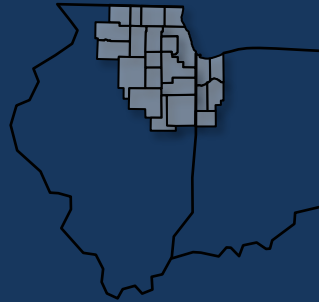


NWS Chicago 2021-2022 Winter Services Webinar



NWS Chicago, IL Experimental Winter Weather Liaison Webpage

This page will auto-update every 15 minutes.

If you notice old data, try reloading the page while ignoring caching by hitting Shift + F5 on a PC, or Command + R on a Mac.

[Back to NWS Chicago, IL Main Page](#)

Webcams

Snowfall Reports

0-36 Hours

Days 1.5-4

Days 4-7+

Planning & Resources

Snowfall Observations

Observed Snowfall Analysis

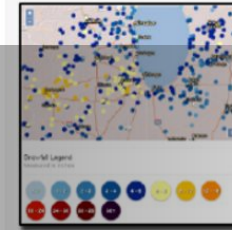
Based on reports over the past 12 hours

[Color-Coded Local and National Snow Report Map](#)



NWS Local Storm Report Snowfall Total Analysis

36 reports over past 12 hours till 21 Sep 2021 08:58 AM, grid size: 20km, Rbf: linear



Text Summary Issued:

09/08/2021 03:50:36 PM CST

| | |
|---|-----|
| -----Planning Snowfall2: Summary----- | |
| 36-hour Snowfall2: Summary for 09/08/2021 | |
| Maximum 24-hour | 0.0 |
| Maximum 36-hour | 0.0 |
| Maximum 48-hour | 0.0 |
| Maximum 72-hour | 0.0 |
| Maximum 96-hour | 0.0 |
| Maximum 120-hour | 0.0 |
| Maximum 144-hour | 0.0 |
| Maximum 168-hour | 0.0 |
| Maximum 192-hour | 0.0 |
| Maximum 216-hour | 0.0 |
| Maximum 240-hour | 0.0 |
| Maximum 264-hour | 0.0 |
| Maximum 288-hour | 0.0 |
| Maximum 312-hour | 0.0 |
| Maximum 336-hour | 0.0 |
| Maximum 360-hour | 0.0 |

Winter Weather Liaison Webpage

General Refresher/Walkthrough

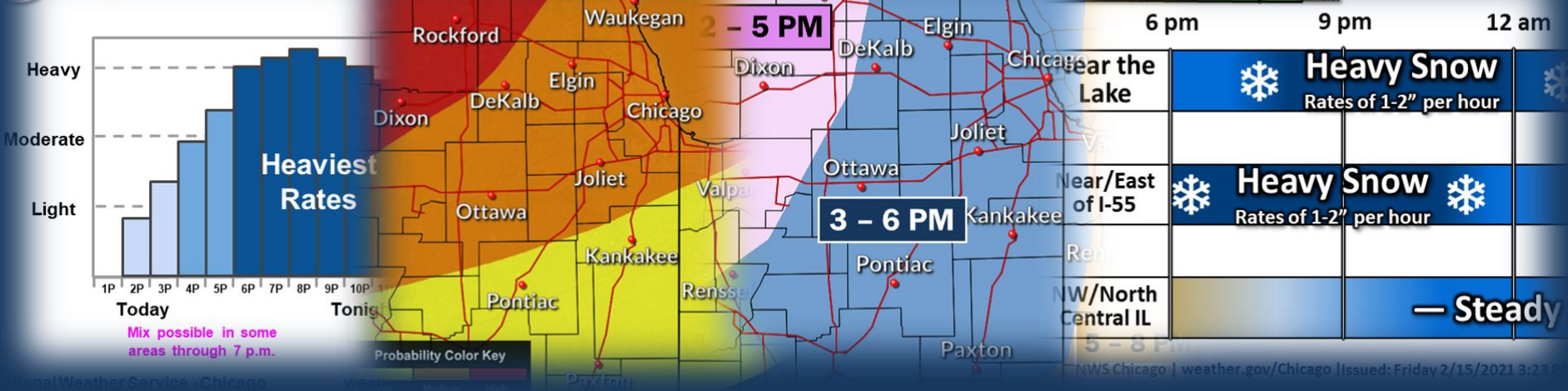


Forecast Snowfall Rates

1"+ per hour rates likely at times

Potential for Travel Impacts

TONIGHT



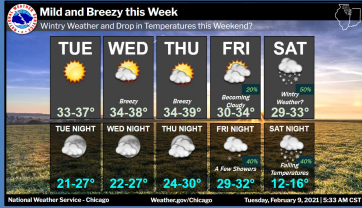
NWS Chicago Graphics & Automated Products

Product Walkthrough and Interpretation

Lower Confidence

Forecast Days

Higher Confidence



Mention potential
(Icon & text on the day)

4-6 Outlook

Sub headline/outline day
“Footprints” (no amounts)
Probabilistic WPC info



Lower Confidence

Forecast Days

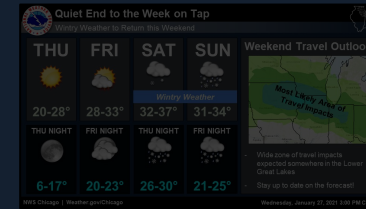
Higher Confidence



Mention potential
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4-6
Outlook

Sub headline/outline day
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Probabilistic map
Photo of potential impacts
Limiting timing wording to "Day/Night"
Outline areas of higher uncertainty

2-3
"Watch"

Map with probabilistic threat map or snow ranges
General timing & duration
Magnitude of impacts
Headlines

Impactful Winter Weather Possible Mon P.M. - Early Tue
Storm track uncertainty remains

What We Know:

- Forecast increasing for a south of significant (1") rainfall somewhere across the area Monday afternoon through early Tuesday
- Quiet northeast winds may also result in occasional fogging impacts
- Windy mix potential increasing for at least south of I-80 with ice accumulations possible

What We Don't Know:

- Expected heavy 2,000+ miles away! As a result, the storm track remains uncertain.

SUGGESTED ACTIONS:

- Continue to check the latest forecast.
- Prepare for possible significant travel impacts.

Additional Details:

- Wave 1: Early Sunday Morning
- Wave 2: Sunday Night - Tuesday
- Difficult Travel Conditions, Especially Monday
- Location of Greatest Impacts

Suggested Actions:

- Stay up to date with the latest forecast.
- Prepare for possible travel impacts.

Impactful Winter Storm Potential: Monday PM - Tuesday AM
Continue to check back for the latest forecast!

Potential for 6" of Snow

IMPACTS:

- Snow likely heavy at times, Mon afternoon & evening into Tue morning with significant accum possible
- Some icing likely south and possibly near I-80

TIMING:

- Beginning from south to north on Mon and then persisting through midday Tue

INCREASING CONFIDENCE POINTS:

- Heavy snow over at least a portion of northern Illinois
- Some icing south of I-80

LOWER CONFIDENCE POINTS:

- How far north mixed precipitation will reach
- Duration of snow into Tuesday and thus total amounts

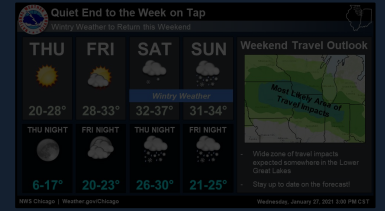
← Lower Confidence Forecast Days Higher Confidence →



Mention potential
(Icon & text on the day)

4-6 Outlook

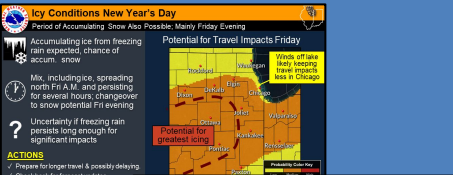
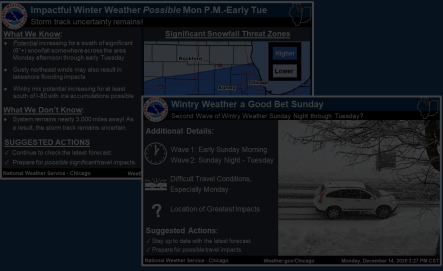
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2-3 "Watch"

Map with probabilistic threat map or snow ranges
General timing & duration
Magnitude of impacts
Headlines



