) fails without backup system operating and is expected to continue for more than 24 hours.3. Structure failure that does not pose a threat to public safety |
|--|---|

For facilities failures in the left side of the preceding table, do the following:

- a. Notify CRH via the answering service: **888-303-0532**
- b. Request page for **Equipment**.
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field offices:

1. What part of the facility failed and why is this a hazard to public safety
- e. Issue an incident memo if CRH contact decides this course of action. Follow instructions in [Appendix A](#) of this supplement. An electronic version of the form is available on the intranet: <http://crh-1.crh.noaa.gov/> Attach memo to an email addressed to: cr.sig.ops@noaa.gov .

For facilities failures in the right side of the preceding table, field offices will only need to send an e-mail to: cr.sig.ops@noaa.gov by 7:00 a.m. CST or CDT the next business day.

4. Fire Weather. For wildfire weather events, which result in one or more of the following:
 - One or more directly related fatalities
 - Numerous injuries
 - Major property damage
 - Significant media attention

contact CRH.

Also contact CRH upon any request to deploy a fire weather Incident Meteorologist (IMET). Contact with CRH for deployment of an IMET can wait until daytime or early evening hours.

For events meeting the above criteria, initial contact with CRH will be made as soon as possible, once preliminary facts are known. Initiate a phone call as soon as the situation allows - any time, 24 hours a day, 7 days a week. Do not delay the call for further investigation once some basic facts are known. If there is any doubt as to whether or not contact with CRH should be made for an event, initiate a call. Do the following:

- a. Notify CRH via the answering service: **888-303-0532**.
- b. Request page for **Services** .
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field office:
 - (1) For a wildfire:
 1. Time wildfire began, if known
 2. Location of wildfire
 3. Acreage burned, if known, and valid time of this information
 4. Percent contained, if known, and valid time of this information
 5. Deaths
 6. Injuries
 7. Damage

8. Media coverage
9. Warning or other product in effect

(2) For a fire weather IMET deployment:

1. Name of IMET being deployed
2. Wildfire to which IMET is being deployed
3. From which field office is IMET being deployed
4. Times IMET scheduled to leave the field office and report to wildfire site

e. Issue a “For The Record” memo (FTR) if CRH contact decides this course of action. Use the guidance and the electronic version of the form in [Appendix B](#) of this supplement. An electronic version of the form is available on the intranet at the following url: <http://crh-1.crh.noaa.gov/> . Attach memo to an email addressed to: cr.sig.ops@noaa.gov .

5. Legal. Legal events include the following or similar events:

1. Congressional or other government contacts
2. Known or suspected court subpoenas of field office personnel
3. Employee fatality(ies) and/or serious injury(ies) occurring in the line of duty
4. Fatality(ies) and/or serious injury(ies) occurring on a National Weather Service (NWS) site
5. Damage to NWS facility, which causes a degradation of services (affects public safety)
6. Emergency field office closure/reopening

Field offices will notify CRH for legal events as soon as possible. Do the following:

a. Establish a person to person contact. Due to the urgency of the situation, a voice mail contact or an email contact is not acceptable.

1. During office hours,
contact **Gary Foltz**, Deputy Director
816-891-8914, extension 610

if not available, contact **Mike Looney**, Chief of Services Division (SD)
816-891-7734, extension 701

2. Outside of office hours,
contact **Gary Foltz**, Deputy Director
Home 816-531-6889 Cell 816-550-3983

if not available, contact **Mike Looney**, Chief of Services Division (SD)
Home 913-897-4324 Cell 816-564-2417

3. 24 hours a day, if neither of these people is available,
 1. Contact answering service **888-303-0532**
 2. Request page for **Services**
 3. Give the answering service field office name and call-back phone number
 4. Answering service will contact an appropriate person at CRH.

