

The Winter Storm Severity Index (WSSI)

A Guide For Users

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Website: <http://weather.gov/btv/winterseverity>

*National Weather Service
Burlington, VT*

What The Winter Storm Severity/Impact Index Is

- **A tool** to assist NWS operational forecasters in maintaining situational awareness of the possible significance of weather related impacts based upon the current official forecast.
- **A tool** to help communicate a general level of potential societal impacts and their spatial distribution
- **“Actionable Information”** for partners in their goal to mitigate problems due to winter storms



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What The Winter Storm Severity/Impact Index Is NOT:

- It is not a specific forecast for specific impacts.
 - For example, a depiction of “moderate” severity does not mean schools will or have to close.
- It is not meant to be the sole source of information about a Winter Storm. It should always be used in context with other NWS forecast and warning information.
- The WSSI does not account for conditions that have occurred prior to the creation time. It only uses forecast information. Therefore during an ongoing winter weather situation, the WSSI will not be representative of the entire event.




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Motivation – To Better Depict Aspects of Winter Storms

Current NWS Procedures:

-  Winter weather Watches/Warnings/Advisories are raised based primarily on “yes/no” thresholds of accumulation and generally at the level of individual counties

Reality of Winter Weather:

-  Severity/impacts from winter weather are due to more than just amounts (*one 5” snowstorm is not like the next 5” snowstorm*)
-  Great variation in weather conditions frequently occur with individual counties

WSSI Scale

WSSI Descriptor	General Description of Expected Storm Severity and Impacts
None	No snow or ice forecast and no potential Ground Blizzard conditions
Limited	Small accumulations of snow or ice forecast. Minimal impacts, if any, expected. In general, society goes about their normal routine.
Minor	Roughly equates to NWS Advisory Level criteria. Minor disruptions, primarily to those who were not prepared. None to minimal recovery time needed.
Moderate	Roughly equates to NWS Warning Level criteria. Definite impacts to those with little preparation. Perhaps a day or two of recovery time for snow and/or ice accumulation events.
Major	Significant impacts, even with preparation. Several days recovery time for snow and/or ice accumulation events.
Extreme	Historic. Widespread severe impacts. Many days to at least a week of recovery needed for snow and/or ice accumulation events.

WSSI Components

Snow Amount

PURPOSE: Depict severity due to total amount of snow or rate of snowfall accumulation

Adjustments are made based on climatology and urban areas. 4 inches of snow in Atlanta is more severe than 4 inches in Minneapolis, and WSSI will depict this difference.

Snow Load

PURPOSE: Depict severity due to total weight of snow on trees and power lines.

Blowing Snow

PURPOSE: Depict severity mainly to transportation due to blowing and drifting snow

WSSI Components

Ice Accumulation

PURPOSE: Depict severity of transportation and downed trees/powerlines due to the accumulated ice in combination with wind

Flash Freeze

PURPOSE: Depict severity primarily to transportation of situations where temperatures rapidly fall below freezing during precipitation

Ground Blizzard

PURPOSE: Depict severity to mainly transportation of ground blizzards that develop due to a pre-existing snowpack and strong winds



