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***Operations and Services
Dissemination Services NWSPD 10-17***

TEXT PRODUCT FORMATS AND CODES

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signed
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Date

Text Product Formats and Codes

<u>Table of Contents:</u>		<u>Page</u>
1.	Introduction	3
1.1	Mission Connection	3
2.	Characters, Case, and Punctuation	3
2.1	Characters, Case, and Punctuation for Narrative Text	4
2.2	Other Permitted Characters	4
2.3	Special Circumstances	4
3.	Overall Product Format Rules	4
3.1	Left-Justify	4
3.2	End-of-Line	4
3.3	End-of-Report	4
3.4	Length-of-Line	5
3.5	Length of Product	5
3.6	A Blank Line	5
3.7	Universal Geographic Code (UGC)	5
3.7.1	Event vs. Product	5
3.7.2	Product Purge Time vs. Event Expiration Time	6
4.	Product Header Blocks	6
4.1	NWS Communications Identifier (CI) Block	6
4.1.1	World Meteorological Organization (WMO) Abbreviated Heading	6
4.1.2	Advanced Weather Interactive Processing System (AWIPS) Identifier (AI)	7
4.2	Mass News Disseminator (MND) Header Block	8
4.2.1	Broadcast Instruction Line (as appropriate)	8
4.2.2	Product Type Line	8
4.2.3	Issuing Office Line	9
4.2.4	Issuance Date/Time Line	10
5.	Product Body	11
5.1	Product Content Block	11
5.1.1	Headlines	11
5.1.2	Bullet Format	12
5.1.3	Content-Type Separator Code (Double Ampersand [&&] - Optional) ..	12
5.1.4	End of Product or Product Segment Code (Double Dollar [\$\$])	12

6.	End of Product	13
6.1	Forecaster Identifier (Optional)	13
6.2	Communications Trailer	13

1. Introduction. National Weather Service (NWS) text product formats (i.e., communications header and trailer codes, plain language identification blocks, geographic identifier codes, etc.) are produced by the various Advanced Weather Interactive Processing System (AWIPS) formatters and other product generation systems. This instruction provides rules for formats and codes applicable to text products intended for public audiences. Some technically oriented products including, but not limited to, those for aviation, forecast guidance, and internal products, are excluded from the rules in this instruction. This instruction is supplemented by on-line references as indicated in the text and by:

Interface Control Document (ICD) - “NWS 2000 - External Message Formats” on the Internet at: <http://www.nws.noaa.gov/nws/listings2.htm>. Scroll down and click on “NWS Broadcast Message Format.”

Completed examples showing the rules and formats described in this instruction are in NWSI 10-1702, Universal Geographic Code (UGC), since the various formats are dictated by the differing placements of the UGC within the product. A summary of the UGC in this instruction is in section 3.7. NWSI 10-1703, Valid Time Event Code (VTEC), provides rules and examples for using the VTEC in certain products, in conjunction with the UGC.

Important note: Blank Spaces: In examples in this instruction and completed examples in the above mentioned instructions, each mandatory blank space in header blocks will be indicated by an “underscore” (i.e., ‘_’).

For formats, codes, and content, to be used in each specific product, see the respective Products Specification document on the Internet at: <http://www.nws.noaa.gov/directives>. The NWSIs mentioned above are also on this Internet site.

1.1 Mission Connection. The NWS mission to protect life and property is carried out by timely delivery through a variety of dissemination systems of warnings, watches, forecasts, and other relevant weather, flood, climate, and critical non-weather-related information under the “all hazards” concept (see definition in NWSPD 10-17, Dissemination Services, on the Internet at the “directives” address in section 1). Correct use of product formats and codes is essential to ensure this delivery and to allow users to select, manipulate, and redistribute the information regardless of the dissemination method.

2. Characters, Case, and Punctuation. Section 2.1 describes the standard rules, in accordance with the World Meteorological Organization (WMO) Manual 386. Sections 2.2 and 2.3 describe certain permitted exceptions to the WMO manual.