- b. Some information CRH contact might request from the field office:
 - (1) Congressional contacts
 1. Name of government office contacting field office
 2. Information this government office desired
 3. Time of this inquiry
 4. Information given to this government office
 5. Subsequent actions taken by field office

 - (2) Subpoenas
 1. Person(s) subpoenaed from field office
 2. Person or agency issuing the subpoena
 3. Information for which field office person subpoenaed to testify
 4. Subsequent actions taken by field office

 - (3) Damage to NWS facility
 1. Damage that occurred
 2. Time of damage
 3. Location of damage
 4. Subsequent actions taken by field office

 - (4) Fatality or serious injury
 1. Name of person(s) fatally or seriously injured
 2. Medical services provided, if any
 3. Employee or visitor to NWS site
 4. Circumstances of fatal or serious injury
 5. Time and location of occurrence
 6. Subsequent actions taken by field office

6. Marine. Marine events include the following or similar events on the Great Lakes:
 1. Major commercial or major private boat accidents
 2. Any marine accident which is, or may be, weather related
 3. Any time a field office becomes aware of a missing marine vessel where weather is, or may be, a factor

4. Strong winds
5. Seiches
6. Shore flooding
7. Excessive wave action
8. Ice jams

For any of these Marine events resulting in one or more of the following, field offices will contact CRH:

1. One or more directly related fatalities
2. Numerous injuries
3. Major property damage
4. Significant media attention

For events meeting the above criteria, initial contact with CRH will be made as soon as possible, once preliminary facts are known. Initiate a phone call as soon as the situation allows - any time, 24 hours a day, 7 days a week. Do not delay the call for further investigation once the basic facts are known. If there is any doubt as to whether or not contact with CRH should be made for an event, initiate a call. Do the following:

- a. Notify CRH via the answering service: **888-303-0532**.
- b. Request page for **Services** .
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field office:
 1. Type of event
 2. Time of event
 3. Location of event
 4. Deaths
 5. Injuries
 6. Damage
 7. Media coverage
 8. Warning, advisory, or other product in effect
 9. Lead time on warning or advisory (Lead time is the time between the issuance time of the warning or advisory and the time warning or advisory criteria is first met.)
- e. Issue a Notification Report if CRH contact decides this course of action. Follow instructions in [NWSI 10-2004, Section 4](#).

7. Meteorological Support. Meteorological support includes the following or similar events:

- Meteorological support in forecasting for toxic gas, oil, or radioactive material spills
- Nuclear accidents
- Terrorist acts
- Anytime a field office is requested to disseminate a civil emergency message (CEM), over the NOAA Weather Radio (NWR) or other communication system for local, state or other federal agency.
- Anytime a field office is requested to disseminate an Amber Alert over the NWR.

For events meeting the above criteria, initial contact with CRH will be made as soon as possible, once preliminary facts are known. Initiate a phone call as soon as the situation allows - any time, 24 hours a day, 7 days a week. Do not delay the call for further investigation once the basic facts are known. If there is any doubt as to whether or not contact with CRH should be made for an event, initiate a call. Do the following:

- a. Notify CRH via the answering service: **888-303-0532**.
 - b. Request page for **Services** .
 - c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
 - d. Some information CRH contact might request from the field office:
 1. Type of event for which meteorological services were requested
 2. Time of event
 3. Location of event
 4. Local, state or federal agency requesting meteorological services
 5. Type of information requested
 6. Information given
 7. Special models run/special products issued to provide meteorological support.
 8. Deaths from the event for which meteorological support was requested
 9. Injuries from the event for which meteorological support was requested
 10. Damage from the event for which meteorological support was requested
 11. Media coverage from the event for which meteorological support was requested
 - e. Issue a “For The Record” memo (FTR) if CRH contact decides this course of action. Use the guidelines and the electronic version of the form in [Appendix B](#) of this supplement. This electronic version of the form is available on the intranet: <http://crh-1.crh.noaa.gov/> Attach memo to an email addressed to: cr.sig.ops@noaa.gov .
8. Security Compromise. Security compromise includes the following or similar events:
- Break-ins to facilities or government vehicles

- Attempted break-ins to facilities or government vehicles
- Physical threat to government personnel, facilities, or government vehicles.