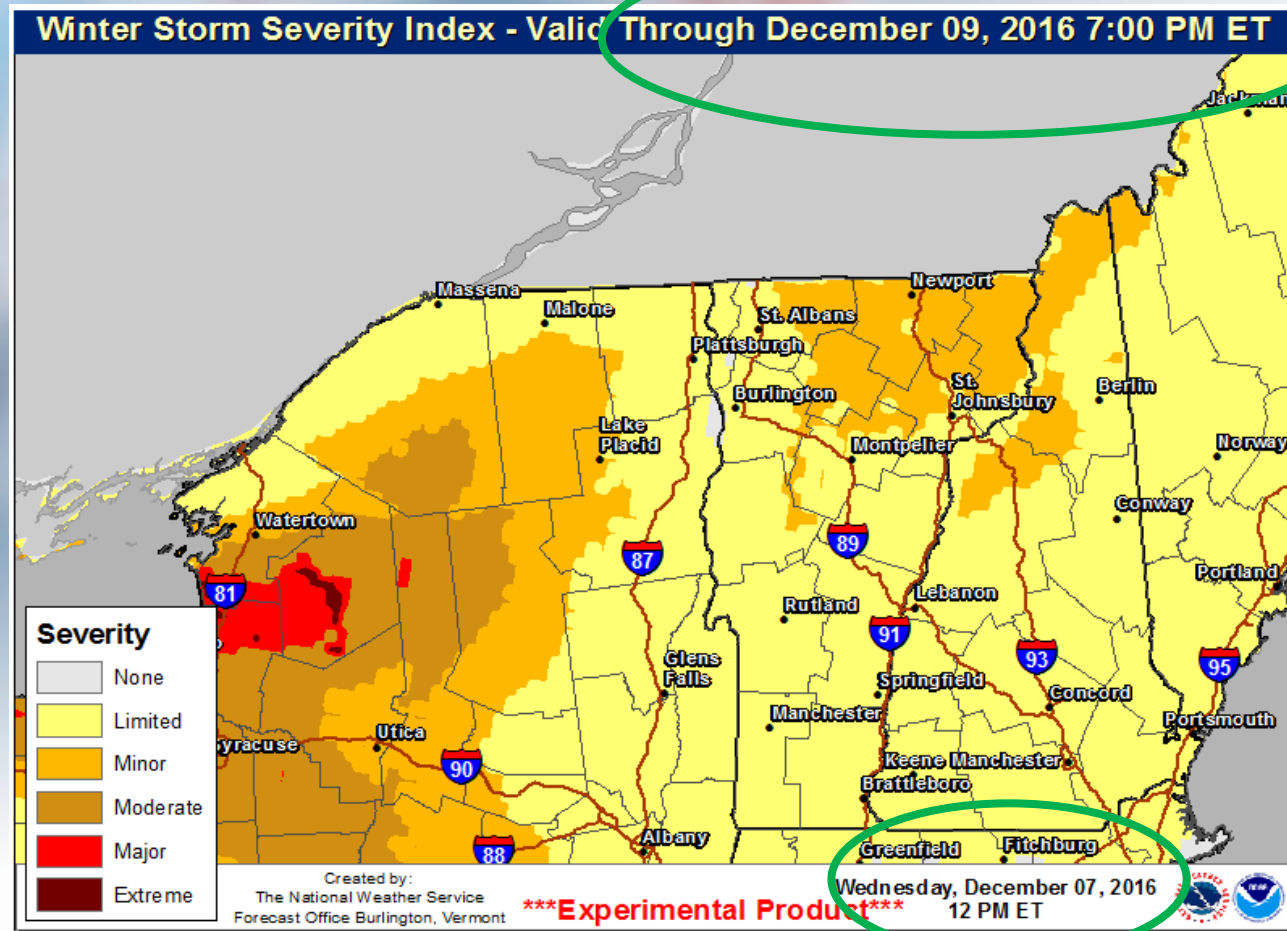
Website: <http://weather.gov/btv/winterseverity>

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WSSI – How to Interpret

The map on the right depicts the WSSI for expected winter weather occurring between 12 pm Dec 7 (time stamp at the bottom) to 7 pm Dec 9 (valid time at the top)

It does NOT indicate specifically when the weather will occur during the period. Refer to other NWS forecast data for that information



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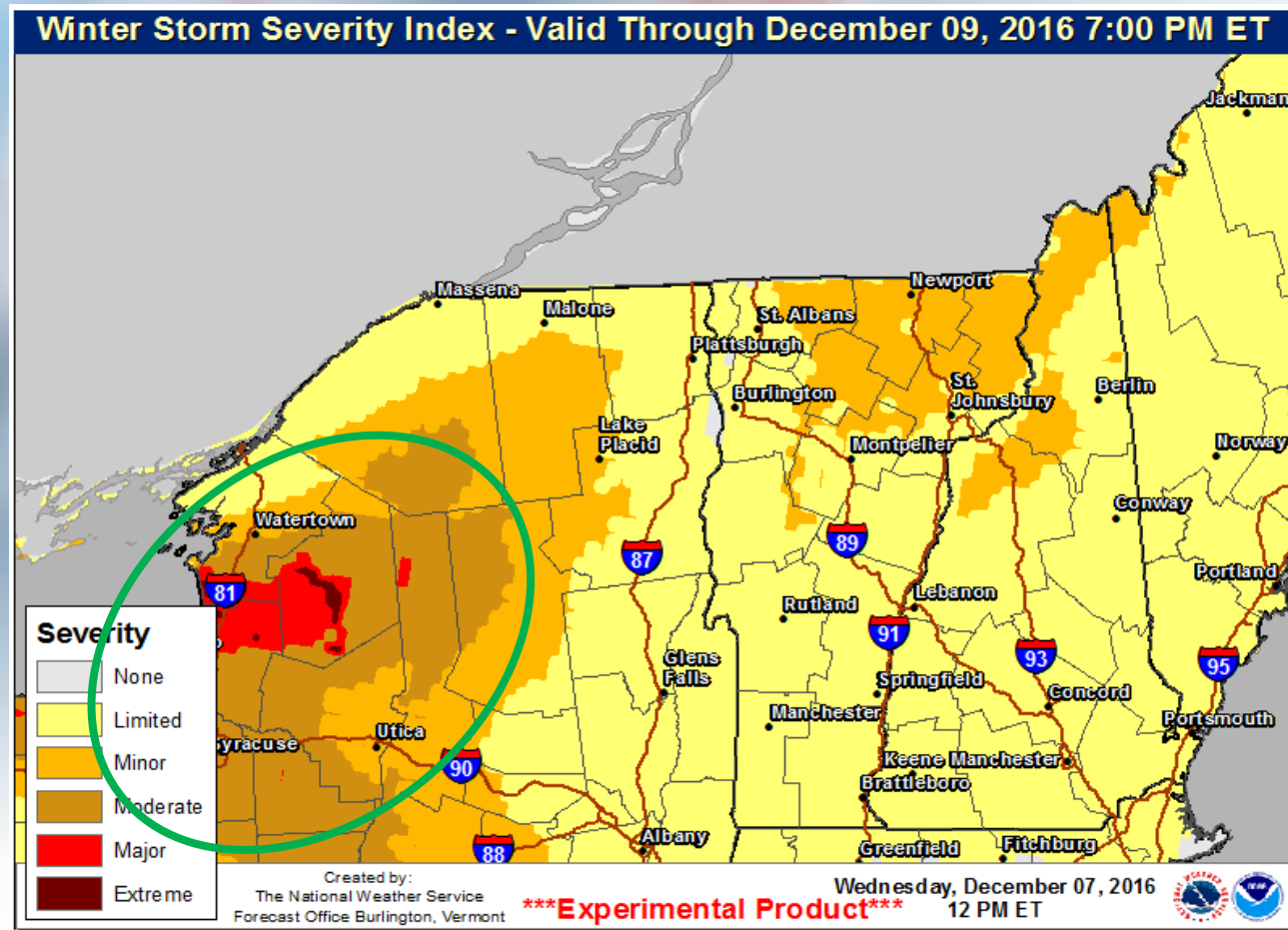
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WSSI – How to Interpret