(Information on obtaining WMO Manual 386 is on the Internet at:
<http://www.nws.noaa.gov/tg/wmodocs.html>.)

2.1 Characters, Case, and Punctuation for Narrative Text. Narrative text uses upper case and only the following punctuation marks in the text: the period (.), and the three dot ellipsis (...); the forward slash (/); the dash (-); and the plus (+). Use of other characters may inhibit the proper dissemination or automated processing by certain users' systems.

2.2 Other Permitted Characters. Other permitted characters - only within the routinely coded part of specific products - are the double dollar (\$\$) and the double ampersand (&&), and the "greater than" symbol (>) in the UGC (see NWSI 10-1702 on the UGC). The asterisk (*) is used in the bullet format of certain warning products (see Product Specification documents for details). An equal sign (=) is used as a delimiter to signal the end of discrete parts of certain products, as specified in section 3.3.

2.3 Special Circumstances. Certain primarily coded or tabular products, such as the NWS Standard Hydrologic Exchange Format, that use upper and lower cases and normal punctuation marks, such as commas (,), colons (:), etc., are permitted.

URLs that use only characters permitted in section 2.1 (e.g., www.spc.noaa.gov/products/) are allowed in products, where appropriate. The special "AT" symbol (@) associated with e-mail addresses is permitted, but use of email addresses should be limited to administrative-type products and Public Information Statements. These products are less likely to adversely affect dissemination of high priority information on certain users' systems. URLs and e-mail addresses must **not** be used in short-duration warning products.

Any NWS field office requests for variance from these exceptions must be approved by the Dissemination Services Manager in the Office of Climate, Water, and Weather Services.

3. Overall Product Format Rules. The following subsections provide communications information that apply to all format blocks in products intended for the general public. Complete examples of product formats, including illustrations of the UGC, are found in NWSI 10-1702.

3.1 Left-Justify: All major blocks of the format must be left-justified. Exceptions may occur within the narrative portion of the content block of certain products, to offset or highlight particular information, or for certain tabular or coded data, as shown in specific NWS Product Specifications.

3.2 End-of-Line: All lines of a message between the communications start-of-message and end-of-message should end in (a three-character) carriage-return carriage-return line-feed (<cr><cr><lf>). The AWIPS formatters and message handling system should provide this.

3.3 End-of-Report: For products containing discreet observations, reports or Terminal Aerodrome Forecasts, each discrete part will have an equal sign (=) at the end of the last word or line of the discrete part as described in the Products Specification documents. The equal sign is

followed immediately by an end-of-line. Note: If text products exceed the 15,000 character message limit, the = character can also be used to break them into discrete parts during message transmission (see section 3.5).

3.4 Length-of-Line: All lines of a message will be 69 characters or less. Note: This does not normally include the three-character end-of-line. However, when feasible, it is recommended this also include the end-of-line, leaving 66 characters for actual text.

3.5 Length of Product: When feasible, products should be kept under 15,000 characters. If a product exceeds 15,000 characters, it may be segmented for transmission either by AWIPS or by processing sites such as the Network Control Facility or the NWS Telecommunications Gateway. Note: The end-of-report (see section 3.3) can be used to help create a logical break point for segmentation.

3.6 A Blank Line: Insert it as a separator between the major format blocks, i.e., between the NWS Communications Identifier (CI) Block (section 4.1) and the Mass News Disseminator (MND) header block (section 4.2), and between the MND header block and the content block (section 5.1). Also insert a blank line following the MND header block to separate any headline(s) or “reason for the corrected/updated/amended line” (see section 4.2.2) from the rest of the MND block. Optionally, use a blank line after the content block for a product or segment and before the \$\$ (see NWSI 10-1702, section 4). Blank lines are visual aids for easier reading.