Contact CRH for Security Compromise Events as soon as possible. Do the following:

- a. Establish a person to person contact. Due to the urgency of the situation, a voice mail contact, or an email contact, is not acceptable.

- During office hours,
contact **Tom Schwein**, Chief of Systems and Facilities Division
816-891-7734, extension 400

If not available, contact **Gary Foltz**, Deputy Director
816-891-8914, extension 610

- Outside of office hours,
contact **Tom Schwein**, Chief of Systems and Facilities Division
Home 913-599-4197 Cell 816-564-7899

If not available, contact **Gary Foltz**, Deputy Director
Home 816-531-6889 Cell 816-550-3983

- Second backup 24 hours a day:
contact the answering service **888-303-0532**
request page for **Equipment**
Give the answering service the office name and call-back phone
number. Answering service will contact an appropriate person at CRH.

- b. Some information CRH contact might request from the field offices:

Type of security compromise (break-in; attempted break-in; physical threat to
government personnel, facility or vehicle)
Time security compromise occurred
Location of security compromise
Fatalities
Injuries
Damage
Event ongoing or ended
Subsequent actions taken by field office

- c. Meteorologist In Charge, or Acting Meteorologist In Charge, of the field office will
file an incident memo. Guidelines for an incident memo can be found in [Appendix A](#).

9. Service Backup. Notify CRH anytime a field office requires service backup. If public safety
is not expected to be affected, this call may wait until next business day. If public safety is, or
could be affected, the field offices will initiate a call as soon as possible. Do the following:

- a. Notify CRH via the answering service: **888-303-0532** .
- b. Request page for **Services**
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field offices:
 - Name(s) of field offices doing backup
 - Name of field office needing backup
 - Reason back-up operations required
 - Time back-up operations initiated
 - Time normal operations resumed, if applicable
 - Problems created by going to back-up operations
- e. If instructed by CRH contact, issue and email incident memo to: cr.sig.ops@noaa.gov . See [Appendix A](#) of this supplement for guidelines. An electronic version of the form is available on the intranet: <http://crh-1.crh.noaa.gov/> .

10. System Outage. System outages will be reported using [Table 2](#) on the following page as a guideline.

If system outage is an emergency (see center column in Table 2, page 13 of this supplement), do the following:

- a. Notify CRH via the answering service: **888-303-0532**
- b. Request page for **Equipment**.
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field offices:
 1. Name of failed system, or part of system
 2. Effect on operations
- e. Issue an incident memo if CRH contact decides this course of action. Follow instructions in Appendix A of this supplement. An electronic version of the form is available on the intranet: <http://crh-1.crh.noaa.gov/> . Attach memo to an email addressed to: cr.sig.ops@noaa.gov .

Table 2
SYSTEM OUTAGE EVENT TABLE

<u>System Name</u>	<u>Emergency - File Incident Memo and Report Immediately if:</u>	<u>Non-Emergency Report by 9 a.m. in USOS if:</u>
AWIPS	AWIPS failure results in service backup with public safety impact ; or RFC AWIPS outage with public safety impact	AWIPS failure results in service backup with no public safety impact ; or RFC AWIPS outage greater than 6 hours with no public safety impact
WSR-88D Radar	Total loss of radar (RDA or RPG) during weather or hydrologic conditions that threaten public safety	Total loss of radar (RDA or RPG) for more than 12 hours with no public safety impact
NOAA Weather Radio	Total loss of broadcast services during weather or hydrologic conditions that threaten public safety	Total loss of broadcast services for more than 12 hours with no public safety impact
Field offices/RFC Voice Telecommunications	Total loss of voice telephone lines during weather or hydrologic conditions that threaten public safety .	Total loss of voice telephone lines for more than 12 hours with no public safety impact
Regional Frame Relay Communications	Total loss of Regional Frame Relay connectivity during weather or Hydrologic conditions that threaten public safety	Total loss of Regional Frame Relay connectivity for more than 12 hours with no public safety impact
Upper Air Equipment	No immediate reports required	Failure of Upper Air equipment resulting in loss of upper air observations for more than 12 hours
ASOS	No immediate reports required	Failure of an ASOS system component and redundant backup components, resulting in a loss of observational data and which will exceed established restoration time