The areas where the most significant winter weather is expected are denoted by the dark orange, red and dark red colors.

To understand what is the underlying cause of the final severity depiction, refer to the individual WSSI component maps

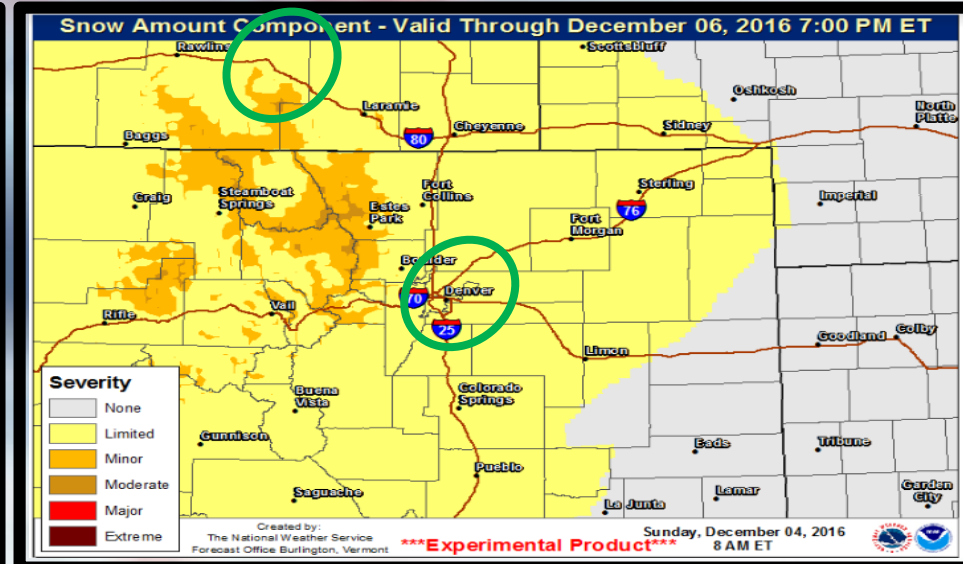
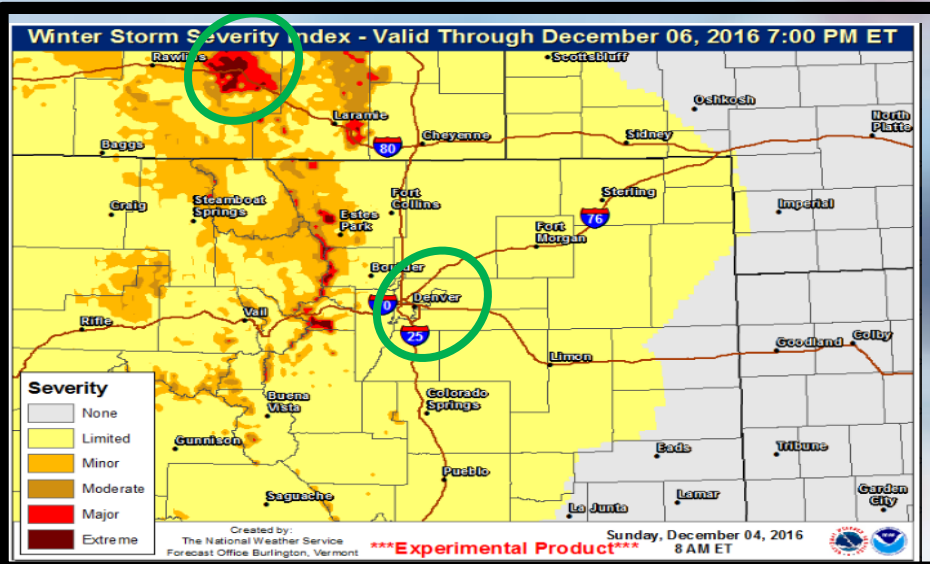


