

**NATIONAL WEATHER SERVICE INSTRUCTION 10-513  
NOVEMBER 1, 2005**

*Operations and Services  
Public Weather Services, NWSPD 10-5*

**WFO WINTER WEATHER PRODUCTS SPECIFICATION**

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

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**OPR:** OS22 (M. Tew)

**Certified by:** OS22 (E. Jacks)

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**SUMMARY OF REVISIONS:** This instruction supercedes NWSI 10-513, “WFO Winter Weather Products Specification,” effective December 7, 2004. The following revisions were made to this instruction:

- 1) Added winter weather event definition in Section 2.
- 2) Added Valid Time Event Code (VTEC) information to the product formats and examples.
- 3) Added event beginning time to better describe the VTEC and headline interactions in Sections 5, 6 and 7.
- 4) Made mandatory the use of AWIPS Graphical Hazard Generator (GHG) software in the CONUS to create and issue all winter weather watches, warnings and advisories to ensure proper headline and P-VTEC format.
- 5) Added multiple warning and multiple advisory sections to address customer requests of multiple winter weather hazards in a single WSW product.

The VTEC information in the product formats and examples will be operationally implemented on November 1, 2005. The VTEC information is provided in Tables 2, 5 and 8, Figures 1-3, Sections 4.5.1, 5.5.1, 5.6.1, 6.5.1, 6.6.1, and all examples in Appendix A. Information regarding implementation of VTEC is available on the Internet at <http://www.nws.noaa.gov/os/vtec/>.

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signed  
Dennis McCarthy  
Director, Office of Climate,  
Water, and Weather Services

10/11/05  
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Date

**WFO Winter Weather Products Specification**

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1. **Introduction.** This procedural directive describes the winter weather products issued by National Weather Service (NWS) Weather Forecast Offices (WFOs), guidelines associated with these products, and detailed content and format for each product type.
2. **Winter Weather Event and Definitions.**
  - 2.1 **Winter Weather Event.** A winter weather event is a meteorological phenomenon that impacts public safety, transportation, and/or commerce, and typically occurs during the climatological winter season.
  - 2.2 **Winter Weather Event Beginning Time.** A winter weather event begins either when public safety, transportation and/or commerce are adversely affected as a direct result of the expected or occurring meteorological conditions, or when the issuance criteria are forecast to be initially met or exceeded (e.g., wind chill events).
  - 2.3 **Winter Weather Event Ending Time.** A winter weather event ends when meteorological conditions no longer pose a threat to public safety, transportation and/or commerce, when the issuance criteria are forecast to no longer be met (e.g., wind chill events), or when such conditions are forecast to end.
3. **Multitiered Concept.** The NWS winter weather warning program will use, when appropriate, the multitiered concept to increase public awareness and promote a proper response to the impending hazardous winter weather event. Generically, the multitiered concept is:
  - a. **Outlook** – An outlook is used to indicate that a hazardous winter weather event may develop. It is intended to provide information to those who need considerable lead time to prepare for the event.
  - b. **Watch** – A watch is used when the risk of a hazardous winter weather event has increased, but its occurrence, location, and/or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so.
  - c. **Warning/Advisory** – These products are issued when a hazardous winter weather event is occurring, is imminent, or has a very high probability of occurrence. A warning is used for conditions posing a threat to life or property. An advisory is for less serious conditions that cause significant inconvenience and, if caution is not exercised, could lead to situations that may threaten life and/or property.

To properly apply the multitiered concept, it is important to have agreement between the forecast staff and other affected WFOs to reach a forecast consensus. This will reduce the on-again, off-again syndrome and geographical/time discontinuities, especially for the longer duration

products like outlooks and watches. Proper coordination will enable the NWS to speak with one voice when alerting users to the potential for such an event.

4. **Winter Storm Outlook (product category HWO).**

4.1 **Mission Connection.** Winter storm outlooks provide our users and partners three to seven day (3-7) advance notice of a hazardous winter weather event which has the potential to threaten life or property. The primary goal of this product is to provide information to those who need considerable lead time to prepare for the event.

4.2 **Issuance Guidelines.** WFOs should use the Hazardous Weather Outlook (HWO) to issue winter storm outlooks. The HWO replaces the Special Weather Statement (SPS) as the tool to issue information about potentially hazardous winter weather expected within the next three to seven days. Winter weather outlooks should follow the issuance guidelines described in National Weather Service Instruction (NWSI) 10-517, section 4.2.

*Exception: Based on local user requirements for major winter storms, some WFOs may issue a winter storm outlook under the product category SPS.*

4.3 **Technical Description.** Winter storm outlooks should follow the format and content described in NWSI 10-517, section 4.3.

5. **Winter Weather Watches (product category WSW).**

5.1 **Mission Connection.** Winter weather watches provide our users and partners 12 to 48 hour advance notice of a hazardous winter weather event which has the potential to threaten life or property. The primary goal of this product is to provide users and partners enough lead time to take appropriate action.

5.2 **Issuance Guidelines.**

5.2.1 **Creation Software.** WFOs will use the AWIPS Graphical Hazard Generator (GHG) as the primary software to create and issue winter weather watches. WFOs outside the contiguous United States (OCONUS) will use regional approved software.

5.2.2 **Issuance Criteria.** WFOs will issue a winter weather watch when conditions are favorable for a hazardous winter weather event to develop over part or all of the forecast area, but the occurrence is uncertain. WFOs should issue winter weather watches for the second, third, or occasionally fourth forecast periods, when there is a 50 percent or greater chance of a hazardous winter weather event meeting or exceeding local warning criteria.

5.2.2.1 Winter Weather Watch Products. WFOs will issue the following winter weather watch products:

Watch Product Name	Description
Blizzard Watch	Conditions are favorable for a blizzard event to meet or exceed Blizzard Warning criteria in the next 12 to 48 hours.
Lake Effect Snow Watch	Conditions are favorable for a lake effect snow event to meet or exceed local Lake Effect Snow Warning criteria in the next 12 to 48 hours.
Wind Chill Watch	Conditions are favorable for wind chill temperatures to meet or exceed local Wind Chill Warning criteria in the next 12 to 48 hours.
Winter Storm Watch	Conditions are favorable for a winter storm event (Heavy Sleet, Heavy Snow, Ice Storm, Heavy Snow and Blowing Snow or a combination of events) to meet or exceed local Winter Storm Warning criteria in the next 12 to 48 hours.

**Table 1.** Winter weather watch product table.

5.2.3 Issuance Time. A winter weather watch is an event-driven product. WFOs should issue the initial watch when the watch issuance criteria is met. Subsequent updates are issued at least once every 12 hours until a warning or advisory is issued or the watch is cancelled.

5.2.4 Valid Time. A winter weather watch is valid for 12 to 48 hours after the issuance time. The valid time (event start and end time) is placed in the P-VTEC line and described in the watch headline.

5.2.4.1 Event Beginning Time. The event beginning time is when the hazardous event is expected to begin. The event beginning time is placed in the P-VTEC line and described in the watch headline (e.g., WINTER STORM WATCH IN EFFECT FROM **MONDAY MORNING THROUGH TUESDAY MORNING** ).

5.2.4.2 Event Ending Time. The event ending time is when the hazardous event is expected to end. The event ending time is placed in the P-VTEC line and described in the watch headline (e.g., WINTER STORM WATCH IN EFFECT FROM MONDAY MORNING THROUGH **TUESDAY MORNING**).

5.2.5 Product Expiration Time. The product expiration time is generally 12 hours after the issuance time and is placed at the end of the UGC string. The product expiration time is the time when users can expect to receive an updated WSW.

5.3 Technical Description. Winter Storm Watches will follow the format and content described in this section.

5.3.1 Universal Geographic Code Type. Winter Storm Watches will use the (Z) form of the UGC.

5.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

5.3.3 Mass News Disseminator Product Type Line. The Winter Storm Watch MND line is “URGENT-WINTER WEATHER MESSAGE.”

5.3.4 Winter Storm Watch Content. The Winter Storm Watch may contain an overview section, but will include segmented forecast information.

5.3.4.1 Overview Section. The Winter Storm Watch overview section is optional. If included, it should contain at least one of the following items:

- a. Overview Headline - a general headline statement that summarizes the hazardous weather threat, expected time of development and area affected. The overview headline will begin and end with three periods (...). For example:

...ANOTHER MAJOR WINTER STORM TO IMPACT THE PACIFIC  
NORTHWEST ON MONDAY AND TUESDAY...  
...A SIGNIFICANT ICE STORM MAY BE HEADED OUR WAY THIS  
WEEKEND...

- b. Overview - a brief, non-technical description of the developing winter storm event. The description may include the location and movement of large scale weather features (e.g., fronts, low pressure systems). Precede the first line of this descriptive information by a period (.).

5.3.4.2 Segmented Forecast Information. Each segment of the Winter Storm Watch will include a watch headline followed by a descriptive text describing why the watch was issued. Each segment describes a hazardous winter weather event(s) for the same geographical area.

- a. Watch Headline. The watch headline will include the following elements in the order shown:

- (1) Leading ellipsis (...)
- (2) Valid watch product name listed in Table 1.
- (3) Event action phrase defined in Table 2.
- (4) General event beginning day and time phrase defined in Appendix C



- (when applicable)
- (5) General event ending day and time phrase defined in Appendix C
- (when applicable)
- (6) Trailing ellipsis (...)

*Exception: When necessary (e.g., mountainous terrain), areal descriptive terms and elevation indicators are permitted after the ending day and time phrase and before the trailing ellipsis.*

Generic Watch Headline Format:

- (1) Used when watch product is in effect:  
**...<watch product name> <event action phrase> FROM <event beginning date and time phrase> THROUGH <event ending date and time phrase>...**
- (2) Used to cancel a watch prior to event beginning date and time:  
**...<watch product name> <event action phrase>...**

Event Action Phrase. The event action phrase in the watch headline corresponds with the VTEC action code. Only the following event action phrases in Table 2 will be used in winter weather watch headlines:

VTEC Action Code	Description	Required Event Action Phrase	Include Time/Date phrase?
NEW	Initial watch issuance	IN EFFECT	Yes
EXA	Expansion of watch area	IN EFFECT	Yes
EXB	Expansion of watch area and change to watch valid time	IN EFFECT	Yes
CON	Continuation or update of	REMAINS IN EFFECT	Yes
EXT	Extend/shorten watch start and/or ending date/time	NOW IN EFFECT	Yes
CAN	Product cancelled prior to event end time	IS CANCELLED	No
UPG	Upgrade watch - no headline		

**Table 2.** Event action phrases for WSW watch headlines.

Watch Headline Examples:

- (1) Initial issuance:  
...WINTER STORM WATCH IN EFFECT FROM SUNDAY MORNING THROUGH MONDAY MORNING...
- (2) Update:  
...WINTER STORM WATCH REMAINS IN EFFECT FROM SUNDAY MORNING THROUGH MONDAY MORNING...
- (3) Extended event end time:  
...WINTER STORM WATCH NOW IN EFFECT FROM SUNDAY MORNING THROUGH MONDAY AFTERNOON...
- (4) Expansion of watch area and shortened event start and end time:  
...WINTER STORM WATCH IN EFFECT FROM SATURDAY EVENING THROUGH SUNDAY EVENING...
- (5) Watch cancelled prior to event end time/date:  
...WINTER STORM WATCH IS CANCELLED...

b. Watch descriptive Text. This section will provide the following watch information:

- (1) National Weather Service attribution line. For the **initial** watch, include the following phrase to begin the text of a watch:

**THE NATIONAL WEATHER SERVICE IN [WFO NAME or LOCATION] HAS ISSUED A (BLIZZARD/LAKE EFFECT SNOW/WIND CHILL/WINTER STORM) WATCH.**

The attribution line is optional for subsequent issuances.