Higher Accumulations
Probabilistic amounts?
Outline areas of uncertainty

<36 hrs "Warning"

Deterministic maps highlighting gradients/higher uncertainty
Start, heaviest, end times
P-types
General rates
Temperatures & Winds?
Headline info



Lighter Accumulations
Start & end times
Expected Impacts
Picture Examples



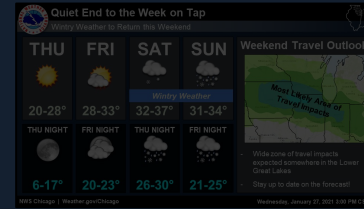
← Lower Confidence Forecast Days Higher Confidence →



Mention potential
(Icon & text on the day)

4-6
Outlook

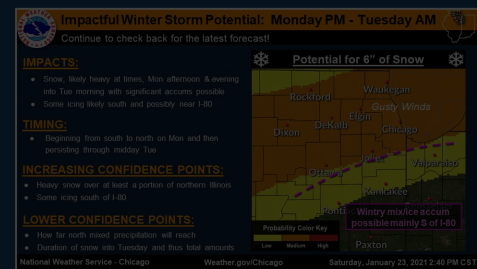
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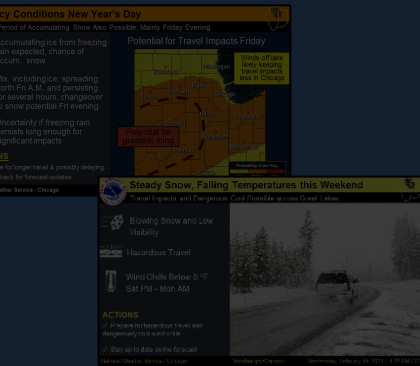
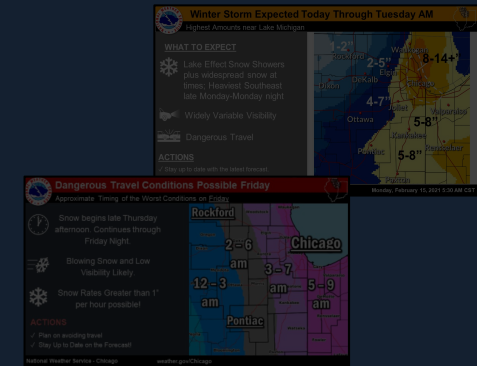


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Probabilistic amounts?
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<36 hrs
"Warning"

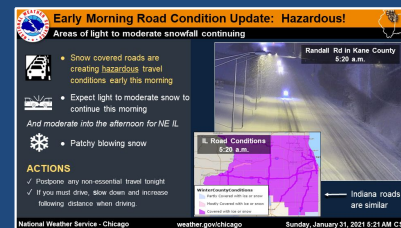
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Headline info

Lighter Accumulations
Start & end times
Expected Impacts
Picture Examples

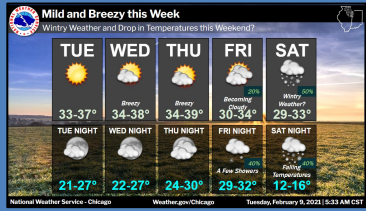


Ongoing "G-NOW"

Webcam images
Road condition maps
Radar
Incorporating INDOT & IDOT updates
Snow/Ice reports (LSRs & summaries)



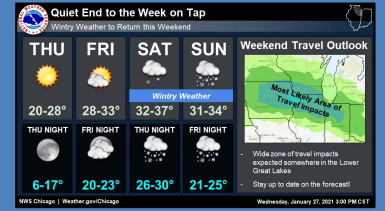
← Lower Confidence Forecast Days Higher Confidence →



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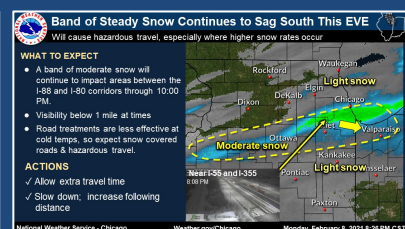
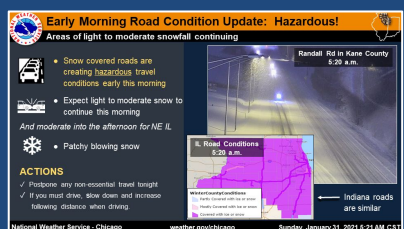
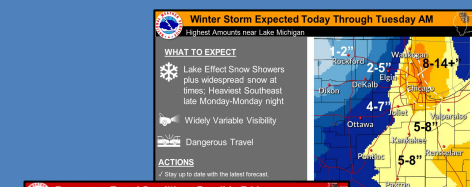
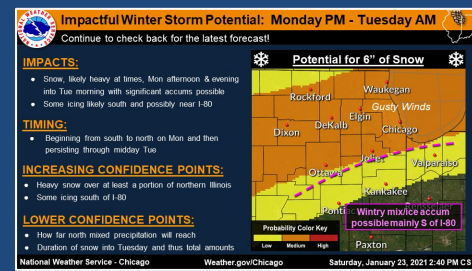
<36 hrs
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Deterministic maps highlighting
gradients/higher uncertainty
Start, heaviest, end times
P-types
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Lighter Accumulations
Start & end times
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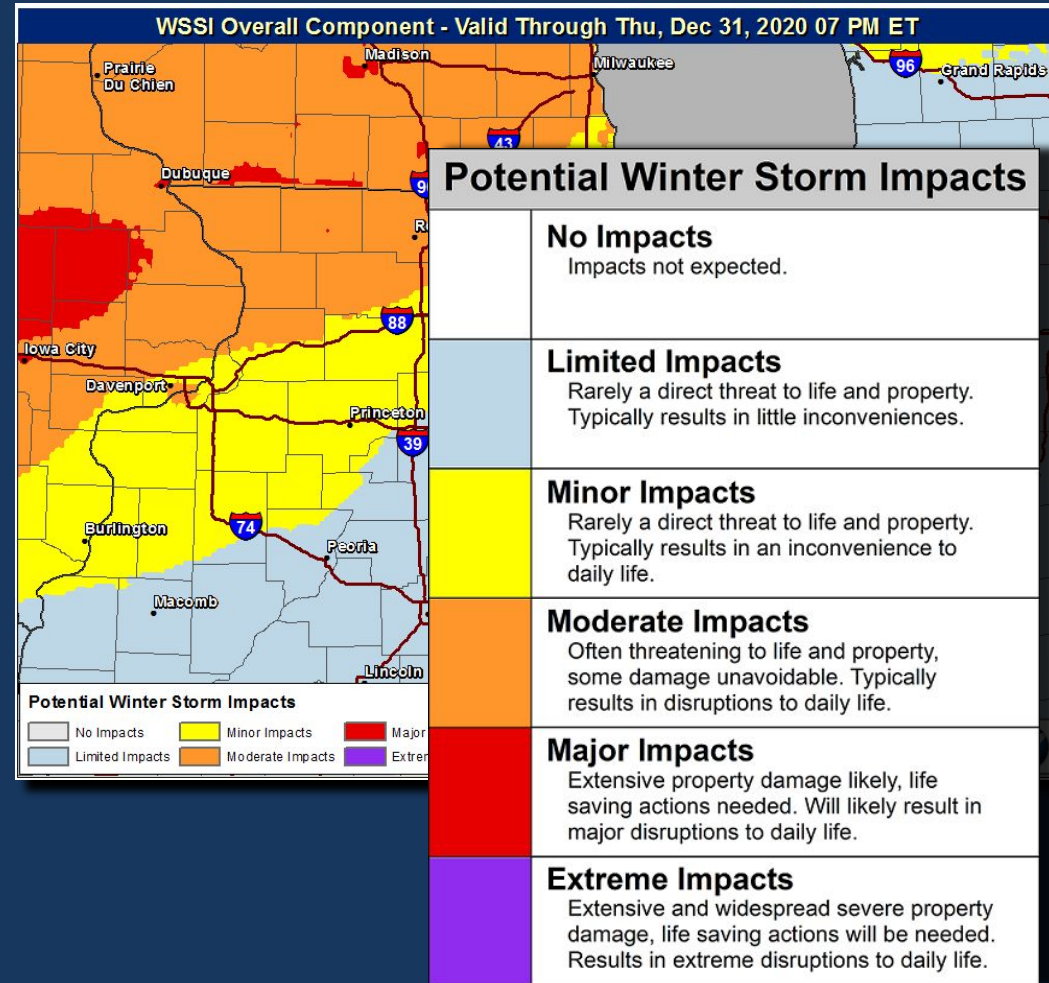
Ongoing
"G-NOW"