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WSSI – How to Interpret (Example)

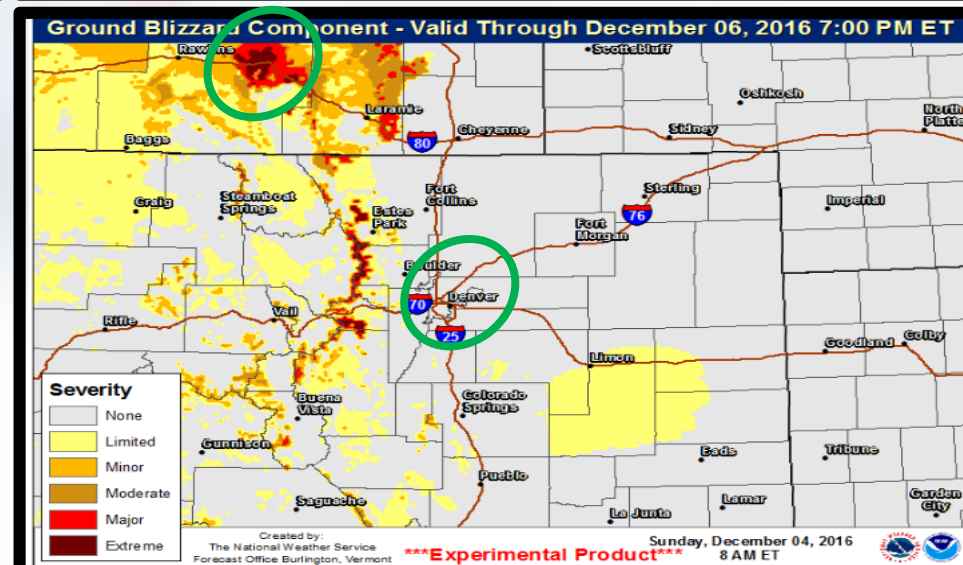


Top Left: WSSI depiction. Note “Major” to “Extreme” in southeast Wyoming and “Limited” around Denver

Top Right: Snow amount matches WSSI around Denver, so snow is the primary aspect of the winter weather. Not the case in Wyoming.

Bottom Right: Ground Blizzard is a match for Wyoming. That is then the primary aspect there. No ground blizzard potential for the Denver area.

Final interpretation: Expect quite severe ground blizzard conditions in southeast WY. While Denver will experience snow that won't disrupt daily life.



WSSI – Please Provide Feedback

We want to hear from you regarding this experimental product. Does it meet your needs? Does it need improvements? Please click on the survey link (*as highlighted*) on the WSSI Project webpage.

Winter Storm Severity Index Burlington, VT
Weather Forecast Office

[Weather.gov](#) > [Burlington, VT](#) > Winter Storm Severity Index

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The purpose of this experimental Winter Storm Severity Index (WSSI) is to provide NWS partners and the general public with an indication of the level of winter precipitation (snow and ice) severity and its potential related societal impacts. The WSSI does not depict official warnings, and should always be used in context with official NWS forecasts and warnings. Because this is an experimental product, it may not update in a timely fashion. Always check the creation and valid times. For more information, please refer to the following links: [Product/Service Description Document](#), WSSI Project briefing, [Internal Resources Page \(NWS Access Only\)](#)

Please provide us your feedback [here](#).

Winter Storm Severity Index - Valid Through December 11, 2016 7:00 PM ET
Last Updated: Friday December 09, 2016 06:00 AM ET

SWITCH IMAGE SWITCH BASEMAP

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ESRI, HERE, DELORME, FAO, NOAA, USGS, EPA

Severity Level None Limited Minor Moderate Major Extreme

Click legend for a detailed description of severity levels

Change image opacity: 100%