- (2) Reason watch was issued.
- (3) Generalized quantitative wind chill values, snowfall amounts or ice accumulations based upon local warning criteria (e.g., wind chill values to 30 below zero possible, greater than 6 inches possible, the potential exists for more than one quarter inch of ice accumulation).

- (4) Explanation of a watch and uncertainty involved. Include the following phrase to define a winter weather watch:

**REMEMBER...A (BLIZZARD/LAKE EFFECT SNOW/WIND CHILL/WINTER STORM) WATCH MEANS CONDITIONS ARE FAVORABLE FOR A HAZARDOUS (BLIZZARD/LAKE EFFECT SNOW/WIND CHILL/WINTER WEATHER) EVENT IN AND CLOSE TO THE WATCH AREA.**

- (5) Brief potential impact or Call To Action (CTA) statements. CTAs can be effective in reminding people what actions to take in preparing themselves for the potential hazardous winter weather event.

- c. Order of Segments. Winter Storm Watches are placed last in the order of segments. This order was designed to place the most important and/or time sensitive information near the beginning of the message. The order of segments is:

- (1) Cancellation
- (2) Warnings
- (3) Advisories
- (4) Watches**

- d. Order of Headlines. More than one headline is required in a segment when two or more winter weather events (e.g., Ice Storm Warning today and Winter Storm Watch tomorrow) are forecast to occur for the same UGC or geographical area.

The order of headlines will follow the order of segments.

Examples:

- (1) Ice Storm Warning and Winter Storm Watch in effect for the same geographical area.

...ICE STORM WARNING IN EFFECT UNTIL 7 PM EST THIS EVENING...  
...WINTER STORM WATCH IN EFFECT FROM THURSDAY MORNING TO FRIDAY MORNING...

- (2) Heavy Snow Warning, Snow Advisory, and Winter Storm Watch in effect for the same mountain zone(s).

...HEAVY SNOW WARNING IN EFFECT UNTIL 11 AM PST WEDNESDAY ABOVE 5000 FT...  
 ...SNOW ADVISORY IN EFFECT UNTIL 11 AM PST WEDNESDAY AT OR BELOW 5000 FT...  
 ...WINTER STORM WATCH IN EFFECT THURSDAY AND THURSDAY NIGHT...

5.3.5 Format.

<u>Product Format</u>	<u>Description of Entry</u>
WWaaii cccc ddhhmm	(WMO Heading)
WSWxxx	(AWIPS ID)
URGENT - WINTER WEATHER MESSAGE	(Product Name or MND)
NATIONAL WEATHER SERVICE city state	(Issuing Office)
time am/pm time_zone day mon dd yyyy	(Issuance time/date)
...<Overview headline statement>...	(Optional)
.<General weather synopsis of developing winter storm>	(Optional - one to three paragraphs)
stZ001-005>015-ddhhmm-	(UGC: <b>Z</b> & expiration time)
/k.aaa.cccc.pp.s.####.yymmddThhnnZ <sub>B</sub> -yymmddThhnnZ <sub>E</sub> /	(P-VTEC Line(s))
zone st-zone st-zone st-	(Zone Names)
INCLUDING <THE CITIES OF> location...location	(City/Location - optional)
time am/pm time_zone day mon dd yyyy	(Issuance time/date)
...WATCH HEADLINE...	
<Descriptive Text>	(Two to three paragraphs)
{Includes the following information:	(Optional after initial issuance)
1. NWS attribution line	
2. Why watch was issued	
3. Potential Impact	
4. Definition of a watch with uncertainty	
5. Call to Action statements }	
\$\$	(UGC Delimiter)
Name/Initials/Forecaster ID	(Optional after last segment)

**Figure 1.** Generic format for a Winter Storm Watch.

5.4 Updates, Cancellations and Corrections. WFOs will update Winter Storm Watches at least once every 12 hours, or when there is a change in timing, areal extent, or expected conditions. WFOs should issue the updated WSW before the product expiration time is reached.

Winter storm watches are either upgraded into warnings or advisories, or cancelled.

WFOs will issue a WSW to cancel a watch when the forecaster believes the threat of hazardous winter weather will not develop. WFOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

5.5 Upgrade Watch to Warning or Advisory. When a winter weather watch is upgraded to a winter weather warning or winter weather advisory for the same geographical area, the WSW segment will contain one headline and two P-VTEC lines. The headline will list the new warning or advisory only. The first P-VTEC line will use the UPG action code to show the old winter storm watch is being upgraded. The second P-VTEC line will use the NEW action code to start the new winter weather warning or advisory.

5.5.1 Upgrade Watch to Warning Segment Example.

OKZ006>008-011>024-033>036-TXZ083-281100-  
/O.UPG.KOUN.WS.A.0004.050128T0500Z-050129T0000Z/ (P-VTEC line 1)  
/O.NEW.KOUN.IS.W.0003.050128T0500Z-050129T0000Z/ (P-VTEC line 2)  
ALFALFA OK-BECKHAM OK-BLAINE OK-CADDO OK-CANADIAN OK-CUSTER OK-  
DEWEY OK-GARFIELD OK-GRANT OK-GREER OK-HARDEMAN TX-HARMON OK-  
JACKSON OK- KAY OK-KINGFISHER OK- KIOWA OK- LOGAN OK-MAJOR  
OK-NOBLE OK-PAYNE OK-ROGER MILLS OK-WASHITA OK-  
  
INCLUDING THE CITIES OF....ALTUS OK...CLINTON/WEATHERFORD OK...ELK CITY  
OK...EL RENO OK...ENID OK...GUTHRIE OK...HOBART OK...PONCA CITY OK...  
STILLWATER OK  
11 PM CST THU JAN 27 2005

**...ICE STORM WARNING IN EFFECT UNTIL 6 PM CST FRIDAY...**  
*(Only one headline used - lists active winter weather warning)*

<descriptive text>

\$\$

6. **Winter Weather Warnings (product category WSW).**

6.1 **Mission Connection.** Winter weather warnings provide our users and partners advance notice of hazardous winter weather events that threaten life or property.

6.2 **Issuance Guidelines.**

6.2.1 **Creation Software.** WFOs will use the AWIPS Graphical Hazard Generator (GHG) as the primary software to create and issue winter weather warnings. WFOs outside the contiguous United States (OCONUS) will use regional approved software.

6.2.2 **Issuance Criteria.** WFOs will issue winter weather warnings when hazardous winter weather is occurring, imminent, or has a high probability of occurrence over part or all of the forecast area. WFOs should issue winter weather warnings for the first, second, or occasionally third forecast periods, when there is an 80 percent or greater chance of a hazardous winter weather event meeting or exceeding local warning criteria.

If the precipitation type can be determined with a high level of confidence, WFO forecasters will issue the event specific product appropriate for the hazardous weather event – see Table 3 for event specific winter weather warning products. For example, issue an Ice Storm Warning instead of a Winter Storm Warning when the WFO forecast team is expecting warning criteria ice accretion for a zone or group of zones. If the precipitation type cannot be determined with a high level of confidence, or more than one winter weather precipitation type is expected, the WFO forecast team will issue a Winter Storm Warning. In either case, WFOs will coordinate with adjacent WFOs regarding the warning type.

6.2.2.1 **Winter Weather Warning Products.** WFOs will issue the following winter weather warning products using the issuance criteria defined in Table 3 for each product:

<b>Warning Product Name</b>	<b>Issuance Criteria</b>
Blizzard Warning	Sustained wind or frequent gusts greater than or equal to 35 mph accompanied by falling and/or blowing snow, frequently reducing visibility to less than 1/4 mile for three hours or more.
Heavy Snow Warning	Snow accumulation meeting or exceeding locally defined 12 and/or 24 hour warning criteria.
Lake Effect Snow Warning	Widespread or localized lake induced snow squalls or heavy showers which produce snowfall accumulation meeting or exceeding locally defined warning criteria. Lake Effect Snow usually develops in narrow bands and impacts a limited area within a zone(s).

Ice Storm Warning	Ice accumulation meeting or exceeding locally defined warning criteria (typical value is 1/4 inch or more).
Sleet Warning	Sleet accumulation meeting or exceeding locally defined warning criteria (typical value is 1/2 inch or more).
Wind Chill Warning	Wind chill temperatures reaching or exceeding locally defined warning criteria (typical value is -18°F or colder).
*Winter Storm Warning	Winter weather event having more than one <u>predominant</u> hazard (i.e., heavy snow and blowing snow - <i>see Section 6.2.2.2</i> , snow and ice, snow and sleet, sleet and ice, or snow, sleet and ice) meeting or exceeding locally defined 12 and/or 24 hour warning criteria for at least one of the precipitation elements.

**Table 3.** Winter weather warning product table.

\* *Winter Storm Warnings are primarily used for mixed precipitation events. For example, a Winter Storm Warning is issued when a winter weather event is expected to produce 2 inches of snow, then 1/4 to 1/2 inch of ice, followed by an inch or 2 of additional snow.*

*The issuance criteria is met because:*

- 1) *The forecaster expects significant snow and ice to occur - two winter weather hazards*
- 2) *The ice accumulation meets or exceeds warning criteria - 1/4 inch to 1/2 inch*

6.2.2.2 Heavy Snow and Blowing Snow Events. WFOs should issue a Winter Storm Warning for combined heavy snow and blowing snow events (below blizzard conditions) when:

- a) Snow accumulation meets or exceeds locally defined 12 and/or 24 hour warning criteria, and
- b) Sustained wind or frequent gusts of 25 to 34 mph (or locally defined) accompanied by falling and blowing snow, occasionally reducing visibility to 1/4 mile or less for three hours or more.

6.2.2.3 Multiple Warning Segments. If WFO forecasters expect more than one winter weather warning event (e.g. Heavy Snow Warning and Ice Storm Warning) within a WFO's warning area, then the forecast team will issue separate WSW segments for each warning event.

Example: A winter storm is expected to produce a band of heavy snow across the northern sections of the local warning area (Zones 001-005), an area of mixed snow, sleet and freezing rain in the central portion of the warning area (Zones 006-010), and an area of mostly ice accumulation of more than 1/2 inch in the southern portion of the warning area (Zones 011-016).

This scenario would require three separate warnings designated by three segments in one WSW. The three warnings would be as follows:

- 1) Heavy Snow Warning for Zones 001 to 005
- 2) Winter Storm Warning event for Zones 006 to 010
- 3) Ice Storm Warning for Zones 011 to 016

6.2.2.4 Minimum Forecast Snowfall Criteria. Heavy Snow Warnings are based on an average value (rounded up to the nearest inch) of the forecast snowfall range. The forecast average value must meet or exceed the 12 and/or 24 hour local warning criteria depending on the duration of the event. The event duration is from the time winter weather precipitation begins to when it ends.

Local Heavy Snow Warning Criteria (Inches)	Forecast Range (Inches)	Mid Point Value (Inches)	Issue Warning ?
<b>4</b>	3 to 5	4	Yes
	2 to 4	3	No
<b>6</b>	4 to 8	6	Yes
	3 to 6	4.5	No
<b>8</b>	5 to 10	7.5	Yes (round up to 8)
	4 to 8	6	No
<b>12</b>	10 to 14	12	Yes
	6 to 12	9	No

**Table 4.** Example of minimum snowfall forecast criteria for Heavy Snow Warnings.

6.2.2.5 Forecast Criteria Exception. During early and late season storms, or in places where winter weather is rare, WFOs may issue winter weather warnings based on significant public impact events which do not meet local warning criteria. For example, if a storm (such as one with heavy, wet snow or a mixture of snow, freezing rain and sleet) is forecast to significantly affect transportation, commerce or electrical power service, then the event warrants a warning.

