

**NWS Special Weather Statement (SPS) with
Impact-Based Formatting for Convective “Sub-Severe” Thunderstorms
January 2021**

Overview:

The following information is provided in support of the impact-based reformatting of the NWS Special Weather Statement (SPS) product for sub-severe convective storms that meet the criteria outlined in NWSI 10-517 Section 3.2.2 b. The following changes only pertain to SPS issuances that contain polygon-based information. These changes do not apply for other weather and non-weather-related issuance criteria and instances of the SPS, outlined in Section 3.2.2 a, c, and d.

The Impact-Based Warning (IBW) format is used in NWS Tornado, Severe Thunderstorm, Flash Flood, and Special Marine Warning. This product format supports more adaptive visual and machine parsing out of key information from the body of the text product. Information about the convective weather threat(s), such as the source, the type of threat, and potential impacts, are separated out into their own bulleted section, as opposed to a paragraph of text. Additionally, this information is reiterated in brief summary tags, called “coded tags” that appear at the bottom of the product for quick and easy user parsing, visually and/or with software/applications.

New impact-based format for convective (sub-severe) storms, only.

Notes:

- Italicized information is for descriptive purposes here only and is not actually contained within the product.
- In the IBW coded tag section, note these changes:
 - The hail tag is called “MAX HAIL SIZE” and the wind tag is “MAX WIND GUST”. These changes will also be reflected in a concurrent set of modifications to Severe Thunderstorm Warnings (SVR) and Tornado Warnings (TOR).
 - An extra space in between the value and unit of measure in the hail and wind tags. A similar change was recently made in SVRs and TORs.

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WWaa8i cccc ddhhmm  
SPSccc
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Special Weather Statement (...Corrected as required)  
National Weather Service City State  
Time am/pm Time_zone Day Mon DD YYYY
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...Headline...(Primary hazard mode or type/Location/Expiration. (Headline  
will not contain "Significant Weather Advisory"))
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At [time], [source] indicated a strong thunderstorm/line of strong  
thunderstorms capable of producing [hail, wind, landspout/waterspout over  
an inland lake]
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(Primary Impact-Based information bullets)
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HAZARD...(wind speed, hail size, funnel cloud, and/or lightning frequency  
observed or forecast)
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SOURCE...(Choose one - Radar indicated, Trained weather spotter, Law  
enforcement, Emergency management, Media, or Public)
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IMPACT...(Brief pre-determined summary of impact(s) expected from the
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selected hazard(s)

Locations impacted include...
(Listing of locations)

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Optional statement(s) about the hazard or inclusion of supplemental
information about the storm, such as frequent lightning, torrential
rainfall, etc.

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LAT...LON (Latitude/longitude coordinate pairs outlining forecaster-drawn
hazard area)
TIME...MOT...LOC (hhnnZ xxxDEG xxKT xxxx xxxx (lat/lon couplet(s))

(Impact-Based "coded tag" section)
LANDSPOUT...POSSIBLE/OBSERVED (Optional)
WATERSPOUT...POSSIBLE/OBSERVED (Optional)
MAX HAIL SIZE...X.XX IN
MAX WIND GUST...XX MPH

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Headline Specifications:

The primary change to the headlines is the discontinuance of the headline phrase “Significant Weather Advisory.” This phrase will no longer appear in headlines or in any other portion of the text product. Headlines will instead describe the general basis of the issuance, such as “Strong thunderstorms will impact [county, counties, portions of county/counties] through [expiration time of the product].” Since the SPS does not carry an official as NWS warnings have, the information is tailored to the straightforward notification that a storm or line of storms are nearing or impacting a certain area with the capability of producing certain sub-warning level threats and impacts.

Impact-Based “coded tag” Section:

The hail and wind tags will always appear, even if one of them is below the minimum issuance threshold. In addition, two new hazard types (outlined in the next section) have been added to the basis for issuance of the sub-severe SPS (landspouts and waterspouts over inland lakes), detailed in the next section. These two are optional hazards but if selected, they will appear as tags, ahead of the hail and wind tags.