3.7 Universal Geographic Code (UGC): The only purposes of the UGC are to specify (1) the affected geographic area of the event, typically by state, county (or parish), or unique NWS zone (land and marine); and (2) the product purge time. The only exception to (1) above is to define the weather synopsis part of certain marine products (see NWSI 10-302). (To use NWS information and codes, such as the UGC and VTEC, effectively, it is important to understand the definitions in subsections 3.7.1 and 3.7.2 below.) Depending on the class of the product as defined in NWS Products Specification documents, place the UGC within the product in one of two ways:

- a. For non-segmented products, immediately after the CI block (without an intervening blank line) (see section 4.1); or
- b. For segmented products (within one product header, i.e., under one CI), to begin each of a series of segmented narrative texts immediately after the MND header block (see section 4.2).

See NWSI 10-1702 for a complete discussion of the rules and formats of the UGC.

3.7.1 Event vs. Product.

- a. **Event**: A specific combination of phenomena, e.g., type of weather or flood, and significance level of alert, e.g., Watch/Warning/Advisory (W/W/A). Common

examples of events include Winter Storm Watch, Wind Advisory, and Flood Warning. See NWSI 10-1703 for a list of phenomena and significance levels.

- b. **Product:** The entire message issued to the public that may include information on one or more events.

3.7.2 Product Purge Time vs. Event Expiration Time.

- a. **Product Purge Time:** Found at the end of the UGC string for an event, it is the time the product or product segment should no longer be used. In long-duration W/W/A products, where the event(s) is ongoing, the product purge time is the time when customers can expect to receive an updated product.
- b. **Event Expiration Time:** It is the time when the event is no longer valid. This time will be found within the narrative part of the product and, in coded format, in the VTEC string for certain products. See NWSI Instruction 10-1703 and individual NWS Products Specifications for further details.

4. Product Header Blocks. This section provides information on the construction and appearance of the specific format blocks.

4.1 NWS Communications Identifier (CI) Block. The following subsections provide the rules for each line of the CI. The CI block begins all products and consists of a start-of-message code (see note below), the WMO abbreviated heading, and the AWIPS Identifier (AI).

The CI uniquely identifies the specific product, the area to which it applies, the originating office, the issuing office (often the same as the originating office), and the product issuance time. AWIPS produces these fields automatically from information derived from operator input.

Note: For this instruction, all examples will use the “###” to indicate a communications start-of-message code. These codes are not visible on AWIPS. See communications documents for specific dissemination systems’ printable and non-printable start-of-message codes. They are available on the Internet at: <http://www.nws.noaa.gov/tg> or, specifically for the NWWS, on the Internet site mentioned in section 1.

4.1.1 World Meteorological Organization (WMO) Abbreviated Heading. The WMO abbreviated heading is in the form: TTAAii_CCCC_DDHHMM_BBB [BBB field used as appropriate*] where:

TTAAii	=	data type/location;
CCCC	=	4-letter identifier of issuing office;
DDHHMM	=	product issuance date/time in UTC;
BBB	=	designator has two purposes: (1) to differentiate between the original transmission of a product and any retransmissions due to

amendments/updates/corrections/or product delays, which would otherwise have identical WMO headings; and (2) to identify the reason for the retransmission, as shown immediately below.*

- If amended/updated BBB = AAx;
- If corrected BBB = CCx;
- If delayed, BBB = RRx.

* For the BBB field, in all cases, x = A, B, C...X, i.e., AAA = 1st amendment or update to the same product; CCB = 2nd correction to the issuance of the same product, etc., through X if needed. After X, Z should be used for each additional case. More information on using the BBB group is in section 4.2.2

Important Note: A BBB field will only be added when a WMO abbreviated heading has already been used for transmission of an initial product, i.e., when the initial product is retransmitted because it was amended/updated, corrected, or delayed.

4.1.2 Advanced Weather Interactive Processing System (AWIPS) Identifier (AI). The AI is in the form: NNNXXX where:

- NNN = specific product category (must be three characters);
- XXX = three-letter NWS Location Identifier (NWSLI) (originating office or area designator). (This XXX field must contain 3 characters. If only one or two characters are printable, the field must be left justified with the trailing spaces added.)

For explanations, examples, product lists, and details on the structure of the CI, see the Office of the Chief Information Officer (OCIO) document:

“Communications Identifier Policy For: Operational NWS Communication Networks and Systems.” It can be found at the OCIO’s Telecommunications Operations Center Internet site at: <http://www.nws.noaa.gov/tg/awips.html>.