Webcam images
Road condition maps
Radar
Incorporating INDOT & IDOT updates
Snow/Ice reports
(LSRs & summaries)



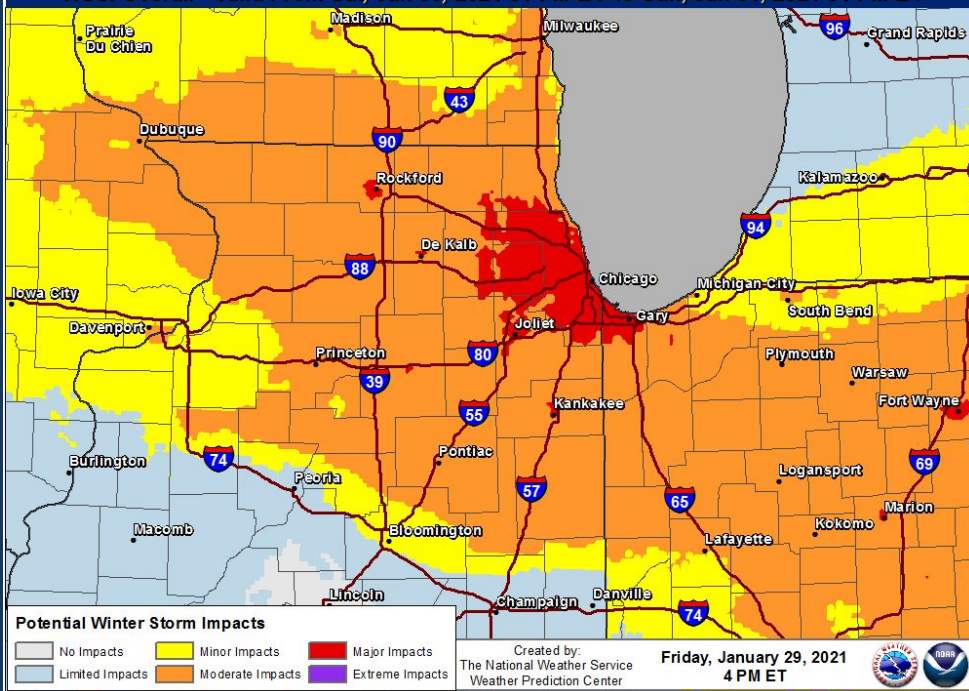
Winter Storm Severity Index (WSSI)

- A tool to help communicate a general level of potential societal impacts due to a winter event.
- Uses our NWS snow and ice forecast and combines it with information on local infrastructure, snowfall climatology, the potential for blowing snow, etc. to produce a color-coded map of expected impacts →
- Available through 3 days. There is an experimental version through 4 days that is linked/viewable on the winter weather liaison page.



Winter Storm Severity Index (WSSI)

WSSI Overall - Valid From Sat, Jan 30, 2021 01 PM ET To Sun, Jan 31, 2021 01 PM ET



Benefits:

- ✓ Offers a quick, generalized view of potential winter-related impacts through 3-4 days
- ✓ A product marrying weather and its impacts

Drawbacks:

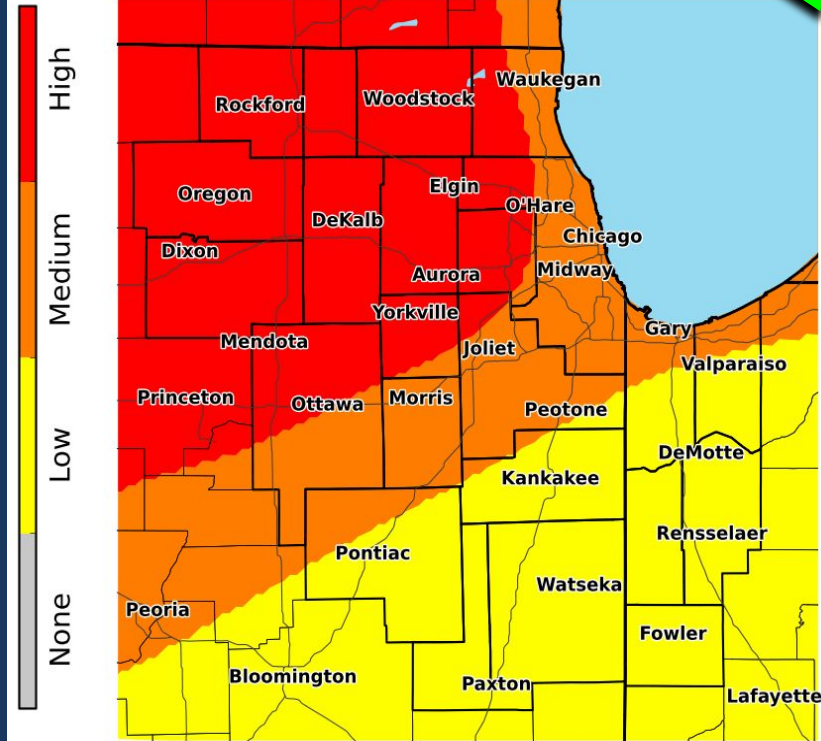
- ✗ Doesn't account for conditions that have already occurred: when a winter event is ongoing, the WSSI will NOT be representative of the entire event
- ✗ Does not provide expected snow or ice amounts

✗ Like the hourly graphs, the WSSI provides no information about forecast uncertainty

Probabilistic Exceedance Maps

Potential for at least 2" of Snow

Valid: Tue December 29 2020 1:00 PM - Wed December 30 2020 7:00 PM



- Chance of exceeding a **certain threshold** over a **time range**

NOTE: Snow (or ice) may not be forecast during the entire listed time range!

- Maps are automated and created using our local snow (or ice) forecast. Additional ensemble data is automatically added to build out the probabilities.
- Available for Snowfall $\geq 2''$, $4''$, and $6''$ and Ice Accumulations $\geq 0.10''$, $0.25''$, and $0.50''$
- **Yellow (10-39%), Orange (40-69%), Red ($\geq 70\%$)** chance of occurring
 - **Key Point:** Probability values are *continuous* (not a "stoplight": higher probabilities near Joliet than Peotone), but limiting color thresholds aids usability.



National Weather Service
Chicago Illinois
09/30/2021 05:29 AM CDT

Follow Us:   
weather.gov/lot/winter

Probabilistic Exceedance Maps

Benefits:

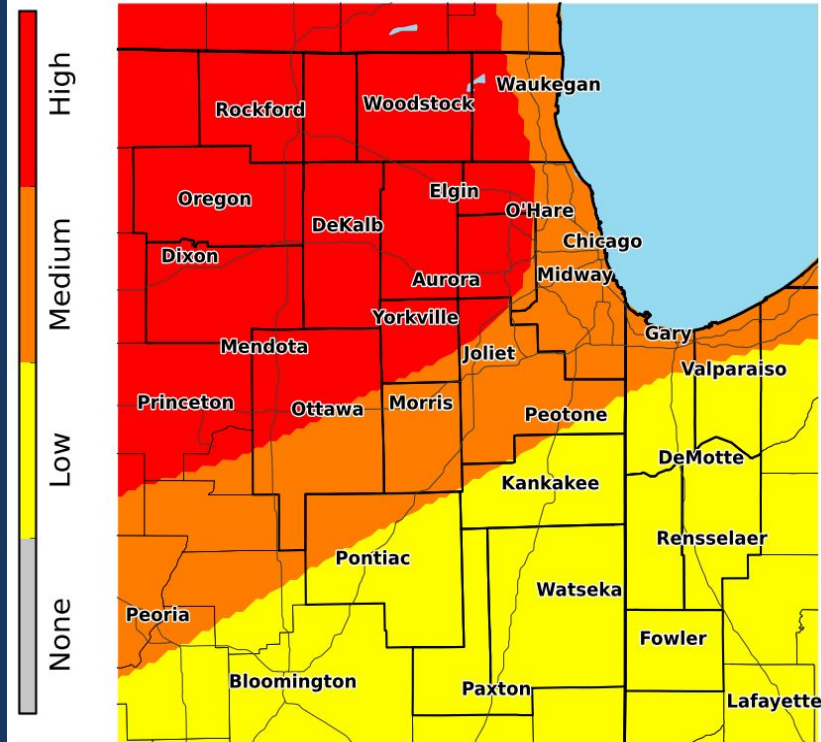
- ✓ Provide an overview of a *range* of potential snow or ice accumulations (available for $\geq 2, 4, 6$ " of snow and $\geq 0.10, 0.25, 0.5$ " ice & can compare to one another)
- ✓ May help show a level of uncertainty (or confidence) in a specific snow or ice amount's forecast
 - *Example: Latest forecast calls for 1" or less of snow, but exceedance map may show a low chance of >2 "*