Inclusion of Two New Hazard Types:

1). Landspout. Landspouts are commonly relatively narrow, tornado-like funnels that are often (but not always) connected to a strong thunderstorm or a convective (cumulonimbus) cloud that may not be producing much precipitation or outflow. They often occur in the early stages of thunderstorm development but are not associated with the rotating updraft of a storm, as with tornadoes.

Landspouts can be challenging to detect on radar because of the very narrow horizontal shear footprint. Their funnels tend to be stronger than gustnadoes and can cause low-end tornado (EF-scale) damage. However, they are commonly slow-movers and at times, can even appear to be nearly stationary. In many of the locations that landspouts typically occur, they do not commonly produce discernible damage, unless they develop directly over or near property and interests. However, they are noteworthy as a meteorological phenomenon or to those who are mobile and spot or encounter them while travelling in their vehicle.

Conditions for issuance: If a storm exhibits characteristics of having a possible landspout, forecasters may opt to issue an SPS with the LANDSPOUT...POSSIBLE tag. In this instance, they must also select a minimum criteria of wind/hail present or possible from the parent thunderstorm. Otherwise, if the landspout was spotted by a person and relayed to the local NWS Weather Forecast Office (WFO) or there is strong radar-base evidence that one exists, forecasters can issue an SPS with the LANDSPOUT...OBSERVED tag without the need for a qualifying wind or hail basis.

2). Waterspout (over inland lakes only). Numerous sprawling lakes across the country provide the potential for waterspouts to develop over their waters. When this occurs and they are spotted, the local NWS WFO does not currently have a product to provide this information to the public, other than a Tornado Warning. Tornadoes, land-based funnels, are deemed as such by their production of damage to property and interests over land. By nature, so long as the waterspouts over inland lakes do not reach any adjacent shoreline, they never become tornadic.

Conditions for issuance: By including these instances of waterspouts that are either near-stationary or do not threaten/reach the lakeshore, the SPS will provide the public with real-time notifications of these events if and when they are either seen on nearby radar or the NWS WFO receives a valid report.

Important note about landspouts/inland lake waterspouts and severe-level wind/hail: Instances where a storm is considered “severe”, with qualifying hail, wind, or both, those threats will take a higher priority than either a landspout or waterspout over an inland lake. Forecasters will have the option to add the “TORNADO...POSSIBLE” to cover either of those threats, along with ability to provide location information.

Example SPS Products with the New Impact-Based Format:

1). Single Storm:

SPSDVN

Special Weather Statement
National Weather Service Quad Cities IA IL
340 PM CDT MON MAY 4 2015

IAZ099-ILZ025-034-MOZ010-042200-
Hancock IL-Henderson IL-Lee IA-Clark MO-
340 PM CDT MON MAY 4 2015

...Strong thunderstorm will impact portions of Hancock, Henderson, Lee, and Clark Counties through 500 PM CDT...

At 338 PM CDT, doppler radar was tracking a strong thunderstorm near Keokuk, moving east at 30 mph.

HAZARD...40 mph wind gusts and penny size hail.

SOURCE...Radar indicated.

IMPACT...Minor damage possible to outdoor objects is possible.

Locations impacted include...

Keokuk, Fort Madison, Carthage, Nauvoo, Niota, Western Illinois University, Hamilton, New Boston, Montrose, St. Francisville, Charleston and Argyle.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Frequent cloud to ground lightning is occurring with this storm. lightning can strike 15 miles away from a thunderstorm. Seek a safe shelter inside a building or vehicle.

This storm may intensify, monitor local radio and tv stations, as well as local cable tv outlets, for additional information and possible warnings from the National Weather Service.

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LAT...LON 4034 9154 4055 9166 4070 9123 4037 9094
TIME...MOT...LOC 2038Z 259DEG 26KT 4045 9147

MAX HAIL SIZE...0.75 IN
MAX WIND GUST...40 MPH

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2). Line of Storms:

SPSPAH

Special Weather Statement
National Weather Service Paducah KY
323 PM CDT SAT APR 25 2015

ILZ075-080-081-084-252115-
Perry IL-Jackson IL-Franklin IL-Jefferson IL-
323 PM CDT SAT APR 25 2015

...Strong thunderstorms will impact portions of Jefferson, Franklin, Jackson and Perry counties until 415 PM CDT...