6.2.3 Issuance Time. A winter weather warning is an event-driven product and is initially issued when a hazardous winter weather event is expected to meet or exceed local warning criteria. WFOs should issue updated warnings at least once every six to eight hours until the event ends or is canceled.



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6.2.4 Valid Time. A winter weather warning is valid up to 36 hours after the issuance time. The valid time (event start and end times) is placed in the P-VTEC line(s) and is described in the warning headline. The valid time should generally not exceed 36 hours from the time of issuance.

6.2.4.1 Event Beginning Time. The event beginning time is when the winter weather warning event is expected to begin. The event beginning time is placed in the P-VTEC line for the initial warning issuance. For subsequent warning updates, the event beginning time is only included in the P-VTEC line when issuance time is prior to the event beginning time. Otherwise, the event beginning time is zeroed out to indicate the event has begun (e.g., 000000T0000Z).

If the issuance time is three or more hours prior to the event beginning time, the event beginning time is placed in the warning headline (e.g., HEAVY SNOW WARNING IN EFFECT FROM **10 PM THIS EVENING TO 9 AM EST MONDAY**). Otherwise, the event beginning time is omitted (e.g., HEAVY SNOW WARNING IN EFFECT UNTIL 9 AM EST MONDAY).

6.2.4.2 Event Ending Time. The event ending time is when the winter weather warning event is expected to end. The event ending time can match the product expiration time if the warning is in effect for eight hours or less. The event ending time is placed in the P-VTEC line and is described in the warning headline (e.g., HEAVY SNOW WARNING IN EFFECT UNTIL 9 AM EST MONDAY). The event ending time should generally not exceed 36 hours from the time of issuance.

6.2.5 Product Expiration Time. The product expiration time is generally 6 to 8 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end. The product expiration time is placed in the UGC line.

6.3 Technical Description. Winter weather warnings will follow the format and content described in this section.

6.3.1 Universal Geographic Code Type. Winter weather warnings will use the (Z) form of the UGC.

6.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

6.3.3 Mass News Disseminator Product Type Line. The winter weather warning MND line is "URGENT-WINTER WEATHER MESSAGE."

6.3.4 Content. A winter weather warning may contain an overview section, but will include segmented forecast information.

6.3.4.1 Overview Section. The winter weather warning overview section is optional. If included, it should contain at least one of the following items:

- a. Overview Headline - a general headline statement that summarizes the hazardous weather threat, expected time of development and area affected. The overview headline will begin and end with three periods (...). For example:

...A MAJOR WINTER STORM WILL IMPACT THE PACIFIC  
NORTHWEST...

...ICE STORM WARNINGS ISSUED FOR CENTRAL PENNSYLVANIA  
TODAY...

- b. Overview - a brief, non-technical description of the developing winter storm event. The description may include the location and movement of large scale weather features (e.g., fronts, low pressure systems). The first line of this descriptive information will be preceded by a period (.).

6.3.4.2 Segmented Forecast Information. Each segment of a winter weather warning will include a warning headline followed by a descriptive text describing why the warning was issued. Each segment describes a hazardous winter weather event(s) for the same geographical area.

- a. Warning Headline. The warning headline will include the following elements in the order shown:

- (1) Leading ellipsis (...)
- (2) Valid winter weather warning product name listed in Table 3.
- (3) Event action phrase defined in Table 5.
- (4) Specific event beginning day and time phrase defined in Appendix C (when applicable)
- (5) Specific event ending day and time phrase defined in Appendix C (when applicable)
- (6) Trailing ellipsis (...)

*Exception: When necessary (e.g., mountainous terrain), areal descriptive terms and elevation indicators are permitted after the ending day and time phrase and before the trailing ellipsis.*

Generic Warning Headline Format.

- (1) Warning product issuance time prior to event beginning time:  
**...<warning product name> <event action phrase> FROM <event beginning date and time phrase> TO <event ending date and time phrase>...**

(2) Warning product issuance time equals event beginning time:  
**...<warning product name> <event action phrase> UNTIL <event ending date and time phrase>...**

(3) Warning product cancellation or expiration statement:  
**...<warning product name> <event action phrase>...**

Event Action Phrase. The event action phrase in the warning headline corresponds with the VTEC action code. Only the following event action phrases in Table 5 will be used in winter weather warning headlines:

VTEC Action Code	Description	Required Event Action Phrase	Include Time/Date ?
NEW	Initial warning issuance	IN EFFECT	Yes
EXA	Expansion of warning area	IN EFFECT	Yes
EXB	Expansion of warning area and change to warning valid time	IN EFFECT	Yes
CON	Continuation or update of warning	REMAINS IN EFFECT	Yes
EXT	Extend/shorten warning start and/or ending date/time	NOW IN EFFECT	Yes
CAN	Warning cancelled prior to event end time	IS CANCELLED	No
EXP	Advisory approaching the expiration time. Used up to 30 minutes prior to advisory end time.	WILL EXPIRE AT	Yes
	Advisory has expired. Used up to 30 minutes after advisory expiration has passed.	HAS EXPIRED	No
UPG	Upgrade - Not applicable		

**Table 5.** Event action phrases for WSW warning headlines.

a. Warning Headline Examples:

(1) Initial issuance or expansion in area:  
**...BLIZZARD WARNING IN EFFECT FROM 7 AM THIS MORNING TO 11 AM EST WEDNESDAY...**

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- (2) Update:  
...BLIZZARD WARNING REMAINS IN EFFECT UNTIL 11 AM EST WEDNESDAY...
- (3) Shorten event end time:  
...BLIZZARD WARNING REMAINS IN EFFECT UNTIL 5 PM EST WEDNESDAY...
- (4) Cancelled prior to event end time/date:  
...BLIZZARD WARNING IS CANCELLED...
- (5) Expiration statement up to 30 minutes prior to event end time:  
...BLIZZARD WARNING WILL EXPIRE AT 5 PM EST WEDNESDAY..
- (6) Expiration statement up to 30 minutes after event end time:  
...BLIZZARD WARNING HAS EXPIRED...

b. Warning descriptive Text. This section will include the following warning information:

- (1) National Weather Service attribution line. For the **initial** warning, include the following phrase to begin the text of a warning:

**THE NATIONAL WEATHER SERVICE IN [WFO NAME or LOCATION] HAS ISSUED A (BLIZZARD/HEAVY SNOW/ICE STORM/SLEET/LAKE EFFECT SNOW/WIND CHILL/WINTER STORM) WARNING.**

The attribution line is optional for subsequent issuances.

- (2) Reason warning was issued. Include winter weather element(s) prompting the warning.
- (3) Quantitative snowfall amounts or ice accumulation (e.g., 3 to 6 inches, 8 to 12 inches, one quarter to one half inch of ice accumulation).
- (4) Definition of a warning, when event has not yet begun. Use the following phrase to define a warning:

**REMEMBER...A** (*BLIZZARD/HEAVY SNOW/ICE STORM/HEAVY SLEET/LAKE EFFECT SNOW/WIND CHILL/WINTER STORM*)  
**WARNING MEANS SEVERE WINTER WEATHER CONDITIONS ARE IMMINENT OR HIGHLY LIKELY.**

- (5) Brief call to action statements, safety rules. Include frostbite time references for Wind Chill Warnings. The threshold for dangerous Wind Chill Temperatures start at -18°F, where frostbite can occur on exposed flesh in 30 minutes.
- c. Order of Segments. Winter weather warnings are placed second in the order of segments. This order was designed to place the most important and/or time sensitive information near the beginning of the message. The order of segments is:
- (1) Cancellation
  - (2) **Warnings**
  - (3) Advisories
  - (4) Watches
- d. Order of Headlines. More than one headline is required in a segment when two or more winter weather events (e.g., Ice Storm Warning today and Winter Storm Watch tomorrow) are forecast to occur for the same UGC or geographical area.

The order of headlines will follow the order of segments.

Examples:

- (1) Ice Storm Warning and Winter Storm Watch in effect for the same geographical area.

...ICE STORM WARNING IN EFFECT UNTIL 7 PM EST THIS EVENING...  
...WINTER STORM WATCH IN EFFECT THURSDAY...

- (2) Heavy Snow Warning, Snow Advisory, and Winter Storm Watch in effect for the same mountain zone(s).

...HEAVY SNOW WARNING IN EFFECT UNTIL 11 AM PST WEDNESDAY ABOVE 5000 FT...  
...SNOW ADVISORY IN EFFECT UNTIL 11 AM PST WEDNESDAY AT OR BELOW 5000 FT...  
...WINTER STORM WATCH IN EFFECT FROM THURSDAY MORNING TO FRIDAY MORNING...

6.3.5 Format.

<u>Product Format</u>	<u>Description of Entry</u>
WWaaii cccc ddhhmm WSWxxx	(WMO Heading) (AWIPS ID)
URGENT - WINTER WEATHER MESSAGE NATIONAL WEATHER SERVICE city state time am/pm time_zone day mon dd yyyy	(Product Name or MND) (Issuing Office) (Issuance time/date)
...<Overview headline statement>...	(Optional)
..<General weather synopsis of winter storm>	(Optional - one to three paragraphs)
stZ001-005>015-ddhhmm- /k.aaa.cccc.pp.s.####.yymmddThhnnZ <sub>B</sub> -yymmddThhnnZ <sub>E</sub> / zone-zone-zone- INCLUDING <THE CITIES OF> location...location. time am/pm time_zone day mon dd yyyy	(UGC: <u>Z</u> & expiration time) (P-VTEC Line(s)) (Zone Names) (City /Location - optional) (Issuance time/date)
...WARNING HEADLINE...	
<Descriptive Text> { Includes the following information: 1. NWS attribution line 2. Why warning was issued (winter weather element(s) ../prompting the warning) 3. Detailed snowfall/ice accumulation/sleet amounts (e.g., 3 to 6 inches, 8 to 12 inches, one half inch of ice accumulation, one inch of sleet) 4. Timing of the event (beginning, ending, time of heaviest precipitation or worst conditions, duration) 5. Definition of a warning (before event begins) 6. Potential impact, call to action statement }	(Two to three paragraphs)  (Optional after first issuance)
\$\$	(UGC Delimiter)
Name/Initials/Forecaster ID	(Optional after last segment)

**Figure 2.** Generic format for a winter weather warning.

6.4 Updates, Cancellations, and Corrections. WFOs will update winter weather warnings at least once every six to eight hours until the event ends or is canceled. WFOs should issue the updated WSW before the product expiration time is reached. The frequent updates will keep our users and partners informed on the current and short term aspects of the winter storm. Update warnings whenever there is a change in timing, areal extent, or expected conditions.

WFOs will issue a WSW to cancel a warning when the forecaster believes the weather threat has diminished before the valid time expires.

WFOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

6.5 Downgrade Warning to Advisory. When a winter weather warning is downgraded to a winter weather advisory for the same geographical area, the WSW segment will contain two headlines and two P-VTEC lines. The first headline and P-VTEC line are used to cancel the warning, and the second headline and P-VTEC line are used to issue the new advisory.