Drawbacks:

- ✗ Does not provide specific timing information
- ✗ Does not show the potential for high RATES over short periods of time (i.e. > 1 " / hour)
- ✗ (Currently) only updated twice per day

Potential for at least 2" of Snow

Valid: Tue December 29 2020 1:00 PM - Wed December 30 2020 7:00 PM



National Weather Service
Chicago Illinois
09/30/2021 05:29 AM CDT

Follow Us: [f](#) [t](#) [v](#)
weather.gov/lot/winter



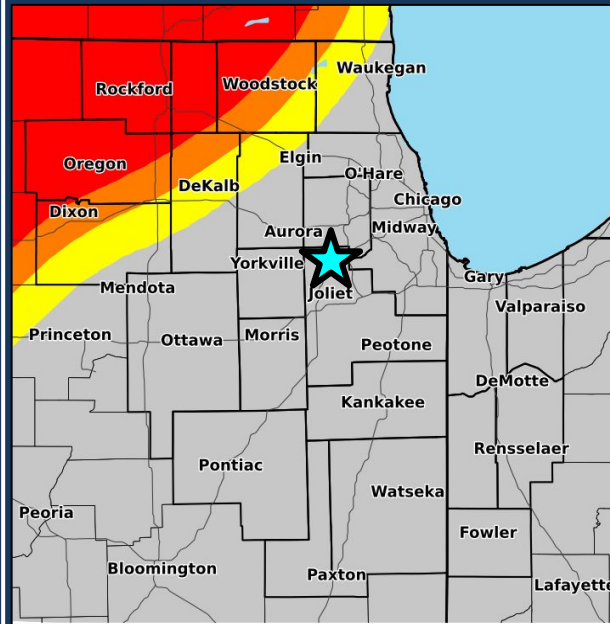
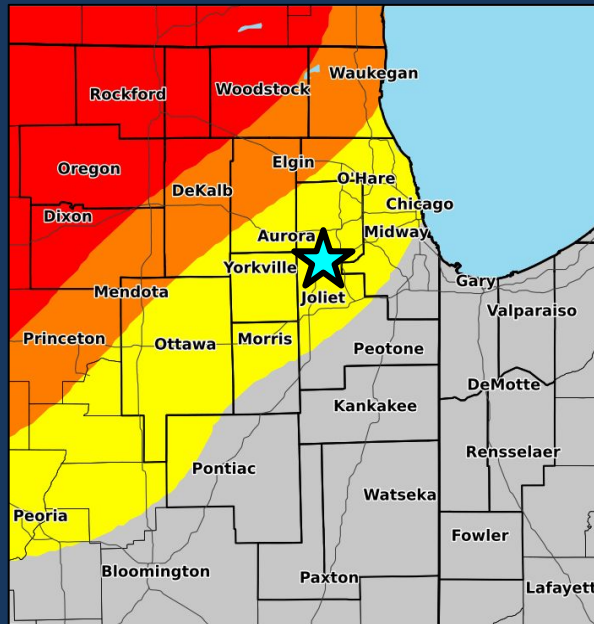
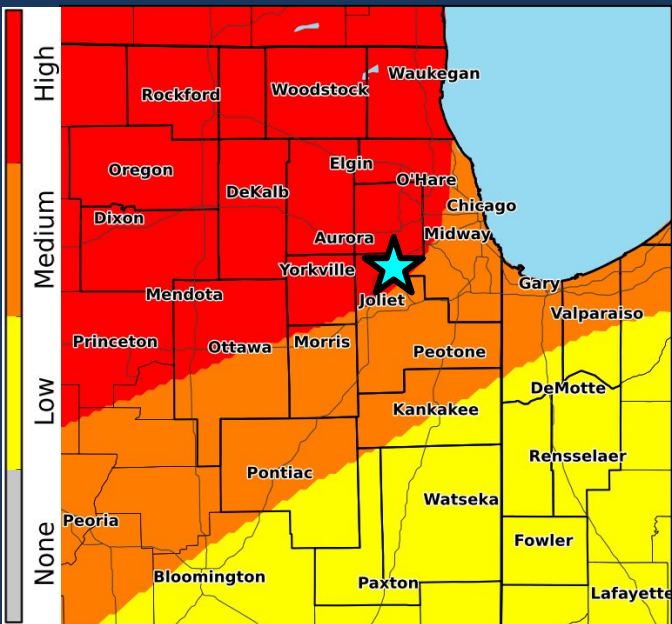
Probabilistic Exceedance Maps

Valid: Tue December 29 2020 1:00 PM - Wed December 30 2020 7:00 PM

Potential for at least 2" of snow

Potential for at least 4" of snow

Potential for at least 6" of snow



Based on these three plots alone, what is a reasonable snowfall range to expect for this event near Bolingbrook, Illinois (cyan star)?

- 1-2"
- **2-4"**
- 4-6"



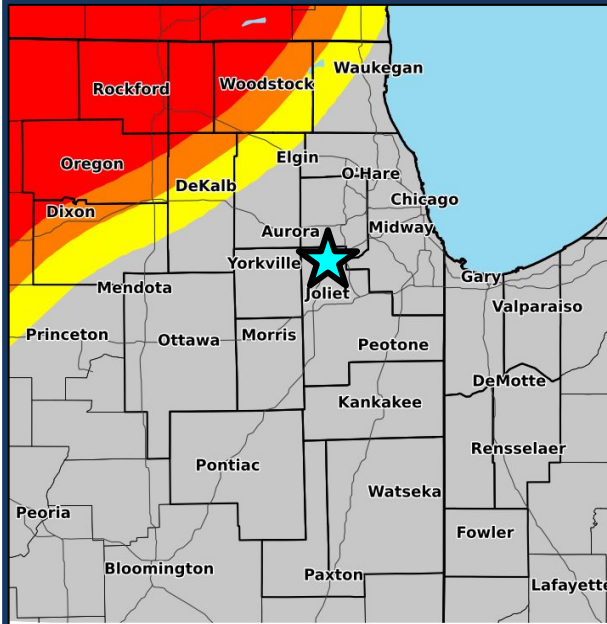
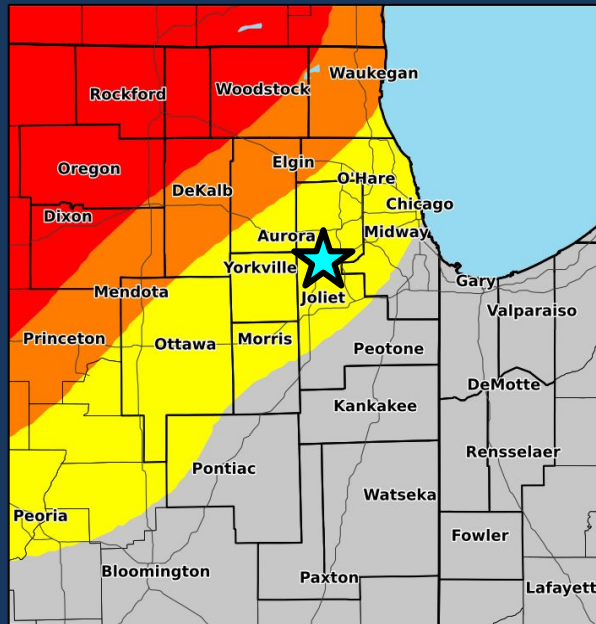
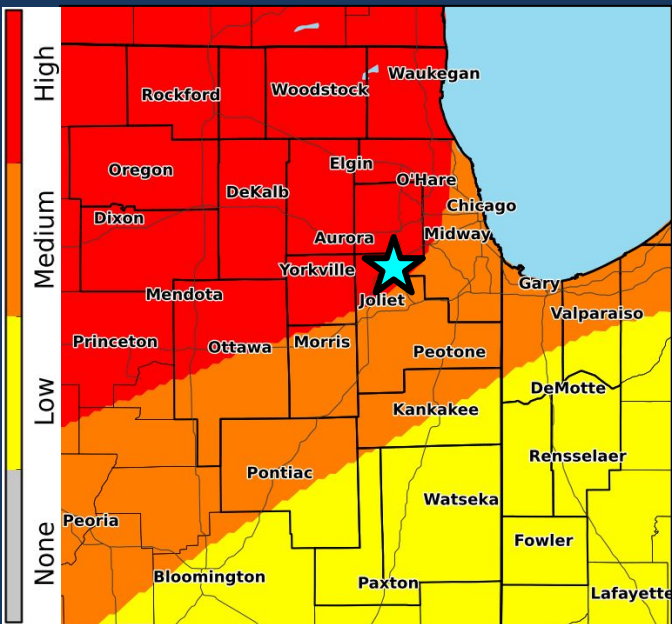
Probabilistic Exceedance Maps