At 322 PM CDT, Doppler radar was tracking a line of strong thunderstorms extending from 6 miles north of Sesser to 5 miles west of Elkhaville, moving east at 30 mph.

HAZARD...50 mph wind gusts and pea size hail.

SOURCE...Radar indicated.

IMPACT...Gusty winds could knock down tree limbs and blow around unsecured objects.

Locations impacted include...

West Frankfort, Benton, Rend Lake Area, Sesser, Zeigler, Royalton, Elkhaville, Valier, West City, Thompsonville, Waltonville, Dowell, Orient and Hanaford.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Frequent cloud to ground lightning is occurring with this storm. lightning can strike 15 miles away from a thunderstorm. Seek a safe shelter inside a building or vehicle.

This storm may intensify, monitor local radio and tv stations, as well as local cable tv outlets, for additional information and possible warnings from the National Weather Service.

A tornado watch remains in effect until 800 PM CDT for southern Illinois.

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LAT...LON 3821 8913 3820 8871 3788 8872 3788 8915
3791 8954 3803 8921

TIME...MOT...LOC 2022Z 281DEG 27KT 3818 8905 3802 8911 3793 8936

MAX HAIL SIZE...0.25 IN
MAX WIND GUST...50 MPH

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3). Landspout (Possible)

SPSGRB

Special Weather Statement
National Weather Service Green Bay WI
140 AM CDT Mon May 18 2020

WIZ031-037>039-074-180730-
Southern Oconto County WI-Waupaca WI-Shawano WI-Outagamie WI-
Brown WI-
140 AM CDT Mon May 18 2020

...A strong thunderstorm will impact portions of northwestern Brown, east central Waupaca, southern Oconto, northern Outagamie and eastern Shawano Counties through 230 AM CDT...

At 140 AM CDT, Doppler radar was tracking a strong thunderstorm capable of producing a landspout 7 miles north of New London, or 19 miles northeast of Waupaca, moving northeast at 20 mph.

HAZARD...Landspouts, winds in excess of 40 mph, and nickel size hail.

SOURCE...Radar indicated.

IMPACT...Minor damage to outdoor objects is possible. Gusty winds

could knock down tree limbs and blow around unsecured objects.

Locations impacted include...

New London, Pulaski, Black Creek, Navarino Wildlife Area, Howard, Suamico, Little Suamico, Seymour, Chase and Pittsfield.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If outdoors, consider seeking shelter inside a building.

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LAT...LON 4436 8875 4451 8887 4494 8796 4479 8784

4476 8787 4475 8785 4471 8792 4465 8793

TIME...MOT...LOC 0640Z 240DEG 18KT 4448 8872

LANDSPOUT...POSSIBLE

MAX HAIL SIZE...0.88 IN

MAX WIND GUST...40 MPH

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Kurimski

4). Waterspout over an inland lake (Observed)

SPSGYX

Special Weather Statement

National Weather Service Gray ME

222 PM EDT SAT JUL 1 2017

MEC005-011845-

Cumberland ME-

222 PM EDT SAT JUL 1 2017

...A strong thunderstorm will impact portions of Cumberland County through 245 PM EDT...

At 222 PM EDT, a waterspout was reported over Lake Sebago or 7 miles southwest of Raymond, nearly stationary.

HAZARD...Waterspout.

SOURCE...Public.

IMPACT...Waterspouts can easily overturn boats and create locally hazardous waters.

Locations impacted include...

Sebago Lake, Frye Island, Raymond Neck and Casco.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If on or near Sebago Lake, get away from the water and move to safe shelter immediately. If you can hear thunder, you are close enough to be struck by lightning. Move into dock and seek safe shelter now! Do not be caught on the water in a thunderstorm.

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LAT...LON 4383 7063 4386 7065 4394 7054 4386 7048

TIME...MOT...LOC 1822Z 246DEG 3KT 4386 7061

WATERSPOUT...OBSERVED

MAX HAIL SIZE...0.00 IN

MAX WIND GUST...<30 MPH

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