In addition, other communications codes, such as for amended or corrected products, also can be found at this site.

Following is an example of a CI for a Zone Forecast Product (ZFP) issued by Weather Forecast Office (WFO) Baltimore/Washington (LWX) for April 24, 2002, issuance time 0822 UTC.

```
##                (appropriate start-of-message communications code)
FPUS51_KLWX_240822 (WMO abbreviated heading)
ZFPLWX           (AI)
```

4.2 Mass News Disseminator (MND) Header Block. The following subsections provide the rules for each line of the MND header block. Examples of the MND header block are at the end of this section.

4.2.1 Broadcast Instruction Line (as appropriate). This line in NWS products typically includes one of the following phrases, in descending order of urgency, whether originated from the NWS for certain critical weather, flood, marine, or fire warnings, etc., or relayed by the NWS at the request of the external authorizing government agency for non-weather-related emergency messages:

- BULLETIN_- _EAS ACTIVATION REQUESTED
- BULLETIN_- _IMMEDIATE BROADCAST REQUESTED
- URGENT_- _IMMEDIATE BROADCAST REQUESTED
- URGENT_- _WINTER WEATHER MESSAGE

Notes:

- (1) The use of EAS ACTIVATION REQUESTED or IMMEDIATE BROADCAST REQUESTED is at the discretion of state and local Emergency Alert System (EAS) committees.
- (2) a space ‘_’ dash (-) ‘_’ separates BULLETIN or URGENT from any other instructions in that line.

The use of BULLETIN and URGENT follows convention established by the print and electronic media. These terms signify levels of dissemination urgency. The NWS only uses BULLETIN and URGENT in weather-related messages, but other instructions may be used at the request of the external authorizing government agency in non-weather-related emergency messages. Here is the complete list of broadcast instructions for non-weather-related messages:

- FLASH_- _Used only for world changing events, such as a Presidential assassination
- BULLETIN_- _Used when the information is sufficiently urgent to warrant breaking into the normal broadcast
- URGENT_- _Used when the information may wait until a “stop-set” (break in the broadcast routine)
- REGULAR_- _Used when the information should be broadcast at regular news times
- HOLD_- _Do not broadcast at this time; may be upgraded or updated with a higher priority later.

4.2.2 Product Type Line. This MND line contains the name of the specific product being issued, e.g., ZONE_FORECAST, STATE_WEATHER_ROUNDUP, TROPICAL_CYCLONE_DISCUSSION, SPECIAL_MARINE_WARNING, FLOOD_WARNING. The product type line should be limited to one line and should be used consistently, according to individual NWS Products Specification documents.

Following are additional terms that may be included at the end of the Product Type line, as appropriate. (Any other additional terms are defined in appropriate NWS Product Specifications.)

- a. Updated or Amended: An ellipsis (...) and the word UPDATED or AMENDED follows the name of the product, as appropriate. AAx is included in the BBB field with an updated time field in the WMO abbreviated heading (see section 4.1.1).
- b. Corrected: An ellipsis and the word CORRECTED follows the name of the product, as appropriate. CCx is included in the BBB field with the original time field of the WMO abbreviated heading (see section 4.1.1).
- c. Resent (retransmitted): An ellipsis and the word RESENT follows the name of the product. No BBB field is included.
- d. Delayed: An ellipsis and the word DELAYED follows the name of the product. RRx is included in the BBB field of the WMO abbreviated heading (see section 4.1.1).
- e. Test: The word TEST and an ellipsis begins the Product Type line, and an ellipsis and the word TEST follows the name of the product in the Product Type line. No BBB field is included.

Important Notes:

(1) It is optional, but serves the customer well, to provide a brief reason for the action using the appropriate term above, typically in one line, and left justified. This “reason-for-the-action” line should always begin with CORRECTED, UPDATED or AMENDED, as indicated in respective Product Specification documents. Insert a blank line before and after this “reason” line, to make it more visible from the rest of the content block. Do **NOT** begin or end this line with an ellipsis (the line is not used as a standard headline to trigger media display - see section 5.1.1).

