Department of Commerce • National Oceanic & Atmospheric Administration • National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 10-517 OCTOBER 4, 2005

Operations and Services Public Weather Services, NWSPD 10-5

MULTI-PURPOSE WEATHER PRODUCTS SPECIFICATION

NOTICE: This publication is available at: http://www.nws.noaa.gov/directives/

OPR: OS22 (M. Tew) Certified by: OS22 (E. Jacks)

Type of Issuance: Emergency.

SUMMARY OF REVISIONS: This directive supersedes NWSI 10-517, "Multi-Purpose Weather Products Specification", dated March 9, 2005.

- 1. Effective 1800 UTC, November 1, 2005, the use of the Special Weather Statement (SPS) with regard to Severe Thunderstorm and Tornado Watches (Section 3.3.3) is discontinued. The Watch County Notification Message (WCN) will be used instead (NWSI 10-511, WFO Severe Weather Products Specification, dated March 9, 2005).
- 2. The switch-over date for the Local Storm Report format (Section 5) is delayed from October 4, 2005, until 1800 UTC, February 8, 2006.

Signed 10/04/05

Dennis McCarthy Date

Acting Director, Office of Climate,

Water, and Weather Services

Multi Purpose Weather Products Specification

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- 1. <u>Introduction</u>. This procedural directive provides detailed information on products Weather Forecast Offices (WFO) and the Storm Prediction Center (SPC) issue for severe, fire, marine, tropical, winter and/or non-precipitation weather and flooding hazards.
- 2. <u>Short Term Forecast (product category NOW)</u>.
- 2.1 <u>Mission Connection</u>. Short Term Forecasts provide the public with detailed weather information during significant and/or fast changing hydrometeorological conditions.
- 2.2 <u>Issuance Guidelines</u>.
- 2.2.1 <u>Creation Software</u>. WFOs should use Graphical Hazards Generation Editor (GHG) software to issue Short Term Forecasts.
- 2.2.2 <u>Issuance Criteria</u>. WFOs should issue Short Term Forecasts to discuss the evolution of convective and stratiform precipitation, winter weather, tropical cyclone landfall events, marine events, fog, significant winds, blowing dust, and extreme temperatures (excessive heat or cold) within their geographic area of responsibility.
- 2.2.3 <u>Issuance Time</u>. Short Term Forecasts are non-scheduled, event driven products. WFOs should issue Short Term Forecasts at least every 1 to 3 hours when weather conditions consistent with the issuance criteria are present or forecast.
- 2.2.4 <u>Valid Time</u>. Short Term Forecasts are valid from the time of issuance until the expiration time.
- 2.2.5 <u>Product Expiration Time</u>. The product expiration time is not more than 6 hours after the time of issuance.
- 2.3 <u>Technical Description</u>. Short Term Forecasts will follow the format and content described in this section.
- 2.3.1 UGC Type. NOWs will use the Zone (Z) code of the UGC.
- 2.3.2 <u>Mass News Disseminator Header</u>. The Short Term Forecast MND header is "SHORT TERM FORECAST."
- 2.3.3 <u>Content.</u> WFOs will write Short Term Forecasts in non-technical terms with the highest priority information first. WFOs should include headlines for Tornado, Severe Thunderstorm and Flood Watches, and all warnings and advisories that have valid times longer than 3 hours which are currently in effect. WFOs should write Short Term Forecasts in future tense, focusing on location, movement, intensity, precipitation amounts and duration. Short Term Forecasts may mention threats to life and property.

WFOs should avoid using call to action statements in Short Term Forecasts. Short Term Forecasts should be concise. WFOs should segment Short Term Forecast into separate zone groupings based on common weather conditions. WFOs may include additional information as time permits.

2.3.4 Format.

FPaaii cccc ddhhmm NOWccc

SHORT TERM FORECAST NATIONAL WEATHER SERVICE CITY STATE time am/pm time_zone day mon dd yyyy

STZ000-001-002-ddhhmm-COUNTY A-COUNTY B-COUNTY C-INCLUDING THE CITIES OF...TOWN 1...TOWN 2...TOWN 3 time am/pm time_zone day mon dd yyyy

.NOW...

...HEADLINE (FOR WATCHES...LONG DURATION WARNINGS...AND ADVISORIES)...

THIS SECTION CONTAINS A CONCISE NON-TECHNICAL FREE TEXT PARAGRAPH DESCRIBING EVENT TIME...DURATION...AND FORECAST CONDITIONS.

\$\$

FORECASTER NAME/NUMBER (OPTIONAL)

Figure 1. Short Term Forecast Format

- 2.4 <u>Updates, Amendments and Corrections</u>. Short Term Forecasts are not updated or amended. WFOs will correct Short Term Forecasts for format and grammatical errors.
- 3. Special Weather Statement (product category SPS).
- 3.1 <u>Mission Connection</u>. Special Weather Statements (SPS) provide the public with information concerning ongoing or imminent weather hazards.
- 3.2 <u>Issuance Guidelines</u>.
- 3.2.1 <u>Creation Software</u>. WFOs should use GHG to issue SPSs.

- 3.2.2 <u>Issuance Criteria</u>. The criteria depend on the situation for which the SPS is issued. See Section 3.3.3 Content for additional details.
- 3.2.3 <u>Issuance Time</u>. SPSs are non-scheduled, event driven products.
- 3.2.4 Valid Time. SPSs are valid from time of issuance until the expiration or update time.
- 3.2.5 <u>Product Expiration Time</u>. The product expiration time is not more than 12 hours after the time of issuance.
- 3.3 <u>Technical Description</u>. SPSs will follow the format and content described in this section.
- 3.3.1 <u>UGC Type</u>. SPSs will use the Zone (Z) code of the UGC.
- 3.3.2 <u>Mass News Disseminator Header</u>. The SPS MND header is "SPECIAL WEATHER STATEMENT."

3.3.3 Content.

- a. <u>Before 1800 UTC</u>, <u>November 1, 2005</u>: WFOs will issue SPSs to cancel all or portions of a Severe Thunderstorm or Tornado Watch. WFOs should include portions of the watch which remain in effect. WFOs may also issue SPSs to extend the expiration time for all or portions of a Severe Thunderstorm or Tornado Watch after coordination with SPC and other affected WFOs. WFOs may issue SPSs for ongoing or imminent weather conditions less than warning or advisory criteria. WFOs should issue SPSs to report funnel clouds which are not expected to touch ground and become tornadoes.
- b. <u>At/After 1800 UTC, November 1, 2005</u>: WFOs may issue SPSs for ongoing or imminent weather conditions less than warning or advisory criteria. WFOs should issue SPSs to report funnel clouds which are not expected to touch ground and become tornadoes.

3.3.4

Format.

WWaa8i cccc ddhhmm

SPSccc

SPECIAL WEATHER STATEMENT NATIONAL WEATHER SERVICE CITY STATE time am/pm time_zone day mon dd yyyy

STZ001-002-003-ddhhmm-Zone 1-Zone 2-Zone 3time am/pm time_zone day mon dd yyyy

...HEADLINE...

BRIEF SUMMARY OF ONGOING OR FORECAST WEATHER CONDITIONS LESS THAN WARNING OR ADVISORY CRITERIA.

\$\$

STZ004-005-006-ddhhmm-Zone 4-Zone 5-Zone 6time am/pm time_zone day mon dd yyyy

SAME FORMAT AS THE FIRST SEGMENT (OPTIONAL)

\$\$

FORECASTER NAME/NUMBER (OPTIONAL)

Figure 2. Special Weather Statement Format

- 3.4 <u>Updates, Amendments and Corrections</u>. SPSs should be updated as needed. WFOs will correct SPSs for format and grammatical errors.
- 4. Hazardous Weather Outlook (product category HWO).
- 4.1 <u>Mission Connection</u>. WFOs issue Hazardous Weather Outlooks to inform the public, media, and emergency managers of the potential for winter weather, fire weather, non-precipitation, convective weather, tropical, marine or flood hazards.
- 4.2 Issuance Guidelines.
- 4.2.1 Creation Software. WFOs should use GHG to issue HWOs.
- 4.2.2 <u>Issuance Criteria</u>. The HWO is a dynamic product that should be updated whenever necessary to always depict the latest expected weather hazards for the seven day forecast period.