6.5.1 Downgrade Warning to Advisory Segment Example.

```
OKZ006>008-011>024-033>036-TXZ083-281600-
/O.CAN.KOUN.IS.W.0004.000000T0000Z-010129T0000Z/ (P-VTEC line 1)
/O.NEW.KOUN.ZR.Y.0003.010128T1000Z-010129T0000Z/ (P-VTEC line 2)
ALFALFA OK-BECKHAM OK-BLAINE OK-CADDO OK-CANADIAN OK-CUSTER OK-
DEWEY OK-GARFIELD OK-GRANT OK-GREER OK-HARDEMAN TX-HARMON OK-
JACKSON OK- KAY OK-KINGFISHER OK- KIOWA OK- LOGAN OK-MAJOR
OK-NOBLE OK-PAYNE OK-ROGER MILLS OK-WASHITA OK-
```

```
INCLUDING THE CITIES OF...ALTUS OK...CLINTON/WEATHERFORD OK...ELK CITY
OK...EL RENO OK...ENID OK...GUTHRIE OK...HOBART OK...PONCA CITY OK...
STILLWATER OK
4 AM CST SUN JAN 28 2001
```

```
...ICE STORM WARNING IS CANCELLED...
...FREEZING RAIN ADVISORY IN EFFECT UNTIL 6 PM CST SUNDAY...
(Two headlines used - lists cancelled warning, then new advisory)
```

<descriptive text>

\$\$

6.6 Replace Warning with Warning. When a winter weather warning is replaced with another warning for the same geographical area, the WSW segment will contain two headlines

and two P-VTEC lines. The first headline and P-VTEC line are used to cancel the old warning, and the second headline and P-VTEC line are used to start the new warning.

6.6.1 Replace Ice Storm Warning with Winter Storm Warning Segment Example.

OKZ006>008-011>024-033>036-TXZ083-281800-

/O.CAN.KOUN.IS.W.0005.000000T0000Z-010129T0000Z/ (P-VTEC line 1)

/O.NEW.KOUN.WS.W.0005.010128T1030Z-010129T0000Z/ (P-VTEC line 2)

ALFALFA OK-BECKHAM OK-BLAINE OK-CADDO OK-CANADIAN OK-CUSTER OK-  
DEWEY OK-GARFIELD OK-GRANT OK-GREER OK-HARDEMAN TX-HARMON OK-  
JACKSON OK- KAY OK-KINGFISHER OK- KIOWA OK- LOGAN OK-MAJOR  
OK-NOBLE OK-PAYNE OK-ROGER MILLS OK-WASHITA OK-

INCLUDING THE CITIES OF....ALTUS OK...CLINTON/WEATHERFORD OK...ELK CITY  
OK...EL RENO OK...ENID OK...GUTHRIE OK...HOBART OK...PONCA CITY OK...  
STILLWATER OK  
430 AM CST SUN JAN 28 2001

**...ICE STORM WARNING IS CANCELLED...**

**...WINTER STORM WARNING IN EFFECT UNTIL 6 PM CST SUNDAY...**

*(Two headlines used - lists cancelled warning, then new warning)*

<descriptive text>

\$\$

7. Winter Weather Advisories (product category WSW).

7.1 Mission Connection. Winter weather advisories provide our users and partners advance notice of hazardous winter weather events which could lead to life-threatening situations if caution is not exercised.

7.2 Issuance Guidelines.

7.2.1 Creation Software. WFOs will use the AWIPS Graphical Hazard Generator (GHG) as the primary software to create and issue advisories. Outside the contiguous United States (OCONUS) will use regional approved software.

7.2.2 Issuance Criteria. WFOs will issue winter weather advisories for hazardous winter weather that causes significant inconveniences, and if caution is not exercised, could lead to life-threatening situations over part or all of the forecast area. WFOs should issue winter weather advisories for the first, second, or occasionally third forecast periods, when there is an 80 percent



or greater chance of a hazardous winter weather event meeting or exceeding local advisory criteria.

If the precipitation type can be determined with a high level of confidence, WFO forecasters will issue the event specific product appropriate for the hazardous weather event – see Table 6 for event specific winter weather advisory products. For example, issue a Snow Advisory instead of a Winter Weather Advisory when the WFO forecast team is expecting advisory criteria snowfall for a zone or group of zones. If the precipitation type cannot be determined with a high level of confidence, or more than one winter weather precipitation type is expected, the WFO forecast team will issue a Winter Weather Advisory. In either case, WFOs will coordinate with adjacent WFOs regarding the advisory type.

7.2.2.1 Winter Weather Advisory Products. WFOs will issue the following winter weather advisory products using the issuance criteria defined in Table 6 for each product:

Advisory Product Name	Issuance Criteria
Blowing Snow Advisory	Widespread or localized blowing snow reducing visibilities to 1/4 mile or less with winds less than 35 mph.
Freezing Rain Advisory	Light ice accumulation (freezing rain and/or freezing drizzle) meeting or exceeding locally defined advisory criteria, but remaining below warning criteria.
Lake Effect Snow Advisory	Widespread or localized lake effect snowfall accumulation reaching or exceeding locally defined advisory criteria, but remaining below warning criteria.
Sleet Advisory	Sleet accumulation reaching or exceeding locally defined advisory criteria, but remaining below warning criteria.
Snow Advisory	Snowfall accumulation meeting or exceeding locally defined advisory criteria, but remaining below warning criteria.
Snow and Blowing Snow Advisory	Sustained wind or frequent gusts of 25 to 34 mph (or locally defined) accompanied by falling <u>and</u> blowing snow, occasionally reducing visibility to 1/4 mile or less for three hours or more.
Wind Chill Advisory	Wind chill temperatures reaching or exceeding locally defined advisory criteria, but remaining below warning criteria.
Winter Weather Advisory	Winter weather event having more than one predominant hazard (i.e., snow and ice, snow and sleet, or snow, ice and sleet) meeting or exceeding locally defined 12 and/or 24 hour advisory criteria for at least one of the precipitation elements, but remaining below warning criteria.

**Table 6.** Winter weather advisory product table.

7.2.2.2 Multiple Warning Segments. If WFO forecasters expect more than one winter weather advisory event (e.g. Snow Advisory and Winter Weather Advisory) within a WFO’s warning area, then the forecast team will issue separate WSW segments for each advisory event.

Example: A winter storm is expected to produce a band of advisory criteria snowfall across the northern sections of the local warning area (Zones 001-005), an area of mixed snow, sleet and freezing rain in the central portion of the warning area (Zones 006-010), and an area of mostly ice accumulation of less than 1/4 inch in the southern portion of the warning area (Zones 011-016).

This scenario would require three separate advisories designated by three segments in one WSW. The three advisories would be as follows:

- 1) Snow Advisory for Zones 001 to 005
- 2) Winter Weather Advisory for Zones 006 to 010
- 3) Freezing Rain Advisory for Zones 011 to 016

7.2.2.3 Minimum Forecast Snowfall Criteria. Snow Advisories are based on an average value (rounded up to the nearest inch) of the forecast snowfall range. Depending on the duration of the event, the forecast average value must meet or exceed the 12 and/or 24 hour local advisory criteria, but remain below warning criteria. The event duration is from the time the snow begins to when it ends.

Local Snow Advisory Criteria (Inches)	Forecast Range (Inches)	Mid Point Value (Inches)	Issue Advisory?
3	2 to 4	3	Yes
	1 to 3	2	No
5	4 to 6	5	Yes
	3 to 5	4	No
7	5 to 8	6.5	Yes (round up to 7)
	3 to 7	5	No

**Table 7.** Examples of minimum snowfall forecast criteria for Snow Advisories.

7.2.2.4 Forecast Criteria Exception. During early and late season winter weather events, and in places where winter weather is rare, WFOs may issue winter weather advisories based on public impact events which do not meet local advisory criteria. For example, if a storm (such as wet

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snow or a mixture of snow, freezing rain and sleet) is forecast to affect transportation and commerce, then the event warrants an advisory.

7.2.3 Issuance Time. Advisories are event-driven products and are initially issued when a hazardous winter weather event is expected to meet or exceed local advisory criteria. WFOs should issue updated advisories at least once every six to eight hours until the event ends or is canceled.

7.2.4 Valid Time. A winter weather advisory is valid up to 36 hours after the issuance time. The valid time (event start and end times) is placed in the P-VTEC line and described in the advisory headline.

7.2.4.1 Event Beginning Time. The event beginning time is when the winter weather advisory event is expected to begin. The event beginning time is placed in the P-VTEC line for the initial advisory issuance. For subsequent advisory updates, the event beginning time is only included in the P-VTEC line when issuance time is prior to the event beginning time. Otherwise, the event beginning time is zeroed out to indicate the event has begun (e.g., 000000T0000Z).

If the issuance time is three or more hours prior to the event beginning time, the event beginning time is placed in the advisory headline (e.g., SNOW ADVISORY IN EFFECT FROM **10 PM THIS EVENING** TO 9 AM EST MONDAY). Otherwise, the event beginning time is omitted (e.g., SNOW ADVISORY IN EFFECT UNTIL 9 AM EST MONDAY).

7.2.4.2 Event Ending Time. The event ending time is when the winter weather event advisory event is expected to end. The event ending time can match the product expiration time if the advisory is in effect for eight hours or less. The event ending time is placed in the P-VTEC line and is described in the advisory headline (e.g., SNOW ADVISORY IN EFFECT UNTIL 9 AM EST MONDAY). The event ending time should generally not exceed 36 hours from the time of issuance.

7.2.5 Product Expiration Time. The product expiration time is generally 6 to 8 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end. The product expiration time is placed in the UGC line.

7.3 Technical Description. Winter weather advisories will follow the format and content described in this section.

7.3.1 Universal Geographic Code Type. Winter weather advisories will use the (Z) form of the UGC.

7.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

7.3.3 Mass News Disseminator Product Type Line. The advisory MND line is “URGENT-WINTER WEATHER MESSAGE.”

7.3.4 Content. A winter weather advisory may contain an overview section, but will include segmented forecast information.

7.3.4.1 Overview Section. The advisory overview section is optional. If included, it should contain at least one of the following items:

- a. Overview Headline - a general headline statement that summarizes the hazardous weather threat, expected time of development and area affected. The overview headline will begin and end with three periods (...). For example:

...A MIXTURE OF SNOW...SLEET AND FREEZING RAIN WILL IMPACT  
SOUTHWEST MICHIGAN TONIGHT...  
...LAKE EFFECT SNOW BANDS EXPECTED ACROSS PARTS OF  
NORTHEAST OHIO TODAY AND TONIGHT...

- b. Overview - a brief, non-technical description of the developing winter weather event. The description may include the location and movement of large scale weather features (e.g., fronts, low pressure systems). The first line of this descriptive information will be preceded by a period (.).

7.3.4.2 Segmented Forecast Information. Each segment of a winter weather advisory will include the advisory headline followed by a descriptive text describing why the advisory was issued. Each segment describes a hazardous winter weather event(s) for the same geographical area.

- a. Advisory Headline. The advisory headline will include the following elements in the order shown:

- (1) Leading ellipsis (...)
- (2) Valid winter weather advisory product name listed in Table 6
- (3) Event action phrase defined in Table 8
- (4) Specific event beginning day and time phrase defined in Appendix C (when applicable)
- (5) Specific event ending day and time phrase defined in Appendix C (when applicable)
- (6) Trailing ellipsis (...)

*Exception: When necessary (e.g., mountainous terrain), areal descriptive terms and elevation indicators are permitted after the ending day and time phrase and before the trailing ellipsis.*

Generic Advisory Headline Format.