Placement of the “reason” line should occur after the MND block and a blank line, whether in non-segmented products or after the MND block and a blank line of any appropriate segments within a segmented product (see NWSI 10-1702 for more details). For example:

UPDATED_WIND_SPEED_AND_DIRECTION_FOR_THIS_AFTERNOON

(2) When issuing a product for test or severe weather drill purposes, use the word TEST (as shown above), and also add the word TEST in a headline (**DO** include the ellipse before and after the line, as in any headline - see section 5.1.1) and liberally within the body of the text.

4.2.3 Issuing Office Line. For field offices, this MND line contains the words NATIONAL_WEATHER_SERVICE followed by the issuing office’s CITY (or other regionally approved name) and STATE. Use the standard U.S. Postal Service two-letter state abbreviation (SS).

National Centers should use the acronym NWS followed by the National Center's name and CITY and SS. The issuing office information should be in one line.

Example of field office line:

NATIONAL_WEATHER_SERVICE_BOISE_ID

Examples of National Center line:

(1) NWS_HYDROMETEOROLOGICAL_PREDICTION_CENTER_CAMP_SPRINGS_MD

(2) NWS_STORM_PREDICTION_CENTER_NORMAN_OK

Two special cases:

(1) When a product is issued by a backup office, the office with the primary responsibility (that cannot issue the product) continues in the "issuing office" line as described above, but another "issuing office" line that begins with ISSUED_BY immediately follows with the backup office name. (The NWS CI is that of the primary office.) For example:

NATIONAL_WEATHER_SERVICE_CITY_SS (primary office)
 ISSUED_BY_NATIONAL_WEATHER_SERVICE_CITY_SS (backup office)

(2) When a non-weather-related civil emergency or other critical product is originated by an external agency, but disseminated by the NWS office, two "issuing office" lines are included in the MND header block. The first includes the external agency information; the second line begins with RELAYED_BY_NATIONAL_WEATHER_SERVICE_CITY_SS. For example:

EXTERNAL_AGENCY_(city/county/or state name)_SS
 RELAYED_BY_NATIONAL_WEATHER_SERVICE_CITY_SS

4.2.4 Issuance Date/Time Line. This MND line (in local time) contains the format (HHMM AM/PM LST or LDT) followed by the day of the week (three-letter abbreviation), the month (three-letter abbreviation), date, and year, all separated by one space. In the HHMM field, the minutes digits are required and the leading zeros are not used (e.g., 9:00 a.m. local time is formatted as "900_AM," rather than "9 AM" or "0900 AM."

In certain national products that span multiple time zones issued by NCs, the time may be shown in UTC, rather than local time.

Note: In segmented products, the date/time line is repeated in each segment. It occurs on the last line of the UGC block (including any VTEC line[s] and any associated UGC plain language names), and before the main text of the content block. See NWSI 10-1702, section 4.2.

Following are examples of MND header blocks. Example a. provides an identification key of each MND line in parentheses. Example d. shows an external agency originator.

a. BULLETIN_-_EAS_ACTIVATION_REQUESTED (Broadcast instructions)

TORNADO_WARNING	(Product type)
NATIONAL_WEATHER_SERVICE_JACKSON_MS	(Issuing office)
320_PM_CDT_THU_MAY_23_2002	(Issuance date/time - local time)

- b. ZONE_FORECASTS...CORRECTED
NATIONAL_WEATHER_SERVICE_ST_LOUIS_MO
430_PM_CST_SAT_MAR_16_2002
- c. SPECIAL_WEATHER_STATEMENT...RESENT
NATIONAL_WEATHER_SERVICE_SALT_LAKE_CITY_UT
515_AM_MDT_TUE_NOV_19_2002
- d. SHELTER_IN_PLACE_WARNING
WAKE_COUNTY_EMERGENCY_MANAGEMENT_DIVISION_RALEIGH_NC
RELAYED_BY_NATIONAL_WEATHER_SERVICE_RALEIGH_NC
443_PM_EST_MON_OCT_28_2002