11. Weather/Hydrologic. Weather/Hydrologic events include the following or similar events:

- Severe thunderstorms
- Tornadoes
- High winds
- Winter weather
- Floods
- Heat episodes (5 or more fatalities)
- Lightning (3 or more fatalities)
- Avalanches
- Large scale air stagnation episode resulting in one or more fatalities

For weather/hydrologic events which result in one or more of the following, contact CRH

- One or more directly related fatalities
- Numerous injuries
- Major property damage
- Significant media attention

For events meeting the above criteria, initial contact with CRH will be made as soon as possible, once preliminary facts are known. Initiate a phone call as soon as the situation allows - any time, 24 hours a day, 7 days a week. Do not delay the call for further investigation once the basic facts are known. If there is any doubt as to whether or not contact with CRH should be made for an event, initiate a call. Do the following:

- a. Notify CRH via the answering service: **888-303-0532**.
- b. Request page for **Services** .
- c. Give the answering service the office name and call-back phone number. The answering service will contact an appropriate person at CRH.
- d. Some information CRH contact might request from the field office:
 1. Type of event
 2. Time and location of event
 3. Deaths
 4. Injuries
 5. Damage
 6. Media coverage
 7. Warning or other product in effect
 8. Lead time on warning or advisory (Lead time is the time between the issuance time of the warning or advisory and the time warning or advisory criteria is first met.)
 9. Amount of snow/ice/rainfall
 10. Number of tornadoes

11. Number of watches or warnings issued
 - e. Issue a “For The Record” memo (FTR) if CRH contact decides this course of action. Use guidelines and the electronic version of the form in [Appendix B](#) of this supplement. An electronic version of the form is available on the intranet: <http://crh-1.crh.noaa.gov/>. Attach memo to an email addressed to: cr.sig.ops@noaa.gov .

APPENDIX A - GUIDELINES FOR INCIDENT MEMO

Incident Memo Format Guide

DATE:

MEMORANDUM FOR: The Record

FROM: Field office(s) _____ - *Preparer's Name*

SUBJECT:

NATURE OF THE INCIDENT:

TIME:

TIME LINE OF ACTIONS:

PROPERTY DAMAGE:

INJURIES:

OTHER INFORMATION:

APPENDIX B - “FOR THE RECORD” (FTR) REPORTING GUIDELINES

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- 1. “For the Record” (FTR) Memo Instructions.
- 1.1 Template Link To WordPerfect. <http://crh-1.crh.noaa.gov/>
- 1.2 General Instructions.

Do not use acronyms, except for widely known ones such as NWS, WSR-88D, and AWIPS. Spell out office name.

Times should be written per example in NWSI 10-1603, section 3.3 on page 7 (e.g., 5:10 a.m. EST). The time zone is only required on the first time reference in the memo. All subsequent time references may consist of the numerals with a colon and the a.m. or p.m (e.g., 3:25 p.m.)

Date of event is required in the subject section. Use other references to date or day of week as necessary to clarify text.

Refrain from including personal opinions or editorial comments; simply state the facts. Personal opinions and editorial comments, no matter how well intentioned, may be misinterpreted and should be avoided. These type of comments can be forwarded to the appropriate CRH program persons through normal channels. This FTR Memo may go to a large number of people inside and outside NOAA and the NWS.

To ensure timely notification to NWS Headquarters, please use the WordPerfect template provided. Use of other software to create the FTR often changes the format and can cause significant delays in sending the FTR to NWS Headquarters..

When it becomes necessary to update a FTR Memo, start with the latest version CRH has sent to NWS Headquarters. This version will be carbon copied to the field office staff. If the latest version is not used as the base for an update, previous information added or changes made to the FTR Memo at CRH may be lost. The CRH person contacted for the updated FTR Memo may not be the same CRH person who was contacted for the original or previous version. Use of other versions as a base for an update can cause significant delays. The field office may adjust information in the updated FTR Memo as new information indicates.