(1) Advisory product issuance time prior to event beginning time:  
**...<advisory product name> <event action phrase> FROM <event beginning date and time phrase> TO <event ending date and time phrase>...**

(2) Advisory product issuance time equals event beginning time:  
**...<advisory product name> <event action phrase> UNTIL <event ending date and time phrase>...**

(3) Advisory product cancellation or expiration statement:  
**...<advisory product name> <event action phrase>...**

Event Action Phrase. The event action phrase in the advisory headline corresponds with the VTEC action code. Only the following event action phrases in Table 8 will be used in winter weather advisory headlines:

VTEC Action Code	Description	Required Event Action Phrase	Include Time/Date ?
NEW	Initial advisory issuance	IN EFFECT	Yes
EXA	Expansion of advisory area	IN EFFECT	Yes
EXB	Expansion of advisory area and change to advisory valid time	IN EFFECT	Yes
CON	Continuation or update of advisory	REMAINS IN EFFECT	Yes
EXT	Extend/shorten advisory start and/or ending date/time	NOW IN EFFECT	Yes
CAN	Advisory cancelled prior to event end time	IS CANCELLED	No
EXP	Advisory approaching the expiration time. Used up to 30 minutes prior to advisory end time.	WILL EXPIRE AT	Yes
	Advisory has expired. Used up to 30 minutes after advisory expiration has passed.	HAS EXPIRED	No
UPG	Upgrade to warning - no headline		

**Table 8.** Event action phrases for WSW advisory headlines.

a. Advisory Headline Examples:

- (1) Initial issuance or expansion in area:  
...SNOW ADVISORY IN EFFECT FROM 7 AM THIS MORNING TO 11 AM EST WEDNESDAY...
- (2) Update:  
...SNOW ADVISORY REMAINS IN EFFECT UNTIL 11 AM EST WEDNESDAY...
- (3) Extend event end time:  
...SNOW ADVISORY NOW IN EFFECT UNTIL 5 PM EST WEDNESDAY...
- (4) Cancelled prior to event end time/date:  
...SNOW ADVISORY IS CANCELLED...
- (5) Expiration statement up to 30 minutes prior to event end time:  
...SNOW ADVISORY WILL EXPIRE AT 5 PM EST WEDNESDAY..
- (6) Expiration statement up to 30 minutes after event end time:  
...SNOW ADVISORY HAS EXPIRED...

b. Advisory descriptive Text. This section will include the following advisory information:

- (1) National Weather Service attribution line. For the **initial** advisory, include the following phrase to begin the text of the advisory:

**THE NATIONAL WEATHER SERVICE IN [WFO NAME or LOCATION] HAS ISSUED A (SNOW/FREEZING RAIN/SLEET/WIND CHILL/WINTER WEATHER, etc.) ADVISORY.**

The attribution line is optional for subsequent issuances.

- (2) Reason advisory was issued. Include winter weather element(s) prompting the advisory.
- (3) Quantitative snowfall amounts or ice accumulation (e.g., 3 to 6 inches, 2 to 4 inches, trace to one tenth inch of ice/sleet accumulation).
- (4) Brief call to action statements, safety rules.

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- c. Order of Segments. Advisories are placed third in the order of segments. This order was designed to place the most important and/or time sensitive information near the beginning of the message. The order of segments is:
- (1) Cancellation
  - (2) Warnings
  - (3) Advisories**
  - (4) Watches
- d. Order of Headlines. More than one headline is required in a segment when two or more winter weather events (e.g., Freezing Rain Advisory today and Winter Storm Watch tomorrow) are forecast to occur for the same UGC or geographical area.

The order of headlines will follow the order of segments.

Examples:

- (1) Freezing Rain Advisory and Winter Storm Watch in effect for the same geographical area.

...FREEZING RAIN ADVISORY IN EFFECT UNTIL 7 PM EST THIS EVENING...

...WINTER STORM WATCH IN EFFECT FROM FRIDAY EVENING TO SATURDAY MORNING...

- (2) Heavy Snow Warning, Snow Advisory, and Winter Storm Watch in effect for the same mountain zone(s).

...HEAVY SNOW WARNING IN EFFECT UNTIL 11 AM PST WEDNESDAY ABOVE 5000 FT...

...SNOW ADVISORY IN EFFECT UNTIL 11 AM PST WEDNESDAY AT OR BELOW 5000 FT...

...WINTER STORM WATCH IN EFFECT FROM THURSDAY MORNING TO THURSDAY NIGHT...

7.3.5 Format.

<u>Product Format</u>	<u>Description of Entry</u>
WWaaii cccc ddhhmm WSWxxx	(WMO Heading) (AWIPS ID)
URGENT - WINTER WEATHER MESSAGE NATIONAL WEATHER SERVICE city state time am/pm time_zone day mon dd yyyy	(Product Name or MND) (Issuing Office) (Issuance time/date)
...<Overview headline statement>...	(Optional)
.<General weather synopsis of developing winter storm>	(Optional - one to three paragraphs)
stZ001-005>015-ddhhmm- /k.aaa.cccc.pp.s.####.yymmddThhnnZ <sub>B</sub> -yymmddThhnnZ <sub>E</sub> / zone-zone-zone- INCLUDING <THE CITIES OF> location...location. time am/pm time_zone day mon dd yyyy	(UGC: <u>Z</u> & expiration time) (P-VTEC Line(s)) (Zone Names) (City /Location - optional) (Issuance time/date)
...ADVISORY HEADLINE...	
<Descriptive text> { Includes the following information: 1. NWS attribution line 2. Why advisory was issued (winter weather element(s) prompting the advisory). 3. Detailed snowfall/ice accumulation/sleet amounts (e.g., 2 to 4 inches, 3 to 6 inches, one tenth of an inch of ice or sleet accumulation). 4. Timing of the event (beginning, ending, time of heaviest precipitation or worst conditions, duration). 5. Potential impact, call to action statements }	(Two to three paragraphs)  (Optional after first issuance)
\$\$	(UGC Delimiter)
Name/Initials/Forecaster ID	(Optional after last segment)

**Figure 3.** Generic format for a winter weather advisory.



7.4 Updates, Cancellations, and Corrections. WFOs will update advisories at least once every six to eight hours until the event ends or is canceled. WFOs should issue the updated WSW before the product expiration time is reached. The frequent updates will keep our users and partners informed on the current and short term aspects of the winter storm. Update advisories whenever there is a change in timing, areal extent, or expected conditions.

WFOs will issue a WSW to cancel an advisory when the forecaster believes the weather threat has diminished before the valid time expires. WFOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

7.5 Upgrade Advisory to Warning. When a winter weather advisory is upgraded to a winter weather warning for the same geographical area, the WSW segment will contain one headline and two P-VTEC lines. The headline will list the new warning only. The first P-VTEC line will use the UPG action code to show the old advisory being upgraded. The second P-VTEC line will use the NEW action code to start the new winter weather warning.

7.5.1 Upgrade Advisory to Warning Segment Example.

```
OKZ006>008-011>024-033>036-TXZ083-281600-
/O.UPG.KOUN.SN.Y.0004.000000T0000Z-050129T0000Z/ (P-VTEC line 1)
/O.NEW.KOUN.HS.W.0003.050128T1000Z-050129T0000Z/ (P-VTEC line 2)
ALFALFA OK-BECKHAM OK-BLAINE OK-CADDO OK-CANADIAN OK-CUSTER OK-
DEWEY OK-GARFIELD OK-GRANT OK-GREER OK-HARDEMAN TX-HARMON OK-
JACKSON OK- KAY OK-KINGFISHER OK- KIOWA OK- LOGAN OK-MAJOR
OK-NOBLE OK-PAYNE OK-ROGER MILLS OK-WASHITA OK-

INCLUDING THE CITIES OF....ALTUS OK...CLINTON/WEATHERFORD OK...ELK CITY
OK...EL RENO OK...ENID OK...GUTHRIE OK...HOBART OK...PONCA CITY OK...
STILLWATER OK
4 AM CST FRI JAN 28 2005
```

**...HEAVY SNOW WARNING IN EFFECT UNTIL 6 PM CST FRIDAY...**  
*(One headline used - lists new warning only for upgrades)*

<descriptive text>

\$\$

7.6 Replace Advisory with Advisory. When a winter weather advisory is replaced with another advisory for the same geographical area, the WSW segment will contain two headlines

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and two P-VTEC lines. The first headline and P-VTEC line are used to cancel the old advisory, and the second headline and P-VTEC line are used to start the new advisory.

7.6.1 Replace Freezing Rain Advisory with Winter Weather Advisory Example.

ILZ033-039-INZ010-011-019-230330-

**/O.CAN.KOUN.ZR.Y.0003.000000T0000Z-030223T0330Z/** (*P-VTEC line 1*)

**/O.NEW.KOUN.WW.Y.0006.030222T2130Z-030223T0330Z/** (*P-VTEC line 2*)

BENTON IN-FORD IL-IROQUOIS IL-JASPER IN-NEWTON IN-  
330 PM CST SAT FEB 22 2003

**...FREEZING RAIN ADVISORY IS CANCELLED...**

**...WINTER WEATHER ADVISORY IN EFFECT UNTIL 930 PM CST /1030 PM EST/  
THIS EVENING...**

*(Two headlines used - lists cancelled advisory, then new advisory)*

<descriptive text>

\$\$

**APPENDIX A - Winter Weather Product Examples**

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1. Introduction. This section contains guidelines and examples of winter weather products.
2. Winter Storm Watch. An example of a late second period Winter Storm Watch. NWS attribution line is mandatory.

WWUS44 KAMA 262104  
WSWAMA

URGENT - WINTER WEATHER MESSAGE  
NATIONAL WEATHER SERVICE AMARILLO TX  
304 PM CST FRI JAN 26 2001

.A STRONG UPPER LEVEL STORM SYSTEM LOCATED JUST OFF THE CALIFORNIA COAST FRIDAY AFTERNOON IS FORECAST TO MOVE INTO THE DESERT SOUTHWEST BY SATURDAY EVENING...THEN INTO THE SOUTHERN AND CENTRAL PLAINS BY MONDAY MORNING. AT THE SAME TIME...A SURGE OF COLD CANADIAN AIR WILL MOVE SOUTH INTO THE REGION TONIGHT. IN ADDITION... PLENTY OF MOISTURE WILL MOVE BACK INTO THE AREA TONIGHT AND SATURDAY AND BE LIFTED OVER THE COLD AIR. THESE ELEMENTS WILL SET THE STAGE FOR WINTER WEATHER CONDITIONS ON SATURDAY AND SUNDAY.

OKZ001>003-TXZ001>020-270400-  
/O.NEW.KAMA.WS.A.0002.010127T2100Z-010128T2300Z/  
ARMSTRONG-BEAVER-CARSON-CIMARRON-COLLINGSWORTH-DALLAM-  
DEAF SMITH-DONLEY-GRAY-HANSFORD-HARTLEY-HEMPHILL-HUTCHINSON-  
LIPSCOMB-MOORE-OCHILTREE-OLDHAM-POTTER-RANDALL-ROBERTS-SHERMAN  
-TEXAS-WHEELER-  
INCLUDING THE CITIES OF...AMARILLO...BEAVER...BOISE CITY...BOOKER...  
BORGER...CANADIAN...CANYON...CLARENDON...CLAUDE...DALHART...DUMAS...  
GUYMON...HARTLEY...HEREFORD...MIAMI...PAMPA...PANHANDLE...PERRYTON...  
SHAMROCK...SPEARMAN...STRATFORD...VEGA...WELLINGTON  
304 PM CST FRI JAN 26 2001

...WINTER STORM WATCH IN EFFECT FROM SATURDAY AFTERNOON TO SUNDAY AFTERNOON...