5. Product Body.

5.1 Product Content Block. This is the main, informational part of any product and occurs after the MND block and a blank line and before the communications trailer. The content block is defined as all information (including narrative text and/or data) provided in the product and described in the respective Products Specification documents; any UGC block, i.e., the UGC line(s); any VTEC lines (see NWSI 10-1703); optionally the UGC associated plain language names; any headlines; the optional && code (see section 5.1.3); the \$\$ code (see section 5.1.4); and the = sign, when required (see section 2.2). See NWSI 10-1702 for a full discussion of the \$\$ and &&.

Content will vary according to the individual product or class of products as described in the respective Products Specification documents.

5.1.1 Headlines. One or more headlines optionally may begin the narrative part of the content block, usually after the UGC block (and any VTEC lines). The most important headline should be listed first, if possible. Each headline will be on a separate line (or lines) and be preceded and followed by an ellipsis (three dots). For public products, include the what, where, and when (or time inference) of the event. (Marine products do not usually include the “where,” since they apply to the entire marine zone in which they are placed.) A blank line will separate any headline(s) from the rest of the content block. Example (1) uses one headline, example (2) uses two headlines, with the more important one listed first, and the use of the ellipsis in place of the comma:

- (1) ...HIGH_WIND_WARNING_FOR_COUNTY_XX_UNTIL_530_PM...
- (2) ...WINTER_STORM_WARNING_FOR_COUNTIES_AA...BB...AND_CC_THROUGH_TONIGHT...

...WIND_CHILL_ADVISORY_CONTINUES_FOR_COUNTIES_AA...BB...AND_CC
THROUGH_TOMORROW_NIGHT...

Refer to individual NWS Product Specifications for details of headlines use in particular products.

5.1.2 Bullet Format. Selected warning products, as stipulated in NWS Products Specifications, use the bullet format to highlight key parts of the text. Following are general rules for use of the bullet format:

- a. Use the asterisk (*) at the left-justified margin position to start the first line of each bullet.
- b. For the first line of a given bullet, place one space ‘ ’ between the asterisk and the start of text. For subsequent lines in the bullet, indent two spaces ‘ ’ from the left margin.
- c. The length limit for any bullet line (i.e., number of characters) is given in NWS Products Specifications.
- d. Bullets should be kept as brief as possible.

5.1.3 Content-Type Separator Code (Double Ampersand [&&] - Optional). The && code may be used optionally (one or more times) to separate differing kinds of information within the content block of a product, or within a segment(s) of a segmented product. The && may be used in a product that does not include the UGC block. Refer to individual Products Specification documents for use in specific products.

Note: The && should be on its own line, left justified, and followed immediately by an end of line (<cr><cr><lf>).

5.1.4 End of Product or Product Segment Code (Double Dollar [\$\$]). **The double dollar code (\$\$) is used to end the content block of all products**, i.e., (1) those products that do not use the UGC, and (2) non-segmented products that do use the UGC. The \$\$ also is used to end the content of individual segments within a segmented product.

Notes:

(1) The \$\$ should be on its own line, left justified, and followed immediately by an end of line (<cr><cr><lf>).

(2) Complete examples showing the rules and formats described in this instruction, including use of the && and \$\$, are in NWSI 10-1702.

6. End of Product.

6.1 Forecaster Identifier (optional). Forecasters may affix their initials or some other form of identifier at the end of the product content block, **after the \$\$**. Providing this optional identification in the various NWS products depends on guidelines in the appropriate Products Specification document.

6.2 Communications Trailer. This is the communications end-of-message code. It may be visible on certain user devices, but not on AWIPS.

Note: For this instruction, all examples will use the “**” to indicate a communications end-of-message code. These codes are not visible on AWIPS. See communications documents for specific dissemination systems’ printable and non-printable end-of-message codes. They are available on the Internet at: <http://www.nws.noaa.gov/tg> or, specifically for the NWWS, on the Internet site mentioned in section 1.