

National Implementation of the Use of 1-inch Diameter Hail Criterion for Severe Thunderstorm Warnings in the NWS

Part I - Mission Connection

- a. Product/Service Description -- The Severe Thunderstorm Warning (SVR) is an alphanumeric product providing short-fused warning information on hazardous conditions associated with thunderstorms which are expected to pose a threat to life and/or real property. This product is prepared by each National Weather Service (NWS) Weather Forecast Office (WFO) for their County Warning Area (CWA) of responsibility. A Severe Thunderstorm Warning (SVR) is issued based on expectation of winds gusting to 58 mph or greater and/or **hail of one (1) inch diameter (U.S. quarter-size) or greater**. Prior to January 5, 2010, the hail criterion for a severe thunderstorm was three-quarters of an inch diameter (U.S. penny-size) or greater.
- b. Product Type -- Official
- c. Purpose/Intended Use -- The change in the minimum hail criterion for the Severe Thunderstorm Warning from three-quarter inch (U.S. penny-size) to one inch (U.S. quarter-size) was based on research indicating significant damage does not occur until hail size reaches 1 inch in diameter and in response to requests by core partners in emergency management and the media. No change was made to the wind criterion of 58 mph.
- d. Audience -- The target audience for the product includes: national, state and local emergency managers; media partners; government and military agencies; and the general public.
- e. Presentation Format -- The product is made available in a bulleted alphanumeric format in accordance with national policy as defined in NWSI 10-511, WFO Severe Weather Products Specification. It is prepared in a consistent manner by all WFOs.
- f. Feedback Method -- Questions and comments on this service change can be addressed to the Severe Storms Service Leader:

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Part II -- Technical Description

- a. Format and Science Basis -- The SVR product is disseminated in an alphanumeric format and contains the area affected, defined by a polygon with latitude/longitude coordinates, the reason for the warning issuance, the type and magnitude of the expected severe weather, the warning valid time and expiration time, and appropriate call-to-action statements. The product is written in a bulleted format containing all required warning elements.

The change to a hail criterion of one inch (quarter-size) in diameter was based on research indicating significant damage does not occur until hail size reaches 1 inch and as a response to requests by core partners in emergency management and the media. Particularly in areas of the Central U.S., the frequency of severe thunderstorm warnings issued for penny-size and nickel size hail might have desensitized the public to take protective action during a severe thunderstorm warning.

In areas that experimented with changing to the one inch hail criterion, media partners stated their user feedback suggests warnings are now more meaningful. In addition, television networks receive fewer viewer complaints from breaking into programming for non-damaging storms. The Emergency Management community in those areas agreed that warnings carry more weight, and spotters now concentrate on the more significant events.

- b. Availability -- SVRs are issued when one or more severe thunderstorm criteria are expected to be met. Preparation and dissemination are accomplished via the WarnGen application of the Advanced Weather Interactive Processing System (AWIPS) and the Satellite Broadcast Network.
- c. Additional Information -- A web page describing this change in more detail and including commonly asked questions is available at:
<http://www.weather.gov/oneinchhail/>