THE NATIONAL WEATHER SERVICE IN AMARILLO TX HAS ISSUED A WINTER STORM WATCH. PRECIPITATION IS EXPECTED TO BEGIN SATURDAY IN THE EARLY AFTERNOON HOURS ACROSS MOST OF THE TEXAS AND OKLAHOMA PANHANDLES. PRECIPITATION WILL BE IN THE FORM OF SNOW ACROSS MUCH OF THE AREA WITH SLEET MIXED WITH SNOW OCCURRING ACROSS THE SOUTHEAST TEXAS PANHANDLE. GREATER THAN FOUR INCHES OF SNOW IS

POSSIBLE WITH SOME LOCATIONS RECEIVING AS MUCH AS EIGHT INCHES. THERE IS STILL SOME UNCERTAINTY AS TO THE EXACT TRACK OF THE UPPER LEVEL STORM SYSTEM...AND SNOW TOTALS COULD CHANGE. THE SNOW IS EXPECTED TO CONTINUE THROUGH SUNDAY AND BEGIN TO TAPER OFF SUNDAY NIGHT. PREPARATIONS SHOULD BE MADE NOW FOR HAZARDOUS WINTER WEATHER CONDITIONS ON SATURDAY AND SUNDAY.

REMEMBER...A WINTER STORM WATCH MEANS CONDITIONS ARE FAVORABLE FOR A HAZARDOUS WINTER WEATHER EVENT IN AND CLOSE TO THE WATCH AREA.

STAY TUNED TO NOAA WEATHER RADIO ALL HAZARDS...COMMERCIAL TELEVISION OR RADIO STATIONS...OR YOUR CABLE TELEVISION SERVICE PROVIDER FOR LATER STATEMENTS FROM THE NATIONAL WEATHER SERVICE CONCERNING THIS POTENTIALLY DANGEROUS WINTER WEATHER EVENT.

\$\$

WOLTERS

3. Winter Weather Warning. An example of a Winter Storm Watch being upgraded to a Heavy Snow Warning. In this initial warning issuance, the NWS attribution line is mandatory. Two VTEC lines and one headline (per upgrade segment) are mandatory.

WWUS43 KOAX 011030  
WSWOMA

URGENT - WINTER WEATHER MESSAGE  
NATIONAL WEATHER SERVICE OMAHA NE  
430 AM CST FRI MAR 1 2002

...HEAVY SNOW TO HIT PARTS OF EASTERN NEBRASKA AND WESTERN IOWA TODAY...

.THE NATIONAL WEATHER SERVICE AT OMAHA HAS UPGRADED ITS WINTER STORM WATCH FOR PARTS OF EASTERN NEBRASKA AND WESTERN IOWA...TO A HEAVY SNOW WARNING.

A STRONG STORM SYSTEM WILL TRACK ACROSS SOUTHERN KANSAS TODAY AND SOUTHERN MISSOURI TONIGHT. MOISTURE WILL EXTEND WELL NORTH OF THE STORM TRACK. LIGHT SNOW HAS ALREADY BEGUN TO FALL ACROSS THE AREA. THE SNOW WILL BECOME MORE WIDESPREAD DURING THE MORNING

**NWSI 10-513 NOVEMBER 1, 2005**

HOURS...AND BECOME HEAVY THIS AFTERNOON AND THIS EVENING. AT LEAST 6 TO 8 INCHES OF SNOWFALL IS EXPECTED IN THE WARNED AREA.

IAZ055-056-069-079-080-NEZ044-045-050>053-065>067-078-011900-

/O.UPG.KOAX.WS.A.0012.020301T1900Z-020302T1200Z/

/O.NEW.KOAX.HS.W.0006.020301T1900Z-020302T1200Z/

BUTLER-CASS-DODGE-DOUGLAS-HARRISON-LANCASTER-MILLS-MONTGOMERY-POTTAWATTAMIE-SALINE-SARPY-SAUNDERS-SEWARD-SHELBY-WASHINGTON-INCLUDING THE CITIES OF...LINCOLN AND OMAHA

430 AM CST FRI MAR 1 2002

...HEAVY SNOW WARNING IN EFFECT FROM 1 PM THIS AFTERNOON TO 6 AM CST SATURDAY....

THE NATIONAL WEATHER SERVICE IN OMAHA HAS ISSUED A HEAVY SNOW WARNING. LIGHT SNOW WILL BECOME MORE WIDESPREAD AND HEAVY THIS AFTERNOON... WITH 8 TO 12 INCHES OF TOTAL SNOWFALL ACCUMULATION BEFORE THE SNOW ENDS LATE TONIGHT. NORTHEAST WINDS AT 15 TO 25 MPH WILL BECOME NORTH TONIGHT...PRODUCING SOME BLOWING AND DRIFTING OF SNOW.

REMEMBER...A HEAVY SNOW WARNING MEANS SEVERE WINTER WEATHER CONDITIONS ARE IMMINENT OR HIGHLY LIKELY.

PEOPLE PLANNING TO TRAVEL TODAY OR TONIGHT SHOULD BE PREPARED FOR DETERIORATING AND HAZARDOUS DRIVING CONDITIONS. IF TRAVEL IS NECESSARY...MAKE SURE THAT YOUR CAR IS WINTERIZED AND IN GOOD WORKING ORDER. LISTEN TO NOAA WEATHER RADIO ALL HAZARDS OR OTHER MEDIA OUTLETS FOR LATER FORECASTS AND STATEMENTS REGARDING THIS WINTER STORM.

\$\$

POLLACK/ZAPOTOCNY

4. Winter Weather Advisory. An example of an updated Lake Effect Snow Advisory, second issuance. NWS attribution line is optional for updates and is included in this example.

WWUS43 KGRR 270900  
WSWGRR

URGENT - WINTER WEATHER MESSAGE  
NATIONAL WEATHER SERVICE GRAND RAPIDS MI  
400 AM EST THU DEC 27 2001

...LAKE EFFECT SNOW ADVISORY CONTINUES THROUGH THIS AFTERNOON FOR PORTIONS OF WEST MICHIGAN...

.LAKE EFFECT SNOW CONTINUES TO MOVE INLAND OFF OF LAKE MICHIGAN AS COLD AIR RIDES OVER ITS WARMER WATERS. THE HEAVIEST SNOW HAS FALLEN OVER MUSKEGON...MONTCALM...KENT...OTTAWA...ALLEGAN AND VAN BUREN COUNTIES OVERNIGHT. AN ADDITIONAL 2 TO 5 INCHES OF ACCUMULATION IS EXPECTED TODAY OVER THESE COUNTIES INTO THIS AFTERNOON...BEFORE DIMINISHING TO SCATTERED SNOW SHOWERS BY THIS EVENING.

MIZ050-051-056-057-064-071-271615-  
/O.CON.KGRR.LE.Y.0010.000000T0000Z-011227T2300Z/  
ALLEGAN-KENT-MONTCALM-MUSKEGON-OTTAWA-VAN BUREN-  
INCLUDING THE CITIES OF...STANTON...SOUTH HAVEN...MUSKEGON...  
HOLLAND...GRAND RAPIDS...ALLEGAN AND HARTFORD  
400 AM EST THU DEC 27 2001

...LAKE EFFECT SNOW ADVISORY REMAINS IN EFFECT UNTIL 6 PM EST THIS EVENING...

THE NATIONAL WEATHER SERVICE IN GRAND RAPIDS HAS CONTINUED THE LAKE EFFECT SNOW ADVISORY. AN ADDITIONAL 2 TO 5 INCHES OF LAKE EFFECT SNOW CAN BE EXPECTED TODAY. THE SNOW IS EXPECTED TO DIMINISH TO SCATTERED SNOW SHOWERS IN MOST AREAS BY THIS EVENING.

IF YOU PLAN ON TRAVELING TODAY EXPECT SNOW COVERED ROADS THAT WILL BE SLICK. ALSO...GIVEN THE NATURE OF LAKE EFFECT SNOW...VISIBILITY CAN BECOME REDUCED VERY RAPIDLY...SOMETIMES TO NEAR ZERO OVER ONLY A SHORT DISTANCE. PLAN ON EXTRA TRAVEL TIME BECAUSE CONDITIONS WILL REQUIRE YOU TO SLOW DOWN.

\$\$

MJS/JK

5. Combination of winter weather events. Example of a WSW with five segments containing two cancellations, two warnings and one downgraded advisory. NWS attribution line is optional for updates and is included in this example.

WWUS44 KOUN 280458  
WSWOKC

URGENT - WINTER WEATHER MESSAGE  
NATIONAL WEATHER SERVICE NORMAN OK  
1057 PM CST SAT JAN 27 2001

.AN INTENSE STORM SYSTEM WILL MOVE SLOWLY EASTWARD FROM ARIZONA TO THE SOUTHERN PLAINS STATES THROUGH THE WEEKEND. PRECIPITATION WILL CONTINUE ACROSS OKLAHOMA AND WESTERN NORTH TEXAS OVERNIGHT...AND MAY BE HEAVY AT TIMES... ESPECIALLY ON SUNDAY.

MODERATE TO HEAVY PRECIPITATION IS FORECAST TO ACCOMPANY THIS STORM SYSTEM OVERNIGHT... CREATING THE POTENTIAL FOR A SIGNIFICANT AMOUNT OF FREEZING RAIN...SLEET AND SNOW. AT THIS TIME... IT APPEARS THAT THE BEST POTENTIAL FOR SNOW WILL BE ACROSS EXTREME NORTHWEST OKLAHOMA. MEANWHILE... THE AREA FROM THE SOUTHWEST CORNER OF OKLAHOMA... NORTHEAST INTO NORTH-CENTRAL OKLAHOMA APPEARS TO BE THE TARGET OF A MAJOR ICE STORM. VERY SLOWLY RISING TEMPERATURES... JUST ABOVE FREEZING... WILL LIKELY SPARE THE AREA ALONG AND SOUTHEAST OF INTERSTATE 44 FROM SIGNIFICANT ICE ACCUMULATIONS.

THE LATEST DATA CONTINUE TO SUGGEST THAT THIS STORM HAS THE POTENTIAL TO PRODUCE VERY DANGEROUS AND POSSIBLY LIFE-THREATENING ICE ACCUMULATIONS FROM 1 TO 2 INCHES IN AREAS FROM SOUTHWEST INTO NORTH-CENTRAL OKLAHOMA. THIS AREA INCLUDES THE CITIES OF ELK CITY... HOBART... WEATHERFORD... WATONGA... ENID... CHEROKEE... MEDFORD AND FAIRVIEW.

THIS STORM SYSTEM MAY ALSO CONTINUE TO AFFECT THE AREA SUNDAY NIGHT AND INTO MONDAY. AS A RESULT... WARNINGS AND ADVISORIES MAY NEED TO BE EXTENDED BEYOND SUNDAY WITH LATER FORECASTS.