1.3 Specific Item Instructions.

Date in form mm/dd/yy

MEMORANDUM FOR: The Record

FROM: Office name - Preparer's name

SUBJECT: Event (severe weather, flooding, winter storm, wildfire, etc.) followed by the location and date. Do not use the words "death" or "fatality" in the subject line.

EVENT: Briefly describe event and time of occurrence.

LOCATION: Town/City (when applicable), County, State.

OFFICE: Name of field office or offices involved.

DEATHS: Number (include age and gender, if known).

INJURIES: Number (also include number requiring hospitalization, if known).

DAMAGE: Briefly highlight what has been damaged, and to what extent (include dollar amount or estimated dollar amount if available). Note source or sources of information.

OUTLOOKS: For locally generated outlooks include type, issue time, and valid times.

For wildfires, include whether or not the event location was covered in the Storm Prediction Center (SPC) Day 1 critical fire area, critical fire area with dry thunderstorms, or extremely critical fire area; valid for the time, or estimated time, the wildfire event began.

For severe weather events, include whether or not the event's location was in SPC's Day 1, risk area valid for the time of the severe weather event. Also include what type of risk (slight, moderate, or high). Current and archive outlooks can be found on the following url: <http://www.spc.noaa.gov/products/outlook/>. Include only the first outlook of the day unless SPC raised or lowered the risk type for the event location in a subsequent outlook, then also include this change.

For flooding events, include whether or not the event was mentioned in a Hydrologic Outlook (ESF). Include the date and time of the first issuance of the ESF which mentioned the potential for flooding in the area of the event.

For any event, include whether or not it was mentioned in a Hazardous Weather Outlook (HWO). Include the date and time of the first issuance of the HWO which mentioned the potential for the event.

WATCHES: Indicate the type of watch or watches, followed by the issuance time and valid times.

WARNINGS: Indicate the type of warning, followed by the issuance time, and a preliminary estimate of the lead time on the warning if available (Lead time is the time between the issuance time of the warning and the time warning criteria is first met.).

If numerous warnings were issued, as in a widespread severe weather or flood event, list initial warning with issuance time and a preliminary estimate of the lead time (if available); also mention a preliminary estimate of the number and average lead time for all warnings (if available).

SERVICE: Briefly describe any value added information contained in products. Some suggestions follow:

1. Names of towns or cities, where deaths, injuries, or significant damage are known to have occurred, which were included in the pathcast of the warning or follow-up statement.
2. Phrase or sentence from a short term forecast, flood statement, or other nonroutine product which forecast the event unusually well.
3. Qualitative number (e.g., few, several, many, numerous) of nonroutine products such as short term forecasts, flood statements, local storm reports, etc. issued which conveyed to the customer additional information beyond the warning text.

4. Note any out of the ordinary performance of any dissemination method (e.g. NOAA Weather Radio (NWR), Emergency Alert System (EAS), etc.).
5. Note any other relevant services provided during the event (e.g. extra calls to emergency managers).

SYSTEMS:

Note any equipment problems relevant to the event.

Highlight significant benefits any of the following equipment, its products, or tools provided toward the warning decision:

1. WSR-88D
2. Satellite
3. AWIPS
4. NWR

USER RESPONSE:

If known, note community response, actions taken by emergency managers, other government officials response, other customer response, and media coverage.

Include disclaimer as written in the WordPerfect template.

2. Example 1- Severe Thunderstorm

06/13/02

MEMORANDUM FOR: The Record

FROM: WFO Hastings Nebraska - Clyde Short, Senior Forecaster

SUBJECT: Damaging Hail Storm in Buffalo County, Nebraska - 06/12/02

EVENT: A supercell thunderstorm, moving southeast across the Buffalo County, produced softball size hail in Kearney and Riverdale, as well as in rural locations between 8:00 p.m. and 9:30 p.m. CDT.

LOCATION: Kearney and Riverdale, Buffalo County, Nebraska

OFFICE: WFO Hastings Nebraska

DEATHS: None reported

INJURIES: 2

DAMAGE: Extensive damage in Kearney and Riverdale. Extensive damage to windows and siding on north side of structures. Many vehicle windshields and windows damaged. One sheriff's vehicle destroyed, and another damaged. No dollar amount estimated yet.