Valid: Tue December 29 2020 1:00 PM - Wed December 30 2020 7:00 PM

Potential for at least 2" of snow

Potential for at least 4" of snow

Potential for at least 6" of snow



Are you concerned that you still might see 4-5" of snow from this event?

- Yes, but right now it's a fairly low potential (<35%)
- Nope!



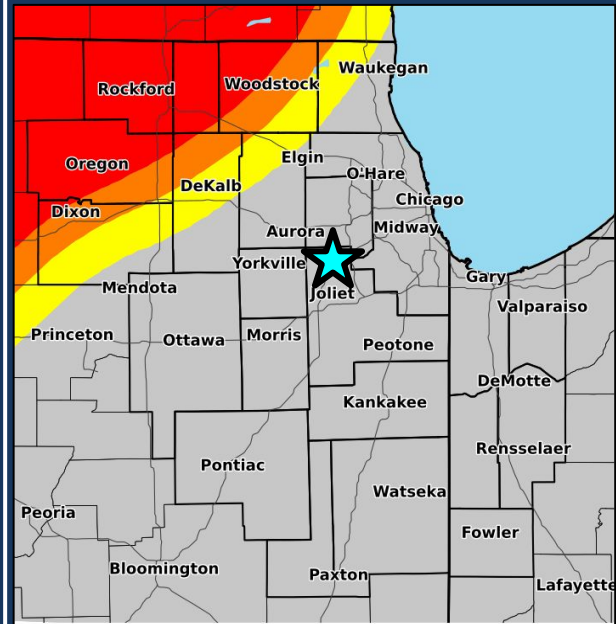
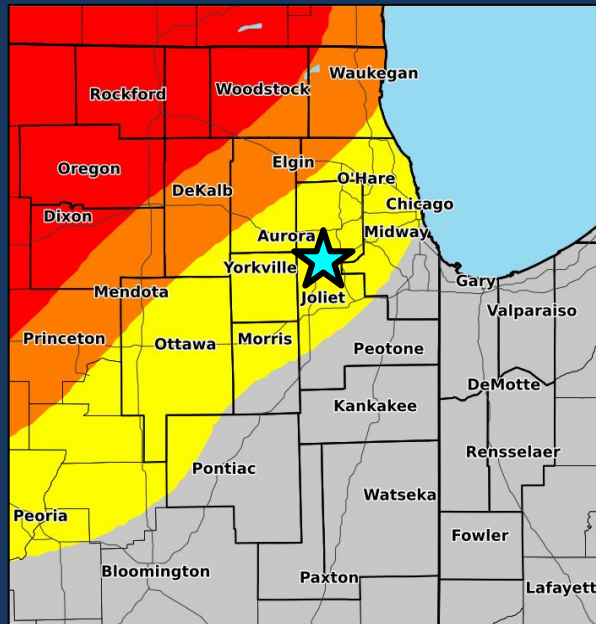
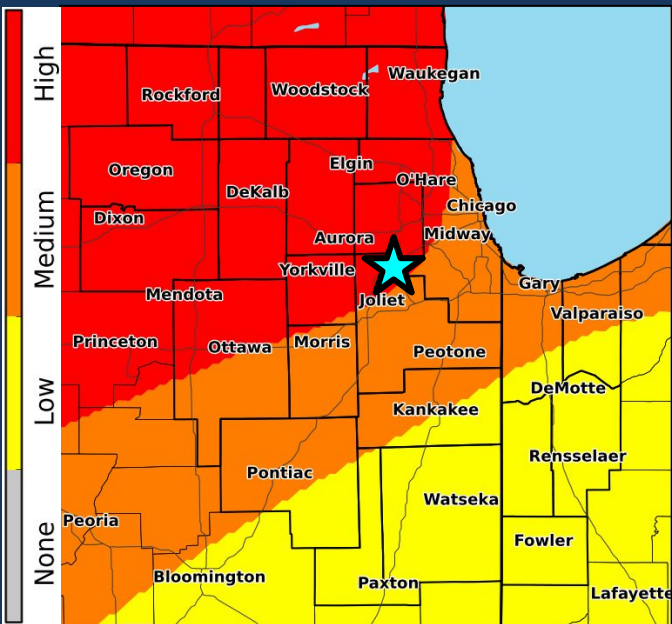
Probabilistic Exceedance Maps

Valid: Tue December 29 2020 1:00 PM - Wed December 30 2020 7:00 PM

Potential for at least 2" of snow

Potential for at least 4" of snow

Potential for at least 6" of snow



When will the snow start?

- **Not enough information in these graphics**
- 1 PM on Tuesday, December 29, 2020



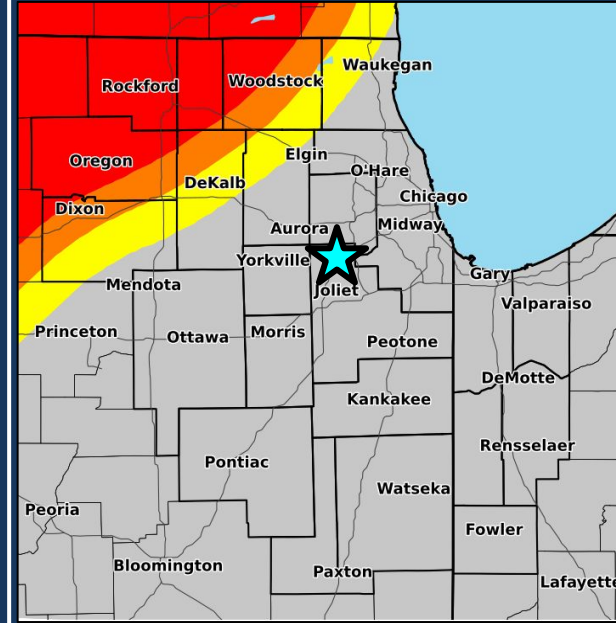
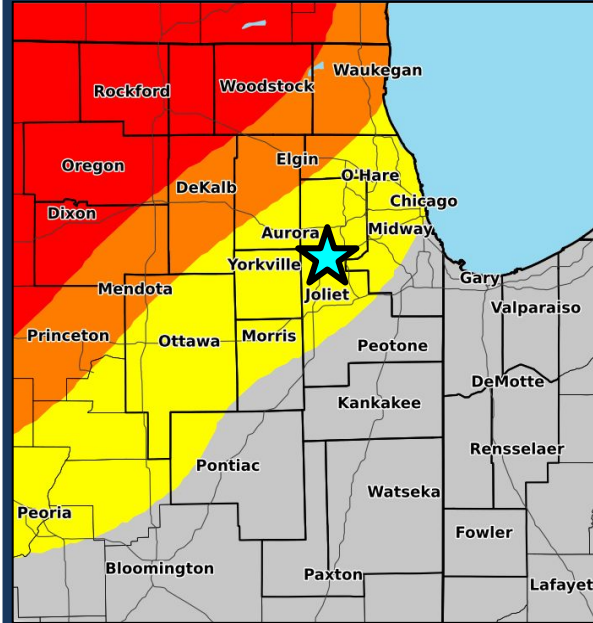
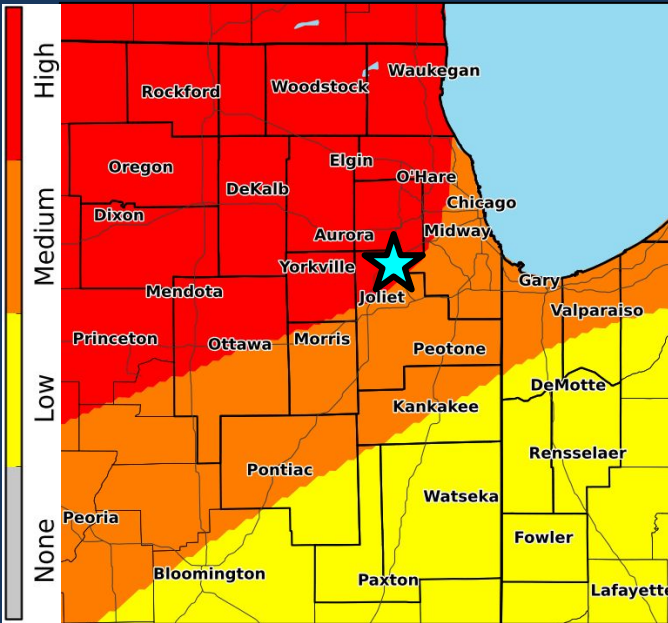
Probabilistic Exceedance Maps