OKZ025>029-044-TXZ086>088-281100-  
/O.CAN.KOUN.IS.W.0002.000000T0000Z-010128T2300Z/  
BAYLOR TX-CLEVELAND OK-COTTON OK-GRADY OK-KNOX TX- LINCOLN  
OK-MCCLAIN OK-OKLAHOMA OK-WICHITA TX-



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INCLUDING THE CITIES OF...CHICKASHA OK...NORMAN OK...OKLAHOMA CITY OK  
...WICHITA FALLS TX  
1057 PM CST SAT JAN 27 2001

...ICE STORM WARNING IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN NORMAN HAS CANCELED THE ICE STORM  
WARNING. TEMPERATURES ARE EXPECTED TO REMAIN NEAR OR JUST ABOVE  
FREEZING ALONG AND SOUTHEAST OF INTERSTATE 44 IN CENTRAL OKLAHOMA.  
THIS SHOULD PREVENT SIGNIFICANT ICE ACCUMULATION IN THIS AREA.  
PERIODS OF COLD RAIN WILL CONTINUE OVERNIGHT AND INTO SUNDAY.

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OKZ039-045-TXZ089-090-280500-  
/O.CAN.KOUN.ZR.Y.0003.000000T0000Z-010128T1200Z/  
ARCHER TX-CLAY TX-JEFFERSON OK-STEPHENS OK-  
INCLUDING THE CITY OF...DUNCAN OK  
1057 PM CST SAT JAN 27 2001

...FREEZING RAIN ADVISORY IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN NORMAN HAS CANCELLED THE FREEZING  
RAIN ADVISORY. TEMPERATURES IN THE HENRIETTA TEXAS THROUGH DUNCAN  
OKLAHOMA AREA HAVE WARMED TO SEVERAL DEGREES ABOVE FREEZING.  
THE TEMPERATURE IS NOT EXPECTED TO GO BELOW FREEZING OVERNIGHT OR  
SUNDAY... SO PRECIPITATION IS EXPECTED TO BE MOSTLY IN LIQUID FORM...  
ALTHOUGH SOME SLEET AND SNOW WILL BE POSSIBLE AT TIMES.

\$\$

OKZ006>008-011>024-033>036-TXZ083-280500-  
/O.CON.KOUN.IS.W.0002.000000T0000Z-010128T2300Z/  
ALFALFA OK-BECKHAM OK-BLAINE OK-CADDO OK-CANADIAN OK-CUSTER OK-  
DEWEY OK-GARFIELD OK-GRANT OK-GREER OK-HARDEMAN TX-HARMON OK-  
JACKSON OK- KAY OK-KINGFISHER OK- KIOWA OK- LOGAN OK-MAJOR  
OK-NOBLE OK-PAYNE OK-ROGER MILLS OK-WASHITA OK-  
INCLUDING THE CITIES OF....ALTUS OK...CLINTON/WEATHERFORD OK...ELK CITY  
OK...EL RENO OK...ENID OK...GUTHRIE OK...HOBART OK...PONCA CITY OK...  
STILLWATER OK  
1057 PM CST SAT JAN 27 2001

...ICE STORM WARNING REMAINS IN EFFECT UNTIL 5 PM CST SUNDAY...

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THE NATIONAL WEATHER SERVICE IN NORMAN HAS CONTINUED THE ICE STORM WARNING FOR MOST OF OKLAHOMA TO THE NORTHWEST OF INTERSTATE 44. PERIODS OF FREEZING RAIN WILL CONTINUE THROUGH TONIGHT AND SUNDAY. SCATTERED THUNDERSTORMS ARE EXPECTED TO PRODUCE HEAVIER ACCUMULATIONS OF ICE. THE PRECIPITATION MAY GRADUALLY TRANSITION TO A SNOW/SLEET MIXTURE SUNDAY EVENING BEFORE ENDING AROUND MIDNIGHT. DANGEROUS TOTAL ICE STORM ACCUMULATIONS OF 1 TO 2 INCHES ARE EXPECTED BY SUNDAY EVENING.

PEOPLE ARE URGED TO BE PREPARED FOR PROLONGED POWER OUTAGES AND TREACHEROUS TRAVEL CONDITIONS. IF YOU MUST TRAVEL...ALLOW EXTRA TIME TO REACH YOUR DESTINATION...LET SOMEONE KNOW YOUR TRAVEL PLANS AND CARRY A CELLULAR PHONE.

\$\$

OKZ037-038-TXZ084-085-281100-  
/O.CAN.KOUN.IS.W.0002.000000T0000Z-010128T2300Z/  
/O.NEW.KOUN.ZR.Y.0004.010127T0500Z-010128T2300Z/  
COMANCHE OK-FOARD TX-TILLMAN OK-WILBARGER TX-  
INCLUDING THE CITIES OF...LAWTON OK...VERNON TX  
1057 PM CST SAT JAN 27 2001

...ICE STORM WARNING IS CANCELLED...  
...FREEZING RAIN ADVISORY IN EFFECT UNTIL 5 PM CST SUNDAY...

THE NATIONAL WEATHER SERVICE IN NORMAN HAS DOWNGRADED THE ICE STORM WARNING TO A FREEZING RAIN ADVISORY FOR THE AREA FROM SOUTHWEST OF VERNON TEXAS... NORTHEAST TO LAWTON OKLAHOMA.

PERIODS OF RAIN OR FREEZING RAIN WILL CONTINUE THROUGH TONIGHT AND SUNDAY. SCATTERED THUNDERSTORMS PRODUCING HEAVIER RAINFALL ARE ALSO POSSIBLE. THE PRECIPITATION MAY GRADUALLY TRANSITION TO A MIXTURE OF SLEET... FREEZING RAIN AND SNOW...SUNDAY MORNING... AND EVENTUALLY TO ALL SNOW LATE SUNDAY AND SUNDAY NIGHT. SOME ICE ACCUMULATION IS LIKELY... ESPECIALLY ON TREES AND POWER LINES... AND POSSIBLY ON BRIDGES AND OVERPASSES. THE ICE ACCUMULATION IS EXPECTED TO REMAIN BELOW ICE STORM WARNING CRITERIA.

IF YOU MUST TRAVEL...ALLOW EXTRA TIME TO REACH YOUR DESTINATION.

\$\$

OKZ004-005-009-010-281100-

**NWSI 10-513 NOVEMBER 1, 2005**

/O.CON.KOUN.WS.W.0002.000000T0000Z-010128T2300Z/  
ELLIS OK-HARPER OK-WOODS OK-WOODWARD OK-  
INCLUDING THE CITY OF...WOODWARD OK  
1057 PM CST SAT JAN 27 2001

...WINTER STORM WARNING REMAINS IN EFFECT UNTIL 5 PM CST SUNDAY...

THE NATIONAL WEATHER SERVICE IN NORMAN HAS CONTINUED THE WINTER STORM WARNING. A MIXTURE OF SNOW... SLEET AND SOME FREEZING RAIN IS EXPECTED OVER NORTHWEST OKLAHOMA TONIGHT THROUGH SUNDAY... WITH THE PRECIPITATION TRANSITIONING TO MOSTLY SNOW LATE TONIGHT AND SUNDAY. TOTAL STORM ACCUMULATION OF SNOW... SLEET AND ICE FROM 4 TO 6 INCHES IS LIKELY. HOWEVER...TOTAL ACCUMULATIONS WILL BE HIGHLY DEPENDENT ON WHAT TYPE OF PRECIPITATION IS DOMINANT. IN AREAS WHERE THE PRECIPITATION TYPE IS MOSTLY SNOW...AMOUNTS UP TO 10 INCHES WILL BE POSSIBLE.

PEOPLE ARE URGED TO BE PREPARED FOR PROLONGED POWER OUTAGES AND TREACHEROUS TRAVEL CONDITIONS. IF YOU MUST TRAVEL...ALLOW EXTRA TIME TO REACH YOUR DESTINATION... LET SOMEONE KNOW YOUR TRAVEL PLANS AND CARRY A CELLULAR PHONE.

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**APPENDIX B - Winter Weather Definitions**

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1. Introduction. This section contains definitions of winter weather elements used in the winter weather products.

2. Hazardous Winter Weather. Hazardous winter weather is a winter weather event that endangers life or property, provides an impediment to commerce, or if proper precaution is not taken, can become life threatening.

3. Hazardous Winter Weather Phenomena Definitions.

3.1 Blizzard. A blizzard means that the following conditions are expected to prevail for a period of 3 hours or longer:

- a. Sustained wind or frequent gusts to 35 miles an hour or greater; and
- b. Considerable falling and/or blowing snow (i.e., frequently reducing visibility below 1/4 mile).

Although there is no set temperature requirement for blizzard conditions, the life-threatening nature of the low temperatures in combination with the other hazardous conditions of wind, snow, and poor visibility increases dramatically when the temperature falls below 20°F.

3.2 Freezing Rain or Drizzle. Rain or drizzle that falls in liquid form but freezes upon impact with the ground or exposed objects. Small accumulations of ice can cause driving and walking difficulties while heavy accumulations produce extremely dangerous and damaging situations primarily by pulling down trees and utility lines.

3.3 Ice Storm. An ice storm is used to describe occasions when damaging accumulations of ice are expected during freezing rain situations. Significant accumulations of ice pull down trees and utility lines resulting in loss of power and communication. These accumulations of ice make walking and driving extremely dangerous. Significant ice accumulations are usually accumulations of 0.25 inches (one quarter of an inch) or greater. Some variations in the criteria for "significant" accumulations of ice may be established by the regional director and formalized through the issuance of Supplements. This includes both higher thresholds for regions that are accustomed to ice events and lower thresholds for areas where lesser amounts can cause major problems.

3.4 Sleet. Sleet is a type of precipitation consisting of transparent or translucent pellets of ice, 5 mm or less in diameter. These pellets of ice usually bounce when hitting hard ground and make a sound upon impact.

3.4.1 Heavy Sleet. Heavy sleet is a relatively rare event defined as an accumulation of ice pellets covering the ground to a depth of 1/2 inch or more.

3.5 Snow. Frozen precipitation in the form of (white or translucent) ice crystals which steadily falls for several hours or more. Qualifiers, such as occasional or intermittent, are used when a steady, prolonged (for several hours or more) fall is not expected.

3.5.1 Blowing Snow. Blowing snow is snow lifted from the surface of the earth by the wind to a height of 6 feet or more above the surface (higher than drifting snow), and blown about in such quantities that horizontal visibility is reduced to less than 7 statute miles. Blowing snow is usually accompanied by drifting snow.

3.5.2 Drifting Snow. Drifting snow is snow lifted from the surface of the earth by the wind to a height of less than 6 feet above the surface. Drifting snow may occur during or after a snowfall. Drifting snow is usually associated with blowing snow.

3.5.3 Heavy Snow. Heavy Snow generally means:

- a. Snowfall accumulating to 4 inches or more in depth in 12 hours or less; or
- b. Snowfall accumulating to 6 inches or more in depth in 24 hours or less.

Variation in the criteria for heavy snowfall in certain sections of the country may be established at the option of the regional director. This includes both higher thresholds for regions that are accustomed to snow and lower thresholds for areas where lesser accumulations can cause significant impacts. Such variations should be formalized through the issuance of Regional Supplements.

Express snowfall amounts as a range of values, e.g., "8 to 12 inches." However, in heavy snow situations where there is considerable uncertainty concerning the range of values, it may be more appropriate to use phrases, such as "...up to 12 inches..." or alternatively "...8 inches or more...".

3.5.4 Snow Flurries. Snow flurries are short duration (generally a few minutes) light snow showers with no measurable accumulation (trace category).

3.5.5 Snow Showers. Snow showers are brief periods of snowfall in which intensity can be varied and may change rapidly. Some accumulation is possible. A snow shower in which light snow falls for a few minutes is typically called a snow flurry.