OUTLOOKS: Storm Prediction Center (SPC) included Buffalo County in the slight risk area for Day 1.

Hazardous Weather Outlook (HWO) issued at 5:13 a.m. 06/12/02 indicated severe thunderstorms may develop in the afternoon and evening. This HWO mentioned that the greatest hazard would be large hail and damaging winds.

WATCHES: Tornado watch issued at 3:57 p.m. 06/12/02 valid until 9:00 p.m.

WARNINGS: Severe Thunderstorm warning issued at 7:56 p.m. Lead time 9 minutes. Tornado Warning issued at 8:14 p.m. valid until 9:15 p.m. Warning not verified with a tornado report.

SERVICE: One follow up statement issued at 8:29 p.m. and another follow-up statement issued at 8:51 p.m. Pathcasts in both warnings and follow-up statements included Kearney and Riverdale.

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SYSTEMS: Just before storm entered Buffalo County, there was a brief problem with AWIPS radar process, which stopped the ingest of radar data for about 15 minutes. WSR-88D data from North Platte (KLNK) was used to initiate first warning.

USER RESPONSE: Sirens were blown for each town as storm approached. Spotters were in place to view storm. Emergency Manager from Buffalo County was very pleased with the lead time for the storm.

Any information listed pertaining to this event and/or lead times associated with watches and warnings are based on the best information available at the time this preliminary report was prepared. Subsequently, these data may be changed as time permits a more thorough investigation of the circumstances surrounding this event.

3. Example 2 - Tornado Outbreak

09/20/02

MEMORANDUM FOR: The Record

FROM: WFO Indianapolis, Indiana - Jason Goodfellow, Meteorologist In Charge

SUBJECT: Tornado Outbreak - Indiana - 09/20/02

EVENT: Supercell thunderstorms embedded in a large line of thunderstorms produced several tornadoes across the Indianapolis forecast area of responsibility. Initial reports indicate damage in 10 counties.

LOCATION: Knox, Owen, Monroe, Morgan, Johnson, Marion, Hancock, Lawrence, Brown, Madison, Delaware, Henry, and Rush Counties Indiana

OFFICE: WFO Indianapolis, Indiana

DEATHS: None reported at this time

INJURIES: Greater than 50. Exact number unknown at this time

DAMAGE: Extensive. One law enforcement vehicle and one barn destroyed. Many structures, including at least 15 houses and one shopping mall, damaged. Numerous trees and power lines down.

OUTLOOKS: Storm Prediction Center (SPC) included the Indianapolis forecast area in the slight risk area on the Day 1 outlook issued 1:24 a.m. EST.

Hazardous Weather Outlook (HWO) issued at 5:59 a.m. Thursday 09/19/02 indicated severe thunderstorms would be possible on Friday.

WATCHES: Tornado Watch #693 - issued at 11:30 a.m. - valid until 5:00 p.m.
Tornado Watch #695 - issued at 12:35 p.m. - valid until 6:00 p.m.

WARNINGS: 12 Tornado and 2 Severe Thunderstorm Warnings issued. Initial warning (Tornado) issued at 11:28 a.m. valid until 12:15 p.m. Lead time 22 minutes. Average lead time for warnings was 19.7 minutes.

SERVICE: Counties for all tornadoes and damage reported had warnings in effect with lead time. Numerous Severe Weather Statements issued. Numerous Local Storm Reports issued in real time.

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SYSTEMS: An AWIPS console hung and had to be restarted with minimal impact on operations.

USER RESPONSE: Indianapolis media is in continuous coverage. Many telephone interviews have been conducted by office staff. Staff members will conduct a flyover with Indiana State Emergency Management Saturday morning.

Any information listed pertaining to this event and/or lead times associated with watches and warnings are based on the best information available at the time this preliminary report was prepared. Subsequently, these data may be changed as time permits a more thorough investigation of the circumstances surrounding this event.