- 4.2.3 <u>Issuance Time</u>. WFOs will issue HWOs each day, except where local customers request this product be issued on an event driven basis. WFOs should issue HWOs between 5 am and 7 am local time, except where local customers request a different issuance time.
- 4.2.4 <u>Valid Time</u>. An outlook is valid from the time of issuance until the next scheduled issuance or update, unless the HWO is issued on an event driven basis.
- 4.2.5 <u>Product Expiration Time</u>. The product expiration time is 24 hours from the routine issuance time, including updated or corrected HWOs, unless the outlook is issued on an event driven basis.
- 4.3 <u>Technical Description</u>. HWOs will follow the format and content described in this section.
- 4.3.1 UGC Type. HWOs will use the Zone (Z) code of the UGC.
- 4.3.2 <u>Mass News Disseminator Header</u>. The HWO MND header is "HAZARDOUS WEATHER OUTLOOK."
- 4.3.3 <u>Content</u>. Hazardous weather outlooks will describe in concise non-technical terms the specific weather hazards of concern for the first and second forecast periods. HWOs should also briefly discuss in non-technical terms any weather hazards in the Day Two through Seven time period. The weather hazard threshold is the potential issuance of an outlook, watch, warning or advisory for a particular weather phenomena. WFOs should include a general time and location for the hazardous weather event, possible impact, and degree of uncertainty.
 - a. <u>Headlines.</u> WFOs may include headlines for watches, warnings, advisories and significant weather hazards.
 - b. Geographic Locations. The HWO should include a short description of the geographical area covered. HWOs may be written for all of a WFO's geographic area of responsibility in one segment or in more than one segment to cover specific weather hazards and/or geographic areas. If the HWO contains more than one segment, these segments should add up to cover all of a WFO's geographic area of responsibility each time the outlook is issued.
 - c. <u>Days of Week</u>. WFOs may include actual days of the week such as "TODAY" after ".DAY ONE..." and "SATURDAY THROUGH THURSDAY" after ".DAYS TWO THROUGH SEVEN..."
 - d. Weather Hazards. Should include the following.
 - (1) <u>Convective Weather</u>. WFOs will discuss convective weather hazards such as large hail, damaging winds, tornadoes and excessive lightning for all or portions of their geographic area of responsibility. WFOs should include Storm Prediction

- Center Categorical Convective Outlook information for Day 1, Day 2, and Day 3 Risks (Slight, Moderate and High) of organized severe convective weather. WFOs may include information on strong (less than severe) convection.
- (2) <u>Winter Weather</u>. WFOs will discuss winter weather hazards such as wind chill, snow, freezing rain, sleet, or a mixture of these weather phenomena for all or portions of their geographic area of responsibility.
 - WFOs should mention winter weather hazards in the Day 3 through Day 7 time period when there is a 30 percent or greater chance of these types of weather events exceeding local warning criteria. WFOs should mention active winter weather watches, warnings, and advisories for Days 1 and 2 in the HWO.
- (3) <u>Non Precipitation</u>. WFOs will discuss non-precipitation weather hazards such as strong winds, excessive heat, extreme cold, blowing dust/sand, freezing temperatures during the growing season, and dense fog for all or portions of their geographic area of responsibility. WFOs should mention active non-precipitation watches, warnings, and advisories for Days 1 and 2 in the HWO.
 - WFOs should mention non-precipitation weather hazards in the Day 3 through Day 7 time period when there is a 30 percent or greater chance of these types of weather events exceeding local warning criteria. Specific weather hazards to address in the Day 3 through Day 7 time period are Excessive Heat, Extreme Cold, Freeze, High Wind and Wind Chill.
- (4) <u>Fire Weather</u>. WFOs will discuss fire weather hazards such as extremely dry conditions, strong gusty winds, and dry thunderstorms for all or portions of their geographic area of responsibility. WFOs should mention active Fire Weather Watches and Red Flag Warnings for Days 1 and 2 in the HWO. WFOs may include SPC Fire Weather Outlook (Day 1 and Day 2) information in the HWO.
- (5) <u>Flooding</u>. WFOs will discuss flood hazards for all or portions of their geographic area of responsibility. WFOs may include information on small stream flood situations and life threatening flood prone areas such as narrow canyons. For specific and detailed hydrologic information, the HWO should refer customers to active Flood Potential Outlook statements.
- (6) Marine. WFOs should discuss the following marine hazards: high winds, high seas, high surf, coastal flooding, and waterspouts for all or portions of their area of responsibility. Rip currents may be discussed following the rip current guidance in NWSI 10-310, Section 3.6. WFOs routinely providing rip current information will include this information in the Day 1 portion of the HWO when forecasting a high risk of rip currents.
- (7) Tropical. WFOs should headline the Day 1 Tropical Cyclone Watches and

Warnings issued by the Tropical Prediction Center (TPC), Central Pacific Hurricane Center (CPHC), or Joint Typhoon Warning Center (JTWC). The HWO should urge users to consult Hurricane Local Statements issued by the WFO to obtain detailed information concerning potential hazards such as strong winds, storm surge, and excessive rainfall.

WFOs should be consistent with official guidance and products issued by the TPC/HPC in the Days 2 through 7 time period of the HWO. If a WFO forecasts a potential impact to all or portions of its geographic area of responsibility in Days 2 through 5, WFOs may use the following statement in the HWO: "CONSULT THE LATEST GUIDANCE AND INFORMATION FROM THE NATIONAL HURRICANE CENTER CONCERNING THE POSSIBLE EFFECTS OF (HURRICANE OR TROPICAL STORM) xxxx" where (xxxx is the name of the storm). WFOs will not reference tropical cyclone activity beyond the time period addressed by official tropical cyclone products (currently 5 days).

e. <u>NIL Statement</u>. If no weather hazards are expected, WFOs will include one of the following statements in the Day One and/or Days Two through Seven sections:

"NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME" or "THE PROBABILITY FOR WIDESPREAD HAZARDOUS WEATHER IS LOW"

- f. <u>Spotter Instructions</u>. HWOs should include instructions to spotters and emergency managers for anytime during the seven day forecast period.
- 4.3.4 Format.

FLaa4i cccc ddhhmm HWOccc

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE city state time am/pm time_zone day mon dd yyyy

STZ001-002-003-ddhhmm-Zone 1-Zone 2-Zone 3time am/pm time_zone day mon dd yyyy

...HEADLINE FOR ACTIVE WATCHES, WARNINGS, ADVISORIES OR SIGNIFICANT WEATHER HAZARDS... (OPTIONAL)

THIS HAZARDOUS WEATHER OUTLOOK IS FOR PORTION OF STATE(S).

.DAY ONE...ACTUAL DAY OF THE WEEK (Optional - SUCH AS TODAY OR THIS AFTERNOON)

WFOS WILL DISCUSS IN CONCISE NON-TECHNICAL TERMS EACH HAZARD'S IMPACT IN A FREE TEXT FORMAT FOR THE FIRST AND SECOND FORECAST PERIODS. WFOS MAY REFERENCE SUPPORTING WARNINGS, WATCHES, ADVISORIES, AND STATEMENTS.

.DAYS TWO THROUGH SEVEN...ACTUAL DAYS OF THE WEEK (Optional - SUCH AS MONDAY THROUGH SATURDAY)

WFOS SHOULD DISCUSS IN CONCISE NON-TECHNICAL TERMS EACH HAZARD'S IMPACT IN A FREE TEXT FORMAT FOR DAYS TWO THROUGH SEVEN. WFOS MAY REFERENCE SUPPORTING WARNINGS, WATCHES, ADVISORIES, AND STATEMENTS. THIS SECTION IS A "HEADS UP" FOR PLANNING PURPOSES.

.SPOTTER INFORMATION STATEMENT...