Valid: Tue December 29 2020 1:00 PM - Wed December 30 2020 7:00 PM

Potential for at least 2" of snow

Potential for at least 4" of snow

Potential for at least 6" of snow

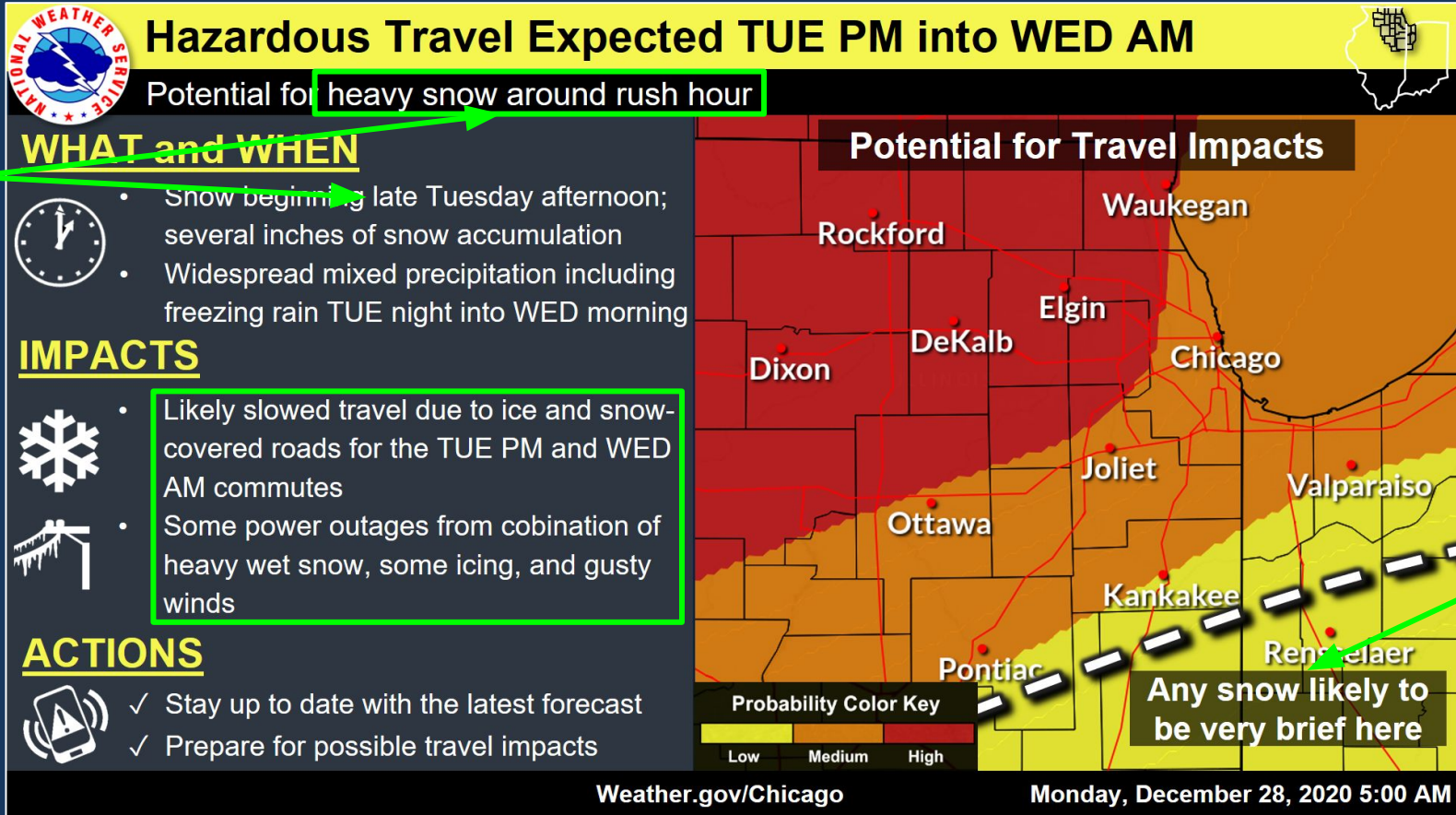


Is there a potential for high snowfall rates greater than 1" per hour?

- Yes
- No
- **Not enough information in these graphics**



Example "Weather Story" Graphic



Timing info added

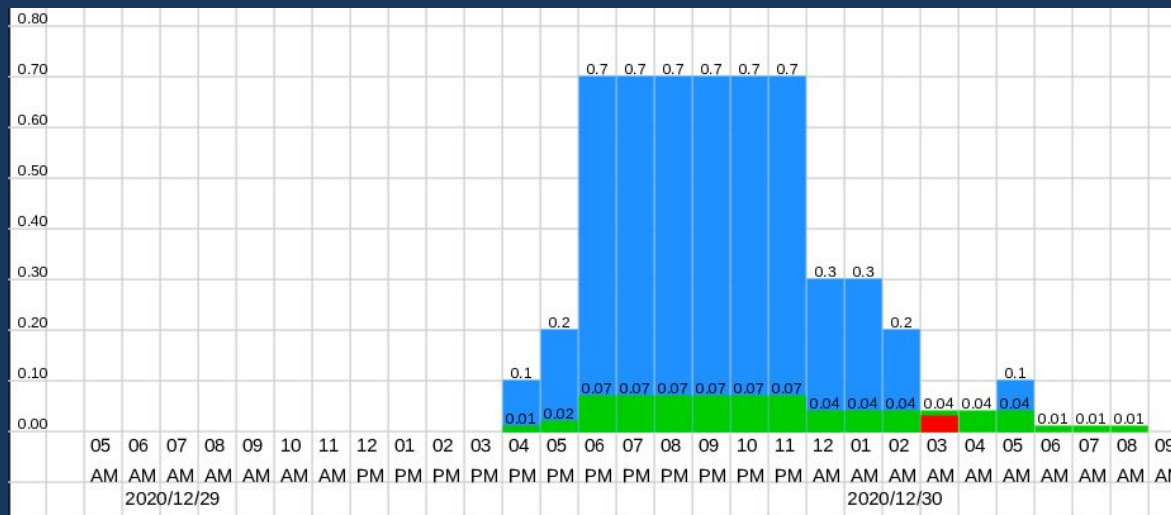
Some specific impacts outlined

Refinement to snow duration

This graphic issued ~40 hours before snow was expected to start. Note that there is no formal mention of snowfall amounts anywhere in the graphic.

Hourly/Timing Graphs

Rain Total=0.72 Snow Total=5.4
Ice Total=0.03



- Available hourly graphs to 36 hours
- For this season: rain (green) boxes will only be plotted when rain is expected as a weather-type
- Total amounts of Snow, Rain, and Ice for the 30-hour period will display in the top right.