4. Example 3 - Flash Flood

04/17/02

MEMORANDUM FOR: The Record

FROM: WFO Marquette, Michigan - Amy Fernandez, Meteorologist In Charge

SUBJECT: Small stream flooding, partial dam failure, potential for complete dam failure, in western Upper Michigan - 04/12-17/02 (continuing at time of this memo)

EVENT: Record snowfall followed by heavy rains and record warmth, resulted in flooding along many streams and rivers across western Upper Michigan. Temperatures in the 70s and 80s since Sunday 04/14/02 melted the remnants of a snowpack 200 to 300 inches thick. Remnants amounted to as much as 12 inches water equivalent. These warm temperatures followed 1 to 3 inches of rain, which fell late last week, sending streams and rivers out of their banks.

In Gogebic county, high water caused a partial failure of the Wood Bire-Presque Isle Dam on the Presque Isle River upstream of Marenisco. Water was also overflowing the dam on Sunday Lake near Wakefield, and authorities were concerned about the possible failure of the McDonald Creek Dam on McDonald Creek upstream of Ramsay, which is west of Wakefield.

Flooding was occurring in Wakefield. Near Marenisco, U.S. Highway 2 and state highway M-64 were closed due to high water. Near Wakefield, U.S. Highway 2 and state highway M-28 were closed due to high water. In Ironwood, all 4 bridges across the Montreal River to Hurley, Wisconsin were closed including U.S. Highway 2. Many secondary roads, gravel roads and forest roads are flooded and closed across Gogebic County in western Upper Michigan.

LOCATION: Gogebic, Ontonagon, Houghton, Baraga, Marquette and Iron counties in western Upper Michigan.

OFFICE: WFO Marquette, Michigan (MQT)
North Central River Forecast Center (NCRFC)

DEATHS: None known at this time.

INJURIES: None known at this time.

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DAMAGE: Estimated 40 -50 homes partially flooded in Gogebic County.

OUTLOOKS: Hydrologic Outlook issued Tuesday 04/09/02, valid Wednesday 04/10/02 through Tuesday 04/16/02, forecasted heavy rain followed by unseasonable warmth to accelerate snow melt.

Hazardous Weather Outlook issued Tuesday morning 04/09/02 first identified the possibility of heavy rain in western Upper Michigan along with the potential for warmer temperatures and the consequential rapid snow melt.

WATCHES: Flood Watch for potential dam failure on Presque Isle River near Marenisco issued 9:23 a.m. EDT 04/17/02 valid until 3:00 p.m.

WARNINGS: The first flood warning was issued at 10:38 a.m. and continues in effect. There was zero lead time on this warning. A total of 7 flood warnings have been issued. Average lead time for these 7 warnings is around 16 hours.

SERVICE: Small stream flood advisories for the Presque Isle River were issued as early as 9:33 p.m. 04/14/02. NCRFC made adjustments to river model data based on higher values from river gage observations.

SYSTEMS: All systems functioned normally during the event.

USER RESPONSE: Evacuations took place in Marenisco, Wakefield and Ironwood (all in Gogebic County). Sandbagging is taking place along rivers where flooding is occurring and many buildings are impacted.

There was frequent coordination with Gogebic County Emergency management and law enforcement authorities.

Any information listed pertaining to this event and/or lead times associated with watches and warnings are based on the best information available at the time this preliminary report was prepared. Subsequently, these data may be changed as time permits a more thorough investigation of the circumstances surrounding this event.

5. Example 4 - Wildfire

06/09/02

MEMORANDUM FOR: The Record

FROM: WFO Grand Junction, Colorado - Herbert Long, Meteorologist In Charge

SUBJECT: Coal Seam Wildfire near Glenwood Springs, Colorado 06/08-09/02

EVENT: Wildfire burning south of Interstate 70 near Glenwood Springs, Colorado exploded in size and intensity late Saturday afternoon 06/08/02. The fire jumped the Colorado River and Interstate 70 and is now threatening the town of Glenwood Springs. The fire was ignited by an old coal seam, which has been burning underground for the past 50 years. The fire is burning out of control in heavy oak brush.