INSTRUCTIONS TO SPOTTERS OR EMERGENCY MANAGERS. WFOS MAY OMIT THIS SECTION IF NO HAZARDOUS WEATHER IS EXPECTED IN BOTH THE DAY ONE AND DAYS TWO THROUGH SEVEN TIME PERIODS.

\$\$

STZ004-005-006-ddhhmm-Zone 4-Zone 5-Zone 6time am/pm time_zone day mon dd yyyy

SAME FORMAT AS THE FIRST SEGMENT (OPTIONAL)

\$\$

FORECASTER NAME/NUMBER (OPTIONAL)

Figure 3. Hazardous Weather Outlook Format

4.4 <u>Updates, Amendments and Corrections</u>. WFOs should update the HWO if the forecast for hazardous weather changes. WFOs will correct outlooks for format and grammatical errors.

- 5. Preliminary Local Storm Report (product category LSR).
- 5.1 <u>Mission Connection</u>. Preliminary Local Storm Reports provide the Storm Prediction Center (SPC), adjacent WFOs, the public, media and emergency managers with reported observations of hazardous weather events. Preliminary Local Storm Reports also serve as the primary basis for the official monthly publication "Storm Data."
- 5.2 Issuance Guidelines.
- 5.2.1 <u>Creation Software</u>. WFOs should use the AWIPS LSR generation software for reports.
- 5.2.2 <u>Issuance Criteria</u>. WFOs will issue LSRs for severe weather events such as tornadoes, waterspouts, large hail, thunderstorm/marine wind gusts and flash floods. WFOs should issue LSRs for other events listed in Appendix B. LSRs should be issued for events that meet or exceed applicable warning criteria. Other events may be included. LSRs should be issued as close to real time as possible. WFOs should issue LSRs to "summarize" a list of reports during and/or at the end of an event (e.g. severe weather outbreak, winter storm). Events reported more than seven days after occurrence will be included in monthly Storm Data reports instead of LSRs.
- 5.2.3 <u>Issuance Time</u>. LSRs are non-scheduled, event driven products.
- 5.2.4 <u>Valid Time</u>. LSRs are valid upon issuance.
- 5.2.5 <u>Product Expiration Time</u>. Not applicable.
- 5.3 <u>Technical Description</u>. LSRs will follow the format and content described in this section.
- 5.3.1 <u>UGC Type</u>. Not applicable.
- 5.3.2 <u>Mass News Disseminator Header</u>. The LSR MND header is "PRELIMINARY LOCAL STORM REPORT."
- 5.3.3 Content.
- a. <u>Before 1800 UTC</u>, February 8, 2006: LSRs will follow a national standard format. SPC uses this format to decode local severe weather reports into national hourly and daily reports. All fields of data will begin at the prescribed column of the page. The report should include type of phenomena, date/time of occurrence, location of event (including state, county, direction, distance from a well known site and Latitude/Longitude points), source of the report, damage, deaths, and/or injuries and remarks to convey other noteworthy information about the event. After all weather events listed in the LSR, WFOs may use a delimiter "&&" to provide a narrative summary of weather events.

b. At/After 1800 UTC, February 8, 2006: LSRs will follow a national standard format. WFOs should denote whether the magnitude of a report was measured, estimated or of unknown origin for thunderstorm or non-thunderstorm wind gusts, marine thunderstorm wind gusts, downburst winds, high sustained winds, hurricane winds, hail size, and visibility restrictions due to fog or dense fog. SPC uses this format to decode local severe weather reports into national hourly and daily reports. All fields of data will begin at the prescribed column of the page. The report should include type of phenomena, date/time of occurrence, location of event (including state, county, direction, distance from a well known site and Latitude/Longitude points), source of the report, damage, deaths, and/or injuries and remarks to convey other noteworthy information about the event. After all weather events listed in the LSR, WFOs may use a delimiter "&&" to provide a narrative summary of weather events.

LSRs are preliminary in nature, therefore the final report of verified weather events will be listed in monthly Storm Data reports. Please refer to the NDS procedural directives or associated regional supplements for warning threshold criteria for the following weather phenomena:

```
Marine Weather
Severe Weather
Winter Weather
Nwsi 10-313 (Special Marine Warnings)
Nwsi 10-511 (WFO Severe Weather Products Specification)
Nwsi 10-513 (WFO Winter Weather Products Specification)
Nwsi 10-515 (WFO Non-Precipitation Weather Products Specification)
Nwsi 10-601 (Products)
Nwsi 10-922 (Weather Forecast Office Hydrologic Products Specification)
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Please refer to Appendix B for a list of event sources and weather event types.

5.3.4 Format. (Effective 1800 UTC, February 8, 2006)

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1234567890123456789012345678901234567890123456789012345678901234567890
NWaa5i Kccc DDHHMM
LSRccc
PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE CITY STATE
time am/pm time_zone day mon dd yyyy
         ...EVENT...
                        ...CITY LOCATION... ...LAT.LON...
..COUNTY LOCATION.. ST ...SOURCE....
..TIME..
..DATE..
          ....MAG....
           ..REMARKS..
                          DIST DIR CITY COUNTY
hhmm qM | xxx | EVENT
                                                 |LL.LLd LLL.LLd|x|
MM/DD/YYYY||EMAG UNIT |xx|COUNTY
                                            |ST|x|SOURCE
xxxxxxxxxxx| *** # FATAL, # INJ *** REMARKS
xxxxxxxxxx . .
```

Figure 4. Local Storm Report Format

<u>ltem</u>	<u>Description</u>	<u>Example</u>	<u>Chars</u>	<u>Length</u>
EVENT	weather event	HAIL, TORNADO, WIND GUST	1:13-28	16
MAG	magnitude value with units	3.0, F4, 50	2:13-24	12
EMAG	magnitude value determination method designator (E/M/U)	E3.0, M50	2:13-25	13
UNIT	units of the magnitude value	INCHES, MPH		
DIST	distance from city	10	1:30-52	23
DIR	direction from city	NW		
CITY	city name (obtained from list)	NECHE		(ala 16)
LL.LLd	latitude to 2 decimals and direction	38.31N	1:54-67	14
LLL.LLd	longitude to 2 decimals and direction	104.92W		
MM/DD/YYYY	date: month / day / year(4 digit)	08/22/2001	2:1-10	10
hhmm qM	time: hour minute with am/pm qualifier and preceding zero if necessary	0109 PM	1:1-7	7
COUNTY	county name	PEMBINA	2:30-47	18
ST	state abbreviation	ND	2:49-50	2
SOURCE	Source of the report	TRAINED SPOTTER	2:54-69	16
FATAL INJ	Number of fatalities and injuries, surrounded by three asterisks, separated by a comma, with spaces in between. This exists at the beginning of the remarks section.	*** 1 FATAL, 2 INJ *** *** 4 INJ ***	4+: 13-69	57 (500 limit)

5.4 <u>Updates, Amendments and Corrections</u>. Updates and amendments are not applicable. WFOs will issue a new LSR if the office receives new reports of weather events which meet or exceed warning criteria or updated information on previously reported weather events. WFOs will correct statements for format and grammatical errors.

6. Mesoscale Discussion (product category MCD).

- 6.1 <u>Mission Connection</u>. SPC issues Mesoscale Discussions (MD) to convey to CONUS WFOs, the public, media and emergency managers the current meteorological reasoning for short term hazardous weather concerns.
- 6.2 <u>Issuance Guidelines</u>.
- 6.2.1 Creation Software. SPC will use National Centers AWIPS text editor.
- 6.2.2 <u>Issuance Criteria</u>. MDs issuance criteria depends on the type of weather hazard. Refer to Section 6.3.3 Content for details.
- 6.2.3 Issuance Time. MCDs are non-scheduled, event driven products.
- 6.2.4 <u>Valid Time</u>. The valid time is from the time of issuance until the next update time.