Benefits:

- ✓ Display additional information about snowfall rate, timing
- ✓ Most-likely precipitation types highlighted
- ✓ Can highlight periods where snowfall rates may be near or exceed 1" per hour*

Drawbacks:

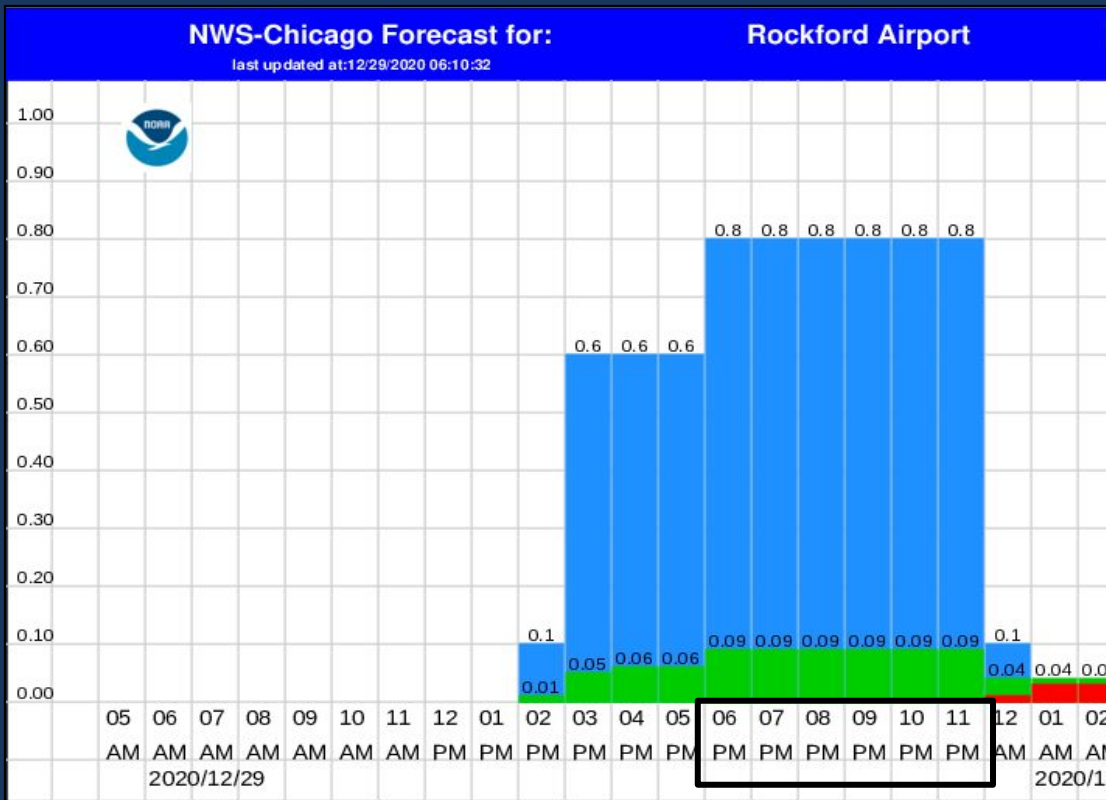
- ✗ Provide no information about forecast uncertainty
- ✗ Only available for certain points (may be expanded)

Hourly/Timing Graphs

Example:

This example shows what a very strong signal for heavy snowfall might look like on these hourly plots.

In this case, this was for snow overspreading the Rockford area--and likely a very problematic time during the afternoon rush!



Bill Snyder @billyweather

3PM UPDATE: Snow overspreading the area from the S/SW. Expect road conditions to deteriorate quickly. #ilwx @WGNNews @Ivory_WGN @AlbertRamonTV

Mike Janssen @MikeJanssenWX · Dec 29, 2020
The #snow has arrived in southwest Kankakee County & it covered the ground. Here's the view from the Herscher @WeatherBug camera. @billyweather @Skilling @NWSChicago #ilwx

3:05 PM · Dec 29, 2020 · Twitter for Android

Hourly/Timing Graphs

This is another example from a different event (the evening before) in which the hourly weather graph may not tell the entire story.

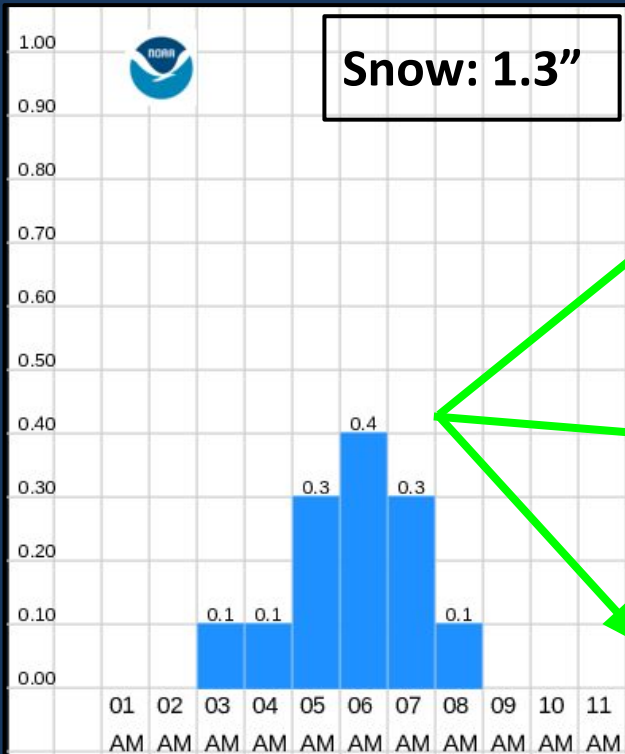


Additional information?

...Light Snowfall and Slippery Travel Overnight into Wednesday...

A fast moving weather disturbance will bring a period of light to occasionally moderate snow overnight into Wednesday morning. Accumulations will range from a coating to 1-2" in some locations. The higher amounts will likely occur in a corridor bounded roughly by LaSalle-Peru to Joliet to Gary on the north and Chenoa to Kankakee to Kouts Indiana on the south. With temperatures dropping to the mid and upper 20s to around 30 by early Wednesday, slippery travel is probable on some roadways. Motorists are advised to be prepared for the potential for some travel impacts Wednesday morning. Leave extra time to reach your destination.

Snow: 1.3"



Approximate Start and End Time of Overnight into Wed. AM Snow



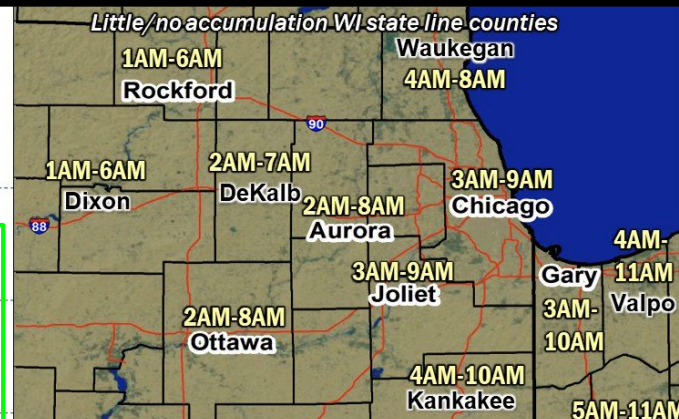
Snow

Rates: Light to moderate
Amounts: Coating to up to 2"