LOCATION: Glenwood Springs, Garfield County, Colorado

OFFICE: WFO Grand Junction, Colorado

DEATHS: None known at this time.

INJURIES: None known at this time.

DAMAGE: As of early Sunday afternoon, the fire had consumed over 7000 acres and had destroyed 40 structures, including 24 homes. No estimate on monetary damages at this time.

OUTLOOKS: The critical fire weather area from the Storm Prediction Center for Day 1 issued Saturday included the Glenwood Springs area.

WATCHES: Fire Weather Watch issued 2:33 p.m. MDT, Thursday 06/06/02, valid for all of eastern Utah and western Colorado for Saturday.

WARNINGS: Red Flag Warning for all of eastern Utah and western Colorado issued at 3:00 p.m., Friday 06/07/02, valid from 11:00 a.m. Saturday through 10:00 p.m. Sunday. Lead time 20 hours.

SERVICE: Wind Advisory issued for Colorado zones 7 and 8 at 10:20 a.m., Saturday, for 25 to 35mph winds with gusts to 45 mph.

Coordination calls with land management agencies on Wednesday, 06/05/02, for expected fire weather hazards over the weekend.

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Numerous telephone briefings with land management officials, before and during the event.

Provided Fire Weather Spot Forecasts at 10:00 p.m. Saturday and at 1:45 p.m. Sunday.

Incident meteorologist (IMET) from Riverton, Wyoming being dispatched to the fire.

SYSTEMS:

No known equipment problems.

WSR-88D detected smoke plume associated with the fire and aided in detecting the fire's origin. Visible satellite imagery displayed smoke plume and direction of wind flow based on plume movement. 3.9 micron imagery helped to approximate the current location of the fire. Model soundings, time sections, and cross sections from AWIPS utilized in making fire weather decisions.

USER RESPONSE:

An order was issued to evacuate west Glenwood Springs and several subdivisions. Shelters are being set up for those displaced. Interstate 70 was closed from 6:00 p.m. Saturday until 3:00 p.m. Sunday.

Wildfire has garnered national media attention due, in part, to the close proximity of the South Canyon (also known as Storm King) Wildfire 07/06/94 which accounted for the deaths of 14 smoke jumpers.

Any information listed pertaining to this event and/or lead times associated with watches and warnings are based on the best information available at the time this preliminary report was prepared. Subsequently, these data may be changed as time permits a more thorough investigation of the circumstances surrounding this event.

6. Example 5 - Hazardous Spill

05/28/02

MEMORANDUM FOR: The Record

FROM: WFO Grand Rapids - Erika Brown, Senior Forecaster

SUBJECT: Hazardous Spill Event - Eaton County, Michigan - 05/27/02

EVENT: Train derailment at 12:30 p.m. EDT Monday 05/27/02 resulted in a release of propane gas. The derailment occurred within a few yards of a subdivision and mobile home park in Potterville, Michigan.

LOCATION: Potterville, Eaton County, Michigan

OFFICE: WFO Grand Rapids Michigan

DEATHS: None known at this time.

INJURIES: None known at this time.

DAMAGE: Damage to train cars and track. No monetary estimate available at this time.

OUTLOOKS: None.

WATCHES: None.

WARNINGS: None.

SERVICE: The Eaton County dispatch called for local wind information twice between 12:30 p.m. and 2:00 p.m. Observations from Lansing (LAN) and Charlotte (FPK) and the zone forecast wind information were given them. The Grand Rapids office was requested to provide wind and precipitation information through Tuesday evening.

SYSTEMS: No equipment problems.

USER RESPONSE: The town of Potterville, Michigan (population around 2,200) was evacuated.

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National network television news covered the event Tuesday morning. The story was picked up by the Washington Post and other large circulation newspapers in their online editions.

Any information listed pertaining to this event and/or lead times associated with watches and warnings are based on the best information available at the time this preliminary report was prepared. Subsequently, these data may be changed as time permits a more thorough investigation of the circumstances surrounding this event.