- 6.2.5 Product Expiration Time. The expiration time is the end of the valid time.
- 6.3 Technical Description. MDs will follow the format and content described in this section.
- 6.3.1 <u>UGC Type</u>. MDs will use the Zone (Z) code of the UGC.
- 6.3.2 <u>Mass News Disseminator Header</u>. The MCD MND header is "MESOSCALE DISCUSSION #."
- 6.3.3 <u>Content</u>. SPC uses the Mesoscale Discussion (MD) to alert WFOs and various customers to different types of short term weather hazards. Each subsection will address a type of hazard covered by a MD.
 - a. Severe Potential/Convective Trends. SPC should issue a MD for severe potential 1 to 2 hours prior to a severe thunderstorm or tornado watch issuance. SPC should also issue an MD for severe potential when it is monitoring an area for a potential convective watch or when thunderstorm development is potentially severe, but will not have enough areal coverage or duration that is expected to last long enough for a convective watch issuance. MDs are also normally issued at least every 2 to 3 hours for each convective watch that is in effect and focus on mesoscale and storm scale features affecting the severe weather within the watch area.
 - b. <u>Convective Heavy Rainfall</u>. SPC should issue a MD for localized areas where rainfall rates equal to or greater than 3 inches per hour, or 2 or more inches are expected at any one location in one hour, or rainfall rates of 1.5 inches per hour are expected to occur for 3 hours or greater. SPC may issue a Convective Heavy Rain MD to forecast the end of a heavy rain event.
 - c. <u>Heavy Snowfall</u>. SPC should issue a MD for snowfall accumulation rates of 1 inch per hour or greater for a period of 2 hours or greater at elevations below 4000 feet MSL (mean sea level) and accumulation rates of 2 inches per hour or greater for a period of 2 hours or greater at elevations above 4000 feet MSL. Discussions may also address precipitation trends (increasing or decreasing rates), and climatologically rare events.
 - d. <u>Freezing Rain</u>. SPC should issue a MD for freezing rain accumulations greater than .05 inch per hour for a period of 3 hours or greater. Discussions may also address where a precipitation type is forecast to change from liquid to freezing or freezing to liquid.
 - e. <u>Blizzard</u>. SPC should issue a MD for mesoscale blizzard conditions forecast to persist 3 hours or greater.
 - f. <u>Convective Outlook Upgrade</u>. SPC should issue a MD when considering an upgrade of an outlook risk (to moderate or high) due to higher probabilities. SPC will issue this type of MD prior to the 1300, 1630, or 2000 UTC convective outlook issuance times, and describe the area to be upgraded. This MD will refer to the preceding outlook discussion.
- 6.3.4 Format.

ACUS11 KWNS ddhhmm SWOMCD STZ000-STZ000-ddhhmm-

MESOSCALE DISCUSSION nnnn
NWS STORM PREDICTION CENTER NORMAN OK
time am/pm time_zone day mon dd yyyy

AREAS AFFECTED...(PORTION OF STATES OR GEOGRAPHICAL AREAS)...

CONCERNING...(WEATHER HAZARD)

VALID DDHHMMZ-DDHHMMZ

DISCUSSION TO CONVEY METEOROLOGICAL REASONING FOR MESOSCALE DISCUSSION.

...PLEASE SEE WWW.SPC.NOAA.GOV FOR GRAPHICAL PRODUCT...

...FORECASTER NAME...MM/DD/YY

ATTN...WFO A...WFO B... (AFFECTED WFOS)

LAT/LON CORNER POINTS FOR MCD GRAPHIC

\$\$

Figure . Mesoscale Convective Discussion

6.4 <u>Updates, Amendments and Corrections</u>. SPC will issue MDs as needed and there are no updates. SPC will correct messages for format and grammatical errors.

APPENDIX A - Product Examples

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- 1. Introduction. This appendix provides product examples for the WFOs, SPC and the public.
- 2. Short Term Forecast.

FPUS75 KMSO 072234 NOWMSO

SHORT TERM FORECAST NATIONAL WEATHER SERVICE MISSOULA MT 332 PM MST WED JAN 7 2004

MTZ001>004-043-080000-NORTHWEST MONTANA

.NOW...

...A WINTER WEATHER ADVISORY REMAINS IN EFFECT FOR SNOW THROUGH 9 PM THIS EVENING...

SNOWFALL WILL CONTINUE OVER NORTHWEST MONTANA THIS AFTERNOON. AREAS OF MODERATE TO HEAVY SNOW WILL CONTINUE MAINLY OVER THE WEST GLACIER...FLATHEAD AND BLACKFOOT REGIONS OVER THE NEXT FEW HOURS. SNOWFALL ACCUMULATIONS OF 1 INCH PER HOUR ARE POSSIBLE THROUGH THE AFTERNOON IN THESE AREAS...WITH HIGHWAY VISIBILITY REDUCED TO A HALF A MILE OR LESS AT TIMES. USE EXTREME CAUTION DRIVING ACROSS NORTHWEST MONTANA THIS AFTERNOON...AS ROADWAYS WILL REMAIN VERY SLICK AND ICY.

\$\$

FPUS73 KILX 201850 NOWILX

SHORT TERM FORECAST NATIONAL WEATHER SERVICE LINCOLN IL 149 PM CDT SUN APR 20 2003

ILZ046-057-062-063-067-068-071073-201930-CLARK IL-CLAY IL-CRAWFORD IL-CUMBERLAND IL-EDGAR IL-JASPER IL-LAWRENCE IL-RICHLAND IL-VERMILION IL-INCLUDING THE CITIES OF...TOLEDO...ROBINSON...PARIS...OLNEY... NEWTON...MARSHALL...LAWRENCEVILLE...FLORA AND DANVILLE 149 PM CDT SUN APR 20 2003

.NOW...

...A SEVERE THUNDERSTORM WATCH IS IN EFFECT UNTIL 6 PM...
SCATTERED THUNDERSTORMS WILL CONTINUE TO MOVE NORTHEAST ACROSS SOUTHEASTERN ILLINOIS THROUGH 230 PM. THE STORMS WILL BE ALONG AND SOUTH OF AN OLNEY TO HUTSONVILLE LINE WITH SMALL HAIL AND WINDS TO 45 MPH POSSIBLE WITH THE STRONGER STORMS.

\$\$

FPUS74 KCRP 051056 NOWCRP

SHORT TERM FORECAST NATIONAL WEATHER SERVICE CORPUS CHRISTI TX 455 AM CST THU FEB 5 2004

TXZ232>234-051200-BEE-GOLIAD-VICTORIA-INCLUDING THE CITIES OF...BEEVILLE...GOLIAD...VICTORIA 455 AM CST THU FEB 5 2004

.NOW...

SCATTERED SHOWERS AND THUNDERSTORMS OVER BEE AND GOLIAD COUNTIES WILL CONTINUE TO MOVE NORTHEAST INTO VICTORIA COUNTY THROUGH 6 AM. BRIEF MODERATE TO HEAVY RAIN WILL OCCUR WITH THE THUNDERSTORMS. RAINFALL AMOUNTS WILL BE NEAR ONE-TENTH OF AN INCH WITH ISOLATED AMOUNTS NEAR ONE HALF INCH OVER NORTHERN PORTIONS OF GOLIAD AND VICTORIA COUNTIES.

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GMZ250-255-270-275-051200-

COASTAL WATERS BAFFIN BAY TO PORT ARANSAS OUT 20 NM-COASTAL WATERS PORT ARANSAS TO MATAGORDA SHIP CHANNEL OUT 20 NM-

WATERS BAFFIN BAY TO PORT ARANSAS 20 TO 60 NM-WATERS PORT ARANSAS TO MATAGORDA SHIP CHANNEL 20 TO 60 NM-455 AM CST THU FEB 5 2004

.NOW...

SCATTERED SHOWERS WILL CONTINUE TO MOVE NORTHEAST OVER THE COASTAL WATERS THROUGH 6 AM. LIGHT RAINFALL CAN BE EXPECTED WITH THESE SHOWERS. AREAS OF SEA FOG WILL PERSIST OVER THE NEARSHORE WATERS.

