

NATIONAL WEATHER SERVICE SERVICE DESCRIPTION DOCUMENT (SDD)

TYPE: Enhancement to Official Product

DATE: March 25, 2011

Enhanced Product – Addition of Forecast Maximum Hail Size Tagline Coding to Tornado Warnings and Associated Follow-up Severe Weather Statements

Feedback Period: April 1, 2012 – April 1, 2013

Part 1 – Mission Connection

1) Product Description

The Tornado Warning (TOR), and any Severe Weather Statement (SVS) issued as a follow-up to a TOR, is an alphanumeric product providing short-fused warning information on hazardous conditions associated with thunderstorms which are expected to spawn one or more tornadoes, and thus pose a threat to life and/or real property. These products are prepared by each National Weather Service (NWS) Weather Forecast Office (WFO) for their County Warning Area (CWA) of responsibility.

The TOR is based on scientific evaluation of atmospheric conditions, or an actual observation, indicating tornado development is imminent or occurring. Hazards associated with severe thunderstorms are nearly always attendant to the tornado threat as well – those hazards being winds gusting to 58 mph or greater, and/or hail of one inch (1”) diameter or greater. The SVS is a “follow-up” statement which provides updated information as to the status of storms within a TOR (or SVR) warning area. This particular product enhancement adds a short coded tag line to the footer of the TOR and TOR-related SVS products to clarify forecast maximum hail size, primarily for the purpose of assisting emergency management decisions. (Tag lines for SVR also include information concerning expected maximum wind gusts; this detail is irrelevant in tornado warnings.)

2) Purpose

Adding this short tag to the bottom of TOR/SVS products will greatly enhance the ability of our partners and stakeholders to make threshold-based decisions on the information we provide in our tornado warning products. Its format allows for software to easily parse out and integrate the information into decision support systems. It also facilitates a quick understanding of the relative strength of the ancillary hail threat.

Additionally, a consensus outcome of the NWS Next Generation Warnings Workshop was that the NWS should focus warnings to cover “What”, “Where”, “When” and “Intensity”, in a clearly delineated format. Each of these except “Intensity” is coded into the text of every warning. Adding intensity information to warning coding will aid in more effective dissemination of severe weather information to our key users and partners. This will be tested at three Central Region offices (GLD, DDC, and GID).

3) Audience

The target audience for the product includes: national, state and local emergency managers; media partners; the private weather enterprise; government and military agencies.

4) Presentation Format

This max hail tag will be automatically appended to the bottom of every TOR issued by participating Central Region offices, as well as any follow-up statements (SVS) to those warnings.

5) Feedback Method

We are always looking for feedback regarding the quality and utility of NWS products. As a means of soliciting feedback on this product, a formal customer survey can be accessed through the following URL:

<http://www.weather.gov/survey/nws-survey.php?code=maxhailtor>

Each participating office agrees to an evaluation period of ten (10) months, at which time feedback regarding this service enhancement will be reviewed for the purpose of determining whether to make the service a permanent part of the official product format for all Central Region WFOs.

Part II – Technical Description

1) Format & Science Basis

The coded tag line will be appended to the bottom of every TOR and appropriate SVS products after the double ampersand (&&) directly below the existing TIME...MOT...LOC line and before the double dollar sign (\$\$).

The format of the hail tag will be an 11-character line appended to TOR and appropriate follow-up SVS products, inserted after the double ampersand (&&) and immediately following the “LAT... LON...” and “TIME... MOT... LOC...” lines, as follows:

HAIL x.xxIN

Where x.xx represents the expected maximum hail size in inches.

For example:

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&&  
LAT...LON 3882 9418 3857 9414 3859 9458 3868 9460  
TIME...MOT...LOC 1556Z 259DEG 31KT 3866 9451  
HAIL 2.75IN  
$$
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In the above example, the max hail tag would represent a tornado warning (TOR) for a storm capable of producing 2.75” (baseball size) hail.

Allowable Coded Tag Line Values

The allowable values for hail and wind tag lines are coded and defined as follows:

Hail Values for TOR/SVS

(Flexibility is given to local offices to add other events with 0.75 being the lowest allowable specified value, other than “no hail” and “smaller than three-quarter inch” values. The lowest value of hail size considered to meet “severe thunderstorm” criterion is 1-inch in diameter.)

0.00	Equates to no hail
<.75	Small hail expected
0.75	0.75 inch hail (penny-sized)
0.88	0.88 inch hail (nickel-sized)
1.00	1.00 inch hail (minimal SVR criterion for hail size)
1.50	1.50 inch hail (ping pong ball-sized)
1.75	1.75 inch hail (golf ball-sized)
2.50	2.50 inch (tennis ball-sized)
2.75	2.75 inch hail (baseball-sized)
4.25	4.25 inch hail (softball-sized) or larger and is the highest allowable value

2) Availability

This enhanced product is available through all distribution channels which currently disseminate TOR, SVR, and SVS warning products.

3) Additional Information

None