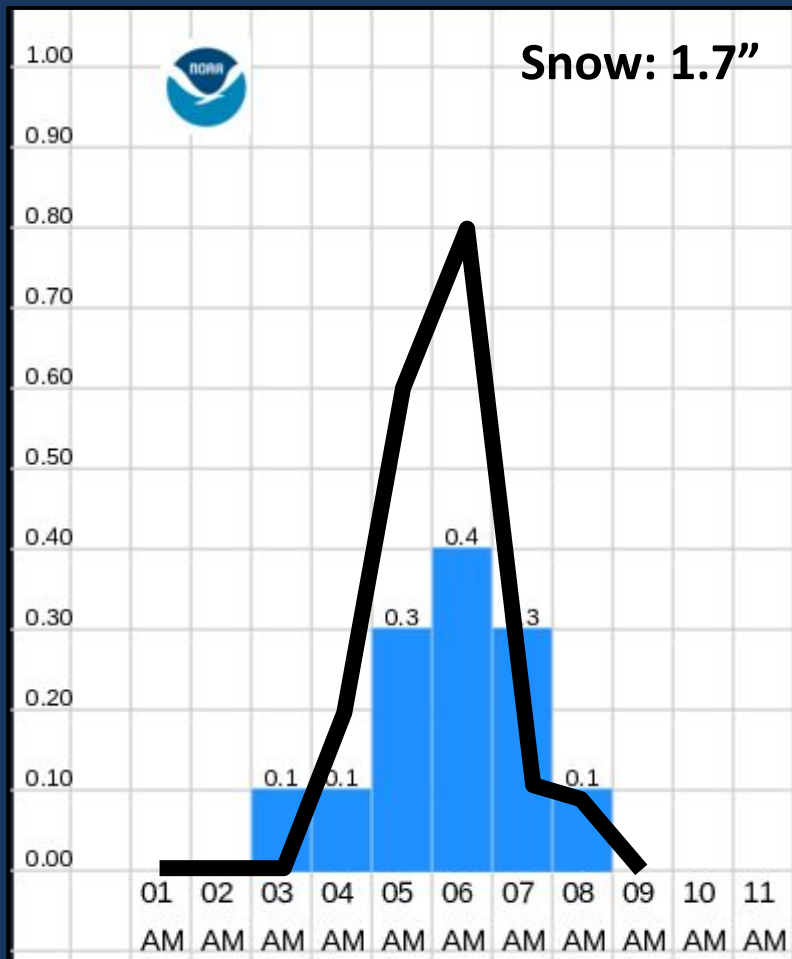
Temperatures

About 26° to 32° during the accumulating snow



our northwest Indiana counties. With temperatures falling to a few to several degrees below freezing and likelihood that roadways are sans residual treatments from the winter, some slippery roadways appear to be a decent bet. With that in mind, opted to issue an SPS from Lee County east-northeastward to all of Cook County and points south. ← Area Forecast Discussion

Hourly/Timing Graphs



Here's the forecast hourly snowfall graph again

← In reality, while timing was very good, the snowfall rates for this event looked more like this: very brief but sharp burst of snow arriving right around the morning rush.

Most roadways were fine, but below-freezing overpasses resulted in sharply-varying conditions on (elevated) area interstates. Additionally, rain the previous several days had essentially washed any lingering road treatments away.



April 15, 2020 Chicago-area “Tax Day” Pileup

“Light” Snow Event, but MAJOR Impacts



NWS Chicago Retweeted

INDOT Northwest @INDOTNorthwest · Apr 15
A few examples of what visibility and road conditions look like right now. Please SLOW DOWN and be cautious if you are out on the roads this morning. #INThisTogether

NWS Chicago @NWSChicago · Apr 15
Multiple Interstates are closed across northeast Illinois. Illinois State Police are advising people to STAY OFF THE ROADS early this morning. If you don't have to travel, stay home! If you do travel, there major accidents all over the place, do not plan to get anywhere quickly.

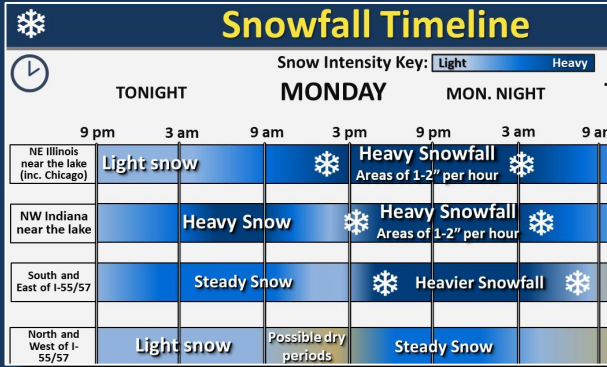
Chicago Fire Media @CFDMedia · Apr 15
Numerous accidents still be reported due to low traction around the city. Do not use Kennedy at this time. Be aware of low traction on all expressways and some surface streets.

NWS Chicago Retweeted

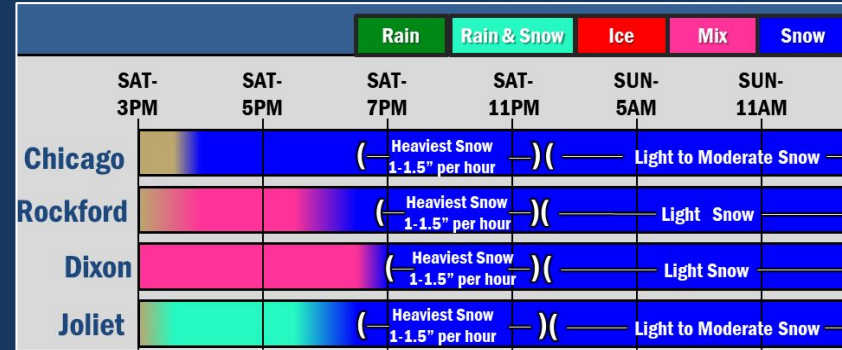
Chicago Fire Media @CFDMedia · Apr 15
EMS plan 2 for Kennedy expressway approx 50 vehicles in crash event. About north avenue. Low traction on expressway causing multiple collisions. No media staging yet. CFD media trying to get to scene. Several transports

Hourly/Timing Graphs: Other Variations

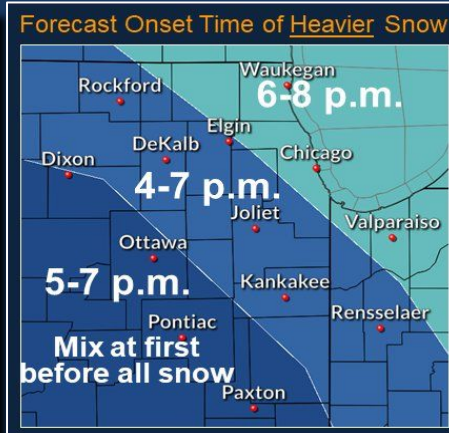
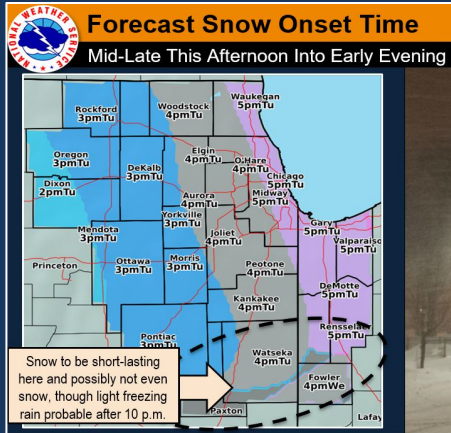
Hourly/timing graphs may take on many forms and work their way into our Weather Story Graphs. One graphic alone can't convey all available information → May need to use multiple graphics together & in tandem with other products



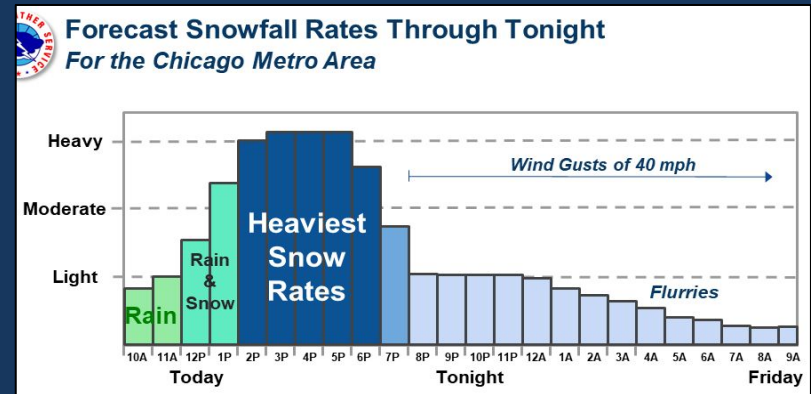
Multiple locations w/ embedded rate information



"Plan View" maps



General area/location summary graphic



Forecast Graphics & Images Takeaways

- Each has its set of strengths and weaknesses: one graphic can't convey it all!
- Don't rely on one graphic over another: use each to help paint a picture of the range of outcomes

Exceedance Maps

Supplemental information highlighting CONFIDENCE and ADDITIONAL OUTCOMES

Headlines

Winter Weather Advisories, Winter Storm Watches, or Warnings, Special Weather Statements, etc.

Weather Stories & DSS Packets

“Value-Added” products

General overviews (summaries) focusing on the WHAT, WHERE, WHEN, & IMPACTS

Forecast Discussions

May help address areas of uncertainty in the forecast

WSSI

General (automated) look at IMPACTS over a broad area

Point-and-Click

Point-specific weather data for any location

Hourly Graphs

More POINT-SPECIFIC information on TIMING & RATES