FPUS75 KPIH 250242 NOWPIH

SHORT TERM FORECAST NATIONAL WEATHER SERVICE POCATELLO ID 730 PM MST SAT JAN 24 2004

IDZ017-020>022-031-250430-

EASTERN MAGIC VALLEY-BIG AND LITTLE WOOD RIVER REGION-UPPER SNAKE RIVER PLAIN-LOWER SNAKE RIVER PLAIN-SOUTH CENTRAL HIGHLANDS-730 PM MST SAT JAN 24 2004

.NOW...

...WINTER STORM WARNING CONTINUES...

SNOW HAS DEVELOPED ACROSS THE AREA AND WILL BECOME HEAVIER AS THE EVENING PROGRESSES. GUSTY WEST WINDS BETWEEN 20 TO 30 MPH ALONG WITH HEAVY SNOW CAN BE EXPECTED AS A COLD FRONT APPROACHES EASTERN IDAHO. THE FRONT SHOULD MOVE ACROSS THE EASTERN MAGIC VALLEY BETWEEN 8 AND 9 PM REACHING POCATELLO AROUND 9 PM. MOTORISTS SHOULD BE PREPARED FOR HEAVY SNOW AND NEAR ZERO VISIBILITY CONDITIONS THIS EVENING.

3. <u>Special Weather Statement</u>.

WWUS81 KBOX 242000 SPSBOX

SPECIAL WEATHER STATEMENT NATIONAL WEATHER SERVICE TAUNTON MA 300 PM EST TUE DEC 24 2002

MAZ002>024-CTZ002>004-RIZ001>007-251000WESTERN FRANKLIN-EASTERN FRANKLIN-NORTHERN WORCESTERWESTERN MIDDLESEX-WESTERN ESSEX-EASTERN ESSEX-WESTERN
HAMPSHIRE-WESTERN HAMPDEN-EASTERN HAMPHSHIRE-EASTERN
HAMPDEN-SOUTHERN WORCESTER-WESTERN NORFOLKSOUTHEAST MIDDLESEX-SUFFOLK-EASTERN NORFOLK-NORTHERN
BRISTOL-WESTERN PLYMOUTH-EASTERN PLYMOUTH-SOUTHERN
BRISTOL-SOUTHERN PLYMOUTH-BARNSTABLE-DUKES-NANTUCKETHARTFORD-TOLLAND-WINDHAM-NORTHWEST PROVIDENCESOUTHEAST PROVIDENCE-WESTERN KENT-EASTERN KENT-BRISTOLWASHINGTON-NEWPORT300 PM EST TUE DEC 24 2002

...A WHITE CHRISTMAS FOR SOUTHERN NEW ENGLAND...

A WINTER STORM WILL FORM OFF THE COAST OF NEW JERSEY THIS EVENING...

BUT WILL MOVE QUICKLY TO THE NORTHEAST AND BE EAST OF CAPE COD BY CHRISTMAS MORNING.

PERIODS OF LIGHT TO MODERATE SNOW WILL DEVELOP ACROSS SOUTHERN NEW ENGLAND THIS EVENING. ACCUMULATIONS OF 1 TO 3 INCHES ARE EXPECTED BEFORE THE SNOW TAPERS OFF CHRISTMAS MORNING.

MOTORISTS SHOULD BE PREPARED FOR ICY ROAD CONDITIONS...PARTICULARLY ON LESS TRAVELED ROADS THIS HOLIDAY EVENING. STAY TUNED TO NOAA WEATHER RADIO AND LOCAL TELEVISION STATIONS FOR THE LATEST INFORMATION ON THE HOLIDAY WINTER WEATHER.

4. Hazardous Weather Outlook.

(Severe Convective Weather)

FLUS43 KTOP 021130 HWOTOP

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE TOPEKA KS 630 AM CDT FRI AUG 2 2002

KSZ008>013-020>024-026-034>040-054>056-058-059-031200-REPUBLIC-WASHINGTON-MARSHALL-NEMAHA-BROWN-SHERMAN-CLOUD-CLAY-RILEY-POTTAWATOMIE-JACKSON-JEFFERSON-OTTAWA-DICKINSON-GEARY-MORRIS-WABAUNSEE-SHAWNEE-DOUGLAS-LYON-OSAGE-FRANKLIN-COFFEY-ANDERSON-630 AM CDT FRI AUG 2 2002

THIS HAZARDOUS WEATHER OUTLOOK IS FOR NORTHEAST KANSAS.

.DAY ONE...TODAY

THERE IS A MODERATE RISK OF SEVERE THUNDERSTORMS THIS AFTERNOON THROUGHOUT EASTERN KANSAS. THUNDERSTORMS MAY PRODUCE DAMAGING WIND GUSTS AND LARGE HAIL. ISOLATED TORNADOES ARE POSSIBLE.

.DAYS TWO THROUGH SEVEN...SATURDAY THROUGH THURSDAY

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.SPOTTER INFORMATION STATEMENT...

SKYWARN SPOTTER ACTIVATION WILL LIKELY BE NEEDED THIS AFTERNOON.

(Flooding)

FLUS45 KTWC 201400 HWOTWC

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE TUCSON AZ 700 AM MST FRI SEP 20 2002

AZZ019-029>035-211400-NORTHERN GREENLEE COUNTY-SOUTHEAST PINAL COUNTY-UPPER GILA RIVER VALLEY-WESTERN PIMA COUNTY-TOHONO-OODHAM NATION-TUCSON METRO/MARANA/GREEN VALLEY-SANTA CRUZ COUNTY-COCHISE COUNTY-700 AM MST FRI SEP 20 2002

THIS HAZARDOUS WEATHER OUTLOOK IS FOR SOUTHEAST ARIZONA

.DAY ONE...TODAY

THE REMNANTS OF HURRICANE JULIO WILL BRING MODERATE TO HEAVY RAIN TODAY AND TONIGHT. WASHES AND SMALL RIVERS WILL RISE QUICKLY THIS AFTERNOON AND TONIGHT. FOR FURTHER DETAILS PLEASE REFER TO THE FLOOD WATCH PRODUCT ISSUED BY THIS OFFICE AT 400 AM.

.DAYS TWO THROUGH SEVEN...SATURDAY THROUGH THURSDAY

UNORGANIZED SEVERE CONVECTION MAY OCCUR SUNDAY AND MONDAY...OTHERWISE NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.SPOTTER INFORMATION STATEMENT...

SKYWARN SPOTTER ACTIVATION WILL BE NEEDED TODAY AND TONIGHT.

(High Wind/Marine/Heavy Snow)

FLUS46 KMFR 201500 HWOMFR

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE MEDFORD OR 700 AM PST FRI DEC 20 2002

ORZ021>031-CAZ080>084-211500SOUTH CENTRAL OREGON COAST-CURRY COUNTY COAST-CENTRAL
DOUGLAS COUNTY-EASTERN CURRY AND JOSEPHINE COUNTIESEASTERN DOUGLAS COUNTY FOOTHILLS-JACKSON COUNTY-SOUTH
CENTRAL OREGON CASCADES-SISKIYOU MOUNTAINS AND
SOUTHERN OREGON CASCADES-KLAMATH BASIN-NORTHERN AND
EASTERN KLAMATH AND WESTERN LAKE COUNTIES-CENTRAL AND
EASTERN LAKE COUNTY-WESTERN SISKIYOU COUNTY-CENTRAL
SISKIYOU COUNTY-SOUTH CENTRAL SISKIYOU COUNTY-NORTH
CENTRAL AND SOUTHEAST SISKIYOU COUNTY-NORTHEAST
SISKIYOU AND NORTHWEST MODOC COUNTIES-MODOC COUNTY700 AM PST FRI DEC 20 2002

THIS HAZARDOUS WEATHER OUTLOOK IS FOR SOUTHWEST OREGON AND NORTHEAST CALIFORNIA.

.DAY ONE...TODAY

A PACIFIC WINTER STORM WILL BRING HIGH WINDS WITH HURRICANE FORCE GUSTS AND HIGH SEAS TO THE SOUTH OREGON COAST TODAY. THIS WINTER STORM WILL ALSO BRING HEAVY SNOW TO THE MOUNTAINS OF SOUTHWEST OREGON AND NORTHEAST CALIFORNIA ABOVE 5000 FEET TONIGHT. FOR FURTHER DETAILS ON THIS STORM PLEASE REFER TO THE HIGH WIND WARNING...GALE WARNING AND HEAVY SNOW WARNING ISSUED BY THIS OFFICE AT 400 AM.