3.5.6 Snow Squalls. Snow squalls are intense, but limited duration, periods of moderate to heavy snowfall, accompanied by strong, gusty surface winds and possibly lightning (generally moderate to heavy snow showers). Snow accumulation may be significant. Regional variation to this definition is expected. For example, close to the Great Lakes, snow squalls are usually locally intense, narrow bands of heavy snow that can extend over long distances, persist for many hours, and produce 6 inches or more of snow in 12 hours or less.

3.6 Wind Chill. The Wind Chill Temperature (WCT) is the air temperature at which the heat transfer rate and skin temperature would be the same in the absence of wind. The WCT represents the temperature the body feels when it is exposed to wind and cold. Prolonged exposure can lead to frostbite and hypothermia.

Based on the latest human study research provided by the Office of the Federal Coordinator for Meteorology, the wind chill chart (Figure B-1) provides WCTs and objective frostbite time values. The threshold for dangerous WCT starts at -18°F, where frostbite can occur on exposed flesh within 30 minutes. As the WCT drops, the frostbite time decreases, especially with higher

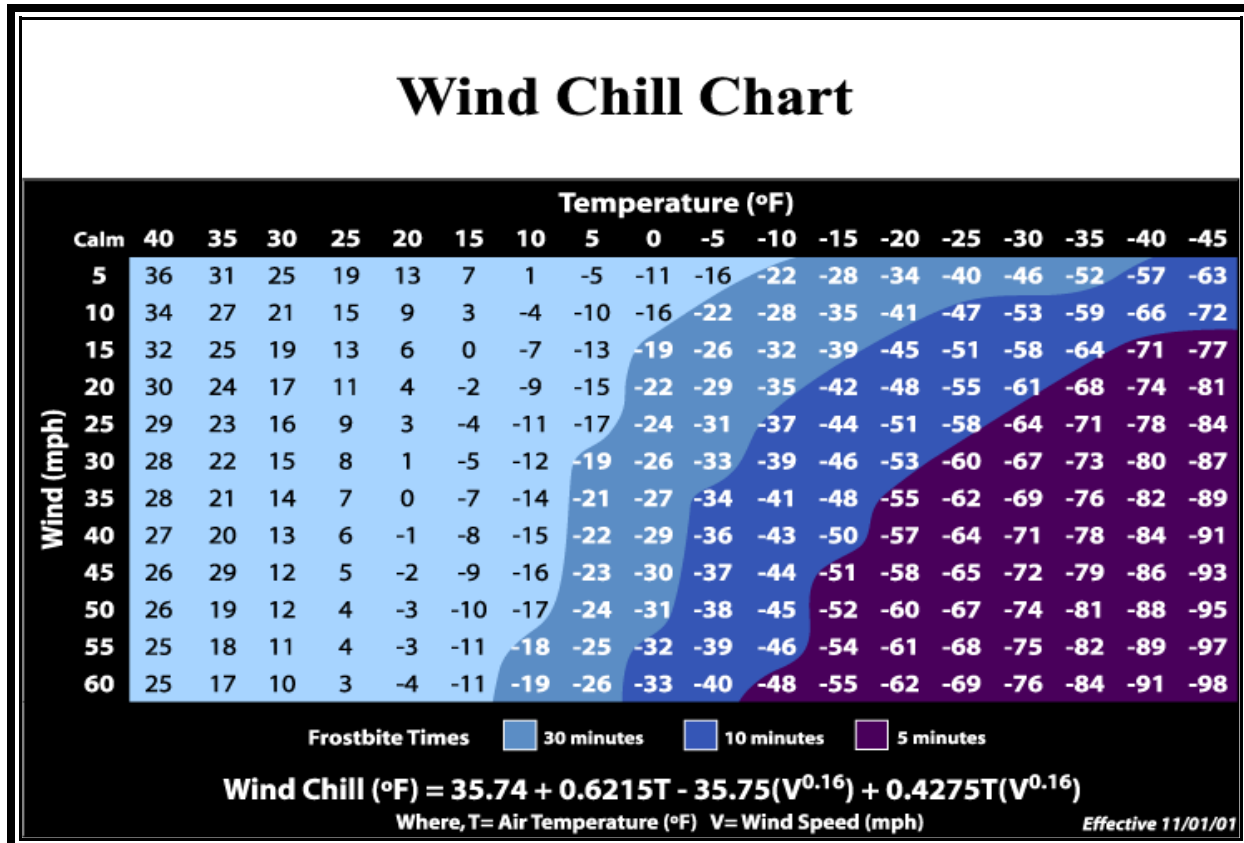


Figure B-1. Wind Chill Chart and formula with frostbite times shaded.

wind speeds. WFOs will include frostbite time references in the body of text for Wind Chill Warnings and should include frostbite time references, when applicable, for Wind Chill Advisories.

**APPENDIX C - Headline Time Phrases**

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1. **Introduction.** This section contains the headline day and time phrases used in winter weather watch, warning and advisory products.
2. **Winter Weather Watch Date/Time Phrases.** The watch headline will include a general event beginning and event ending day/time phrase. The general day/time phrases are defined in Table C-1.

Time Period Covered	Same Calendar Day Time Phrase	Day +1 Calendar Day Time Phrase	Day + 2 Calendar Day Time Phrase
Midnight - 5:59 AM	Not Applicable	Late Tonight	Late (day + 1) Night
6 AM - 11:59 AM	Not Applicable	(day + 1) Morning	(day + 2) Morning
Noon - 5:59 PM	This Afternoon	(day + 1) Afternoon	(day + 2) Afternoon
6 PM - 11:59 PM	This Evening	(day + 1) Evening	(day + 2) Evening

**Table C-1.** General headline day/time phrases for long duration watches.

2.1 Issuance Time and Event Start Time on the same Calendar day. When the issuance time and event start time occur on the same calendar day, the watch headline will include the time phrases listed in Table C-1.

Example:

Issuance Time - 4 AM Tuesday  
 Event Start Time - 8 PM Tuesday  
 Event End Time - 4 PM Wednesday

Watch Headline:

...WINTER STORM WATCH IN EFFECT FROM THIS EVENING THROUGH WEDNESDAY AFTERNOON...

2.2 Issuance Time and Event Start Time on Different Calendar Days. When the issuance time and event start time occur on different calendar days, the watch headline will include the time phrase (Table C-2) and day(s) the product is in effect for.

Example:

Issuance Time - 3 PM Tuesday  
 Event Start Time - 5 AM Wednesday  
 Event End Time - 5 AM Thursday

Watch Headline:

...WINTER STORM WATCH IN EFFECT FROM LATE TONIGHT THROUGH LATE WEDNESDAY NIGHT...

Example:

Issuance Time - 4 AM Tuesday  
 Event Start Time - 6 AM Wednesday  
 Event End Time - 5 PM Thursday

Watch Headline:

...LAKE EFFECT SNOW WATCH IN EFFECT FROM WEDNESDAY MORNING THROUGH THURSDAY AFTERNOON...

3. **Winter Weather Warning and Advisory Date/Time Phrases.** Winter weather warning and advisory headlines will include the specific time, time zone indicator, and day the warning/advisory is in effect.

3.1 Issuance Time and Event Start Time on the same Calendar day. When the issuance time and event start time occur on the same calendar day, the warning and advisory headline will include the time phrases listed in Table C-2.

Time Period Covered	Same Calendar Day Time Phrase
Midnight - 5:59 AM	Early This Morning
6 AM - 11:59 AM	This Morning
Noon - 5:59 PM	This Afternoon
6 PM - 11:59 PM	This Evening

**Table C-2.** Headline time phrases for long duration warnings and advisories in effect on same calendar day of issuance.

Example:

Issuance Time - 4 AM Tuesday  
 Event Start Time - 7 AM Tuesday  
 Event End Time - 11 AM Wednesday

Warning Headline:

...HEAVY SNOW WARNING IN EFFECT FROM 7 AM THIS MORNING TO 11 AM EST WEDNESDAY...

3.1.1 Special Case #1: Similar Time Phrase for the Start and End Times. If the start and end time use the same time phrase, then only one time phrase will be used and it will placed after the end time.

Example:

Issuance Time - 10 AM Tuesday

Event Start Time - 1 PM Tuesday  
Event End Time - 5 PM Tuesday

Warning Headline:

...HEAVY SNOW WARNING IN EFFECT FROM 1 PM TO 5 PM MDT THIS AFTERNOON...

3.1.2 Special Case #2: If the start time and end time use “Early This Morning” and “This Morning,” then place the time phrase “This Morning” after the end time ONLY.

Example:

Issuance Time - 1 AM Tuesday  
Event Start Time - 4 AM Tuesday  
Event End Time - 9 AM Tuesday

Advisory Headline:

...SNOW ADVISORY IN EFFECT FROM 4 AM TO 9 AM CST THIS MORNING...

3.2 Issuance Time and Event Start Time are on Different Calendar Days. When the issuance time and event start time occur on different calendar days, the warning and advisory headline will include the time and day(s) the product is in effect for.

Example:

Issuance Time - 3 PM Tuesday  
Event Start Time - 5 AM Wednesday  
Event End Time - 5 AM Thursday

Warning Headline:

...ICE STORM WARNING IN EFFECT FROM 5 AM WEDNESDAY TO 5 AM EST THURSDAY...

3.2.1 Special Case #1. If the event start time and end time occur on same day, then the day phrase will be used after the event end time only.

Example:

Issuance Time - 10 PM Tuesday  
Event Start Time - 5 AM Wednesday  
Event End Time - 5 PM Wednesday

Warning Headline:

...LAKE EFFECT SNOW WARNING IN EFFECT FROM 5 AM TO 5 PM CST WEDNESDAY...

3.3 Issuance Time = Event Start Time. When the issuance time and event start time occur simultaneously, the warning and advisory headline will only include the event end time in the headline.

3.3.1 Special Case #1: If the event end time occurs on same calendar day as the issuance time, then use the same calendar rules for the end time phrase set in Table C-1.

Example:

Issuance Time - 4 AM Tuesday  
Event Start Time - 4 AM Tuesday  
Event End Time - 8 PM Tuesday

Advisory Headline:

...SNOW ADVISORY IN EFFECT UNTIL 8 PM PST THIS EVENING...

3.3.2 Special Case #2: If the event end time occurs on a different day than the issuance time, then, the day phrase will be used after the event end time.

Example:

Issuance Time - 4 PM Tuesday  
Event Start Time - 4 PM Tuesday  
Event End Time - 2 AM Wednesday

Warning Headline:

...WINTER STORM WARNING IN EFFECT UNTIL 2 AM CST WEDNESDAY...

3.3.3 Special Case #3: If the issuance time is within three hours of the event start time, then only include the event end time in the headline.

Example:

Issuance Time - 10:15 PM Tuesday  
Event Start Time - 1 AM Wednesday  
Event End Time - 10 AM Wednesday

Advisory Headline:

...SLEET ADVISORY IN EFFECT UNTIL 10 AM EST WEDNESDAY...

3.4 Time Zone Indicators. The long duration WSW warning and advisory headline will include a time zone indicator after the specific time. If two times are listed, then place the time zone indicator after the second time listed.

3.4.1 Zone Grouping with Two or More Time Zones. If the zone grouping includes more than one time zone, then the additional time zone(s) will be placed in forward slashes next to all time indicators.

Warning Headline:

...HEAVY SNOW WARNING IN EFFECT FROM 3 AM EDT /2 AM EST/ /2 AM CDT/ TO 10 AM EDT /9 AM EST/ /9AM CDT/ THIS MORNING...

Advisory Headline:

...SNOW ADVISORY IN EFFECT UNTIL 8 PM PST /9 PM MST/ TONIGHT...