



Active Weather Continues This Week

March 31, 2025
5:17 AM

Severe Thunderstorm and Flooding Potential

Key Messages

- Unsettled weather continues from mid-week into the weekend.
- Slight risk (2 of 5) for severe storms Tuesday night, increasing to an Enhanced risk (3 of 5) on Wednesday.
- Confidence increasing in potential for heavy rainfall and flooding late week into next weekend.

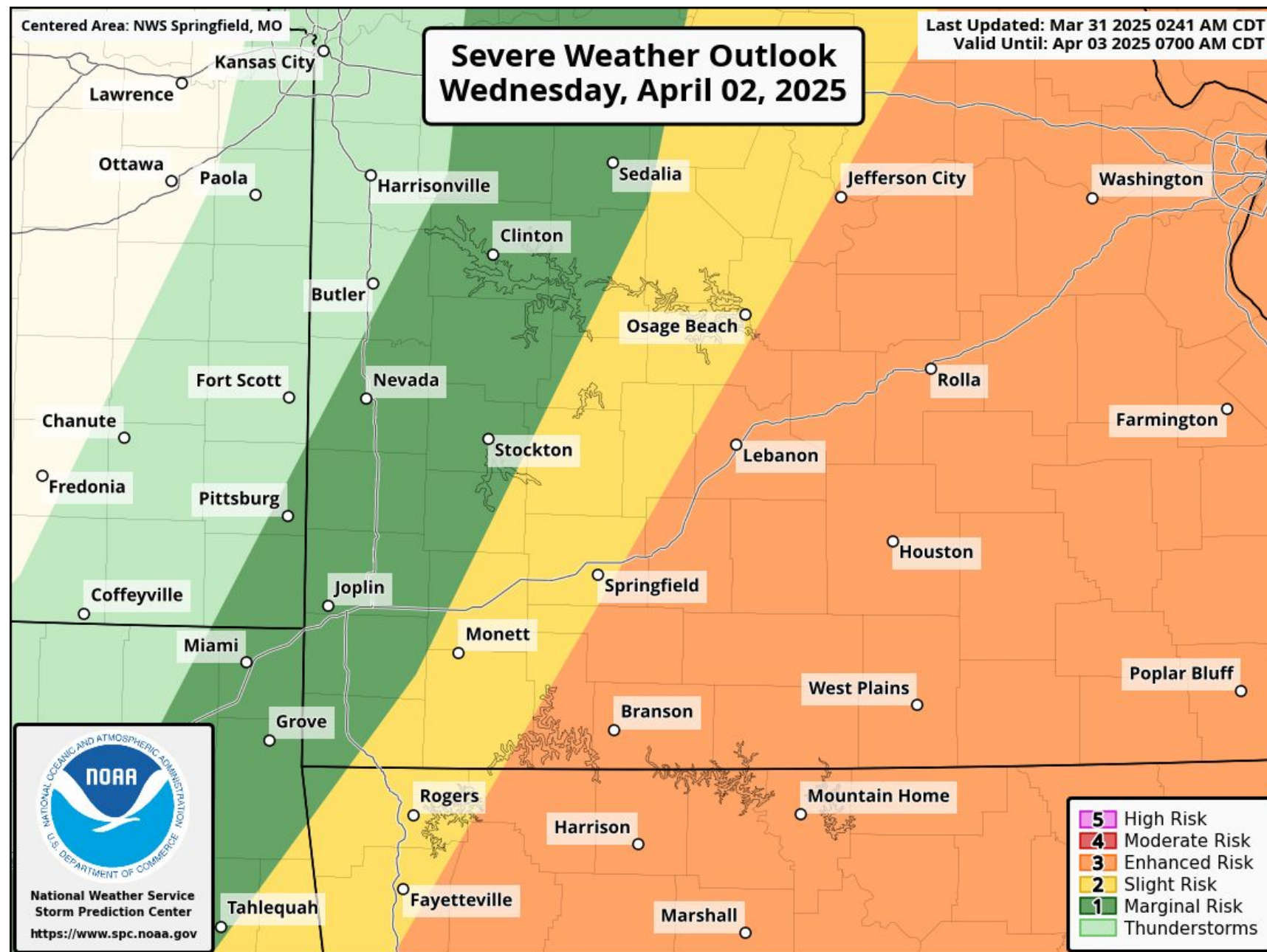
NEW

Important Updates

- Slight eastward expansion of Tuesday Slight Risk
- Introduction of chance for significant severe Wednesday.
- Moderate Excessive Rainfall Outlook for Friday.

Next Scheduled Briefing

- Monday afternoon, March 31st



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Springfield, MO



Slight Risk Tuesday

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Best timing is during the evening and into the overnight hours.

Overview

- A conditional threat for severe thunderstorms exists Tuesday evening into the overnight hours.
- Potential for isolated supercells in the evening along and west of I-49. All hazards possible.
- Then, potential for a line of storms moving through the whole area overnight. Damaging winds would be the main hazard with these.
- Exact timing still uncertain.

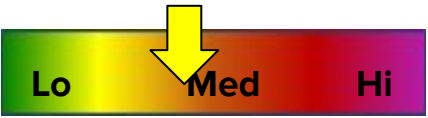
Severe Threats



Tornado