.DAYS TWO THROUGH SEVEN...SATURDAY THROUGH THURSDAY

ANOTHER PACIFIC WINTER STORM WILL MOVE INTO THE PACIFIC NORTHWEST MONDAY NIGHT AND TUESDAY. THIS STORM IS EXPECTED TO BRING MORE VALLEY RAIN AND MOUNTAIN SNOW.

.SPOTTER INFORMATION STATEMENT...

SKYWARN SPOTTER ACTIVATION MAY BE NEEDED TONIGHT AND SATURDAY.

(No Hazardous Weather)

FLUS45 KEPZ 031400 HWOEPZ

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE EL PASO TX 700 AM MST FRI APR 3 2003

TXZ055>056-NMZ022>025-030>032-041400-EL PASO-HUDSPETH-SOUTHWEST MOUNTAINS/LOWER GILA REGION-SIERRA COUNTY LAKES REGION-TULAROSA BASIN/SOUTHERN DESERT-SOUTHERN SACRAMENTO MOUNTAINS-SOUTHWEST DESERT/BOOTHEEL-SOUTHWEST DESERT/MIMBRES BASIN-SOUTHERN DESERT-700 AM MST FRI APR 3 2003

THIS HAZARDOUS WEATHER OUTLOOK IS FOR SOUTHERN NEW MEXICO AND EXTREME SOUTHWEST TEXAS.

.DAY ONE...TODAY

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.DAYS TWO THROUGH SEVEN...SATURDAY THROUGH THURSDAY

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

(Excessive Heat)

FLUS41 KPHI 021000 HWOPHI

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE MOUNT HOLLY NJ 600 AM EDT FRI AUG 2 2002

DEZ001>004-NJZ001-007>010-012>027-PAZ054-055-067>071-031000-NEW CASTLE-KENT-INLAND SUSSEX-DELAWARE BEACHES-SUSSEX-WARREN-MORRIS-HUNTERDON-SOMERSET-MIDDLESEX-WESTERN MONMOUTH-EASTERN MONMOUTH-MERCER-SALEM-GLOUCESTER-CAMDEN-NORTHWESTERN BURLINGTON-WESTERN OCEAN-CUMBERLAND-WESTERN ATLANTIC-WESTERN CAPE MAY-EASTERN CAPE MAY-EASTERN ATLANTIC-EASTERN OCEAN-SOUTHEASTERN BURLINGTON-CARBON-MONROE-CHESTER-MONTGOMERY-BUCKS-DELAWARE-PHILADELPHIA-600 AM EDT FRI AUG 2 2002

THIS HAZARDOUS WEATHER OUTLOOK IS FOR SOUTHEAST PENNSYLVANIA... CENTRAL AND SOUTHERN NEW JERSEY AND THE NORTHERN DELMARVA.

.DAY ONE...TODAY

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.DAYS TWO THROUGH SEVEN...SATURDAY THROUGH THURSDAY

EXCESSIVE HEAT IS ANTICIPATED EARLY NEXT WEEK.

HIGH PRESSURE DRIFTING OFF THE MID ATLANTIC COAST LATE SATURDAY WILL PUMP VERY HOT AND HUMID AIR INTO THE REGION EARLY NEXT WEEK. EXCESSIVELY HOT AND HUMID WEATHER CONDITIONS MAY BECOME DANGEROUS MONDAY THROUGH WEDNESDAY.

.SPOTTER INFORMATION STATEMENT...

SPOTTER ACTIVATION WILL NOT BE NEEDED.

(Multiple Segments)

FLUS43 KDMX 081151 HWODMX

HAZARDOUS WEATHER OUTLOOK NATIONAL WEATHER SERVICE DES MOINES IA 529 AM CST MON DEC 8 2003

IAZ004>007-015>017-023>025-033>035-044>046-057-091200-AUDUBON-CALHOUN-CARROLL-CERRO GORDO- CRAWFORD-EMMET- GREENE- HANCOCK-HUMBOLDT-KOSSUTH-PALO ALTO-POCAHONTAS- SAC- WEBSTER- WINNEBAGO-WORTH-WRIGHT-INCLUDING THE CITIES OF... ALGONA...CARROLL...DENISON... ESTHERVILLE...FORT DODGE AND MASON CITY 529 AM CST MON DEC 8 2003

THIS HAZARDOUS WEATHER OUTLOOK IS FOR CENTRAL IOWA ALONG AND NORTH OF A LINE FROM MASON CITY TO AUDUBON.

.DAY ONE...TODAY AND TONIGHT

A WINTER STORM WATCH IS POSTED FOR TONIGHT THROUGH TUESDAY. RAIN IS FORECAST TO DEVELOP THIS EVENING THEN MIX WITH FREEZING RAIN LATER THIS EVENING. THE PRECIPITATION WILL CHANGE OVER TO SNOW AFTER MIDNIGHT. ACCUMULATION UP TO 2 INCHES IS POSSIBLE.

.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY

A WINTER STORM WATCH IS POSTED FOR TUESDAY. SNOW WILL FALL THROUGH MUCH OF TUESDAY. IN ADDITION TO THE SNOW WILL BE A BRISK NORTH WIND AT 15 TO 25 MPH. ADDITIONAL ACCUMULATION UP TO 3 INCHES IS POSSIBLE. THE SNOW WILL TAPER OFF TO FLURRIES DURING THE EVENING HOURS. THE NEXT CHANCE FOR SNOW WILL COME ON SATURDAY.

.SPOTTER INFORMATION STATEMENT...

SPOTTERS SHOULD PREPARE TO CALL IN SNOWFALL TOTALS.

\$\$

IAZ026>028-036>038-047-048-058-059-070-071-081-092-091200-ADAIR-ADAMS-BOONE-BREMER-BUTLER-CASS-DALLAS-FRANKLIN-GRUNDY-GUTHRIE-HAMILTON-HARDIN-STORY-TAYLOR- INCLUDING THE CITIES OF...AMES...ATLANTIC...BOONE...IOWA FALLS...PERRY...WAVERLY AND WEBSTER CITY 529 AM CST MON DEC 8 2003

THIS HAZARDOUS WEATHER OUTLOOK IS FOR CENTRAL IOWA NORTH OF A LINE FROM WATERLOO TO AMES TO ATLANTIC TO BEDFORD.

.DAY ONE...TODAY AND TONIGHT.

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY.

A WINTER STORM WATCH IS POSTED FOR TUESDAY AFTERNOON THROUGH WEDNESDAY MORNING. RAIN WILL FALL OVER THE AREA AND MIX WITH SOME LIGHT FREEZING RAIN BY MID TUESDAY AFTERNOON. THE PRECIPITATION WILL CHANGE TO SNOW LATE IN THE AFTERNOON AND CONTINUE THROUGH WEDNESDAY MORNING. 3 TO 5 INCHES OF SNOW IS FORECAST TO FALL BY WEDNESDAY MORNING. IN ADDITION TO THE SNOW WILL BE A BRISK NORTH WIND AT 15 TO 25 MPH. ANOTHER CHANCE FOR SNOW WILL COME ON SATURDAY.

.SPOTTER INFORMATION STATEMENT...

SPOTTERS SHOULD PREPARE TO SEND IN SNOWFALL REPORTS.

\$\$

IAZ039-049-050-060>062-072>075-082>086-093>097-091200APPANOOSE-BLACK
HAWK-CLARKE-DAVIS-DECATUR-JASPER-LUCAS-MADISONMAHASKA-MARION-MARSHALL-MONROE-POLK-POWESHIEK-RINGG
OLD-TAMA- UNION-WAPELLO-WARREN-WAYNEINCLUDING THE CITIES OF...CENTERVILLE...CHARITON...CRESTON...
DES MOINES...GRINNELL...INDIANOLA...KNOXVILLE...LAMONI...
MARSHALLTOWN...NEWTON...OSKALOOSA...OTTUMWA...PELLA AND
WATERLOO
529 AM CST MON DEC 8 2003

THIS HAZARDOUS WEATHER OUTLOOK IS FOR CENTRAL IOWA SOUTH OF WATERLOO TO DES MOINES TO CRESTON LINE.

.DAY ONE...TODAY AND TONIGHT.

NO HAZARDOUS WEATHER IS EXPECTED AT THIS TIME.

.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY.

A WINTER STORM WATCH HAS BEEN POSTED FOR TUESDAY NIGHT AND WEDNESDAY. RAIN WILL DEVELOP OVER THE AREA ON TUESDAY THEN MIX WITH FREEZING RAIN TUESDAY NIGHT BEFORE CHANGING OVER TO SNOW. THE SNOW WILL CONTINUE TO FALL THROUGH WEDNESDAY MORNING. UP TO 4 INCHES OF SNOW IS FORECAST. ALONG WITH THE SNOW WILL COME A BRISK WIND AT 15 TO 25 MPH. THE NEXT CHANCE FOR SNOW WILL COME ON SATURDAY AS ANOTHER STORM SYSTEM TAKES SHAPE AND MOVES ACROSS CENTRAL IOWA.

.SPOTTER INFORMATION STATEMENT...

SPOTTERS SHOULD PREPARE TO CALL IN SNOWFALL AMOUNTS.

5. Preliminary Local Storm Report.

NWUS54 KHGX 180515 LSRHOU

PRELIMINARY LOCAL STORM REPORT NATIONAL WEATHER SERVICE HOUSTON/GALVESTON TX 1115 PM CST SAT JAN 17 2004

...EVENT... ...CITY LOCATION... ...LAT.LON...
...MAG... ..COUNTY LOCATION...ST....SOURCE.... ..TIME... ..DATE...

..REMARKS..

0948 PM WILLIS 30.42N 95.48W 01/17/2004 M1.00 INCH MONTGOMERY TX LAW ENFORCEMENT

> 1 TO 1.5 INCH DIAMETER HAIL REPORTED NEAR WILLIS AND WAUKEGAN ROADS.

CUT AND SHOOT MONTGOMERY HAIL 0930 PM 30.34N 95.35W 01/17/2004 E1.00 INCH MONTGOMERY TX LAW ENFORCEMENT

> OUARTER SIZED HAIL REPORTED ALONG STATE HIGHWAY 105 NEAR CUT AND SHOOT. HAIL COVERED THE GROUND AND OFFICER HAD TO

PULL OFF THE ROAD.

0905 PM 30.42N 95.48W HATT WILLIE TX TRAINED SPOTTER 01/17/2004 E0.75 INCH MONTGOMERY

5 N LAKE CONROE DAM 30.36N 95.56W 0845 PM HAIL 5 N LAKE CONROE DAM 30.36N 01/17/2004 M1.50 INCH MONTGOMERY TX PUBLIC 0845 PM

1 TO 2 INCH DIAMETER HAIL REPORTED ON LAKE CONROE. HAIL COVERED THE GROUND.

0632 PM NORMANGEE 31.03N 96.12W HAIL 01/17/2004 E0.75 INCH MADISON TX LAW ENFORCEMENT

HAIL REPORTED AT O.S.R. AND STATE HIGHWAY 39.

&&

NWUS54 KJAN 051158 LSRJAN

PRELIMINARY LOCAL STORM REPORT NATIONAL WEATHER SERVICE JACKSON MS 558 AM CST THU FEB 05 2004

..TIME... ..EVENT... ..CITY LOCATION... ..LAT.LON...
..DATE... ..MAG... ..COUNTY LOCATION...ST....SOURCE....

..REMARKS..

0300 AM FLASH FLOOD FITLER 32.73N 91.03W 02/05/2004 ISSAQUENA MS COUNTY OFFICIAL

FLOODING REPORTED NEAR FITLER

0300 AM TSTM WND DMG VAUGHAN 32.81N 90.04W 02/05/2004 YAZOO MS COUNTY OFFICIAL

TREES DOWN NEAR VAUGHAN

0200 AM FLASH FLOOD TALLULAH 32.41N 91.19W 02/05/2004 MADISON LA COUNTY OFFICIAL

FLOODING ON HIGHWAY 80 BETWEEN TALLULAH AND DELHI.

0200 AM FLASH FLOOD BASKIN 32.26N 91.75W 02/05/2004 FRANKLIN LA COUNTY OFFICIAL

FLOODING OVER RIDGE ROAD.

&&

NWUS56 KSEW 071349 LSRSEW

PRELIMINARY LOCAL STORM REPORT NATIONAL WEATHER SERVICE SEATTLE WA 549 AM PST WED JAN 07 2004

...CITY LOCATION... ...LAT.LON...
..COUNTY LOCATION...ST.. ..SOURCE.... ...EVENT... ..TIME... ..DATE...MAG....

..REMARKS..

0540 AM 3 ESE NORTH BEND 47.47N 121.74W BLIZZARD 01/07/2004 KING WA TRAINED SPOTTER

> EAST WIND 25 TO 40 MPH, GUSTS AROUND 50 MPH. LESS THAN AN EIGHTH MILE VISIBILITY. SNOW AND BLOWING SNOW.

0543 AM FREEZING RAIN 5 SW DUVALL 47.69N 122.06W 01/07/2004 M0.00 INCH WA TRAINED SPOTTER KING

3/4 INCH GLAZE. TREE BRANCHES DOWN. FLASHES FROM POWER

LINES AND TRANSFORMERS.

0545 AM BLIZZARD 2 SE NORTH BEND 47.48N 121.76W 01/07/2004 KING WA TRAINED SPOTTER

> EAST WINDS 28MPH GUSTING TO 38MPH. VISIBILITY LESS THAN AN EIGHTH OF A MILE. SNOW AND BLOWING SNOW.

&&

6. Mesoscale Discussion.

(Winter Precipitation)

ACUS11 KWNS 111306 SWOMCD SPC MCD 111306 NYZ000-PAZ000-OHZ000-MIZ000-INZ000-111700-

MESOSCALE DISCUSSION 0058 NWS STORM PREDICTION CENTER NORMAN OK 0706 AM CST TUE JAN 11 2005

AREAS AFFECTED...SRN LOWER MI/NERN IN/NRN OH/PA/SRN NY

CONCERNING...PRECIPITATION TRENDS...WINTER PRECIPITATION

VALID 111306Z - 111700Z

A CHANGEOVER FROM SNOW TO RA OR FZRA MAY OCCUR THIS MORNING ACROSS SRN LOWER MI AND SPREAD EAST...WITH A MIX OF SLEET/SNOW AND FREEZING RAIN DEVELOPING ACROSS PORTIONS OF CNTRL PA AND SNOW INTO EXTREME NRN PA/SRN NY.

LATEST SFC ANALYSIS PLACES WARM FRONT FROM A SFC LOW JUST WSW OF ST. LOUIS NEWD INTO SRN IL/IN. TEMPERATURES AT THE SFC ARE NEAR OR JUST BELOW FREEZING ACROSS MUCH OF NRN PA. AS WARM AIR IS TRANSPORTED NEWD...A TRANSITION ZONE OF FZRA/SLEET IS LIKELY ACROSS A PORTION OF CNTRL PA POSSIBLY EXTENDING INTO NERN PA. THE ZONE OF FZRA SHOULD BE RATHER LIMITED BECAUSE THERMODYNAMIC PROFILES FARTHER NORTH / I.E. 12Z BUFFALO SOUNDING / ARE COMPLETELY SUBFREEZING SUPPORTING ALL SNOW. 12Z PITTSBURGH SOUNDING HAS A DECENT WARM NOSE TO AROUND 850MB WITH SW WINDS NEAR 30 KT IN THAT LAYER WHICH SHOULD SUPPORT CONTINUED WARM LAYER ABOVE SUBFREEZING SFC AIRMASS DOWNSTREAM.

STRONG FRONTOGENESIS IN THE 750-650MB LAYER WILL LIKELY ENHANCE MESOSCALE BANDS OF SNOW DEVELOPING LATER THIS MORNING ACROSS SRN NY/PORTIONS OF NE PA WITHIN DEFORMATION ZONE. SNOW RATES OF 1-2"/HR ARE POSSIBLE. LATEST RADAR AND SFC OBS INDICATE SNOW IS JUST BEGINNING AT LOCATIONS SUCH AS JHW AND DKK...AND SNOW WILL INCREASE AND SPREAD EAST THROUGH 18Z.

FARTHER WEST...ACROSS SRN LOWER MI...SNOW IS EXPECTED TO DIMINISH IN INTENSITY ESPECIALLY AFTER 15Z. BEST FORCING FOR

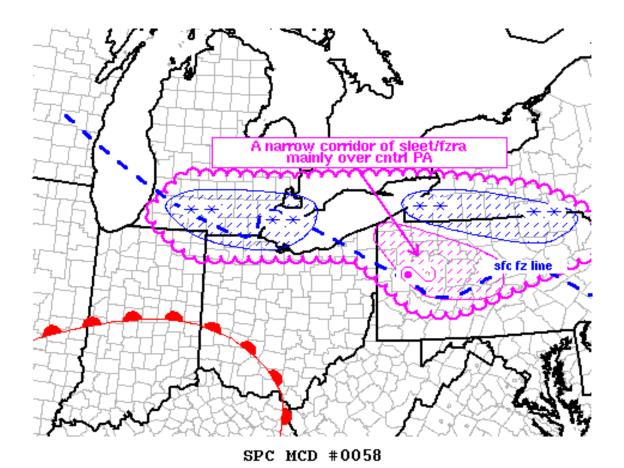
ASCENT WILL BE ENDING ACROSS THE AREA THIS MORNING...AND RISING TEMPERATURES IN THE LOW LEVELS MAY CHANGE SNOW TO RAIN OR POSSIBLY FZRA BEFORE PRECIPITATION ENDS.

..TAYLOR.. 01/11/2005

...PLEASE SEE WWW.SPC.NOAA.GOV FOR GRAPHIC PRODUCT...

ATTN...WFO...PHI...BGM...BUF...CTP...PBZ...CLE...DTX...IWX...GRR...

40257954 41368107 41258516 42038635 42878546 42888266 42947935 42557632 41977511 41177500 40187860



A-19

(Severe Thunderstorm Discussion)

ACUS11 KWNS 171740 SPCMCD KSZ000-OKZ000-WIZ000-ILZ000-172015-

MESOSCALE DISCUSSION 0262 NWS STORM PREDICTION CENTER NORMAN OK 1140 AM CST MON MAR 17 2003

AREAS AFFECTED...PARTS OF SW KS AND WRN/CNTRL OK CONCERNING...SEVERE THUNDERSTORM POTENTIAL

VALID 171740Z - 172015Z

POTENTIAL FOR SEVERE THUNDERSTORMS WILL INCREASE THIS AFTERNOON... WW MAY BECOME NECESSARY WITHIN NEXT 2 TO 3 HOURS. EXIT REGION OF MID/UPPER JET STREAK IS NOSING ACROSS THE SOUTH CENTRAL ROCKIES INTO THE SOUTHERN HIGH PLAINS...WITH MID-LEVEL CYCLONIC VORTICITY MAXIMUM AND ASSOCIATED SHORT WAVE TROUGH NOW EVIDENT IN WATER VAPOR IMAGERY ALONG THE TEXAS/NEW MEXICO BORDER. SHORT WAVE IS PROGGED TO LIFT NORTHEASTWARD ACROSS THE TEXAS PANHANDLE DURING THE NEXT 3 TO 6 HOURS...AND LEADING EDGE OF STRONGER MID/UPPER FORCING IS EXPECTED TO PROVIDE FOCUS FOR INTENSE CONVECTIVE DEVELOPMENT BY AROUND 21Z. MODELS SUGGEST 30 KT SOUTHEASTERLY LOW-LEVEL JET DEVELOPING ALONG AN AXIS FROM CENTRAL OKLAHOMA INTO SOUTHWEST KANSAS DURING THE LATE AFTERNOON...WHICH WILL CONTRIBUTE TO MOISTURE RETURN AND THE DEVELOPMENT OF WEAK TO MODERATE INSTABILITY. DAYTIME HEATING ON NORTHEASTERN PERIPHERY OF SOUTHERN PLAINS LOW-LEVEL THERMAL RIDGE WILL CONTRIBUTE TO CAPE IN EXCESS OF 1000 J/KG FOR SURFACE PARCELS LIFTED BENEATH STEEP MID-LEVEL LAPSE RATE ENVIRONMENT. THOUGH VERTICAL SHEAR PROFILES ARE NOT PROGGED TO BECOME PARTICULARLY STRONG...HODOGRAPHS WILL BE SUFFICIENT FOR SUPERCELLS...ESPECIALLY NEAR/NORTH OF ANTICYCLONIC HIGH LEVEL JET AXIS...NORTH THROUGH NORTHEAST OF GAGE OK.

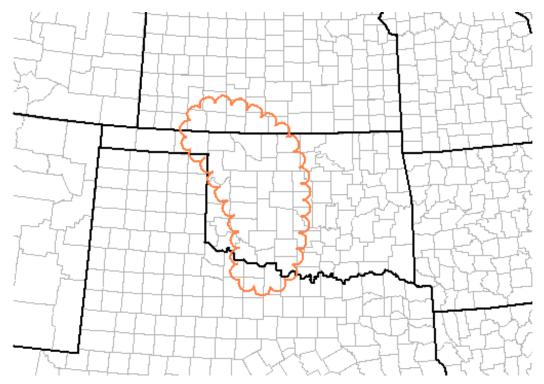
...PLEASE SEE WWW.SPC.NOAA.GOV FOR GRAPHICAL PRODUCT...

..KERR.. 03/17/2003

ATTN...WFO...ICT...FWD...OUN...DDC...AMA...

33789904 34919913 36400007 36740067 37640006 37159810 35759739 33849782 \$\$

(Severe Thunderstorm MD Graphic)



SPC MCD #0262

APPENDIX B

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1.	Preliminary Local Storm Report Event Sources and Types	B-2

PRELIMINARY LOCAL STORM REPORT EVENT SOURCES

AIRPLANE PILOT
AMATEUR RADIO
ASOS
AWOS
BROADCAST MEDIA
BUOY
C-MAN STATION
COAST GUARD
CO-OP OBSERVER
COUNTY OFFICIAL
DEPT OF HIGHWAYS
EMERGENCY MNGR
FIRE DEPT/RESCUE
INSURANCE CO
LAW ENFORCEMENT

MESONET
NEWSPAPER
NWS EMPLOYEE
NWS STORM SURVEY
OFFICIAL NWS OBS
OTHER FEDERAL
PARK/FOREST SRVC
POST OFFICE
PUBLIC
SHIP
STORM CHASER
TRAINED SPOTTER
UNKNOWN
UTILITY COMPANY

PRELIMINARY LOCAL STORM REPORT WEATHER EVENT TYPES

AVALANCHE BLIZZARD *DENSE FOG *DOWNBURST **DROUGHT DUST STORM EXCESSIVE HEAT** EXTREME COLD EXTR WIND CHILL FLASH FLOOD **FLOOD FREEZE** *FREEZING RAIN FUNNEL CLOUD *HAIL **HEAVY RAIN** *HEAVY SNOW HIGH ASTR TIDES

*HIGH SUST WINDS

HURRICANE

ICE STORM LIGHTNING *MARINE HAIL

*MARINE TSTM WIND
NON-TSTM WND DMG

*NON-TSTORM WND GST
RIP CURRENTS
SEICHE
*SLEET
*SNOW
STORM SURGE
TORNADO
TROPICAL STORM
TSTM WND DMG
*TSTM WND GST
WATER SPOUT
WILDFIRE

*Events which require an estimated (E), measured (M) or unknown origin (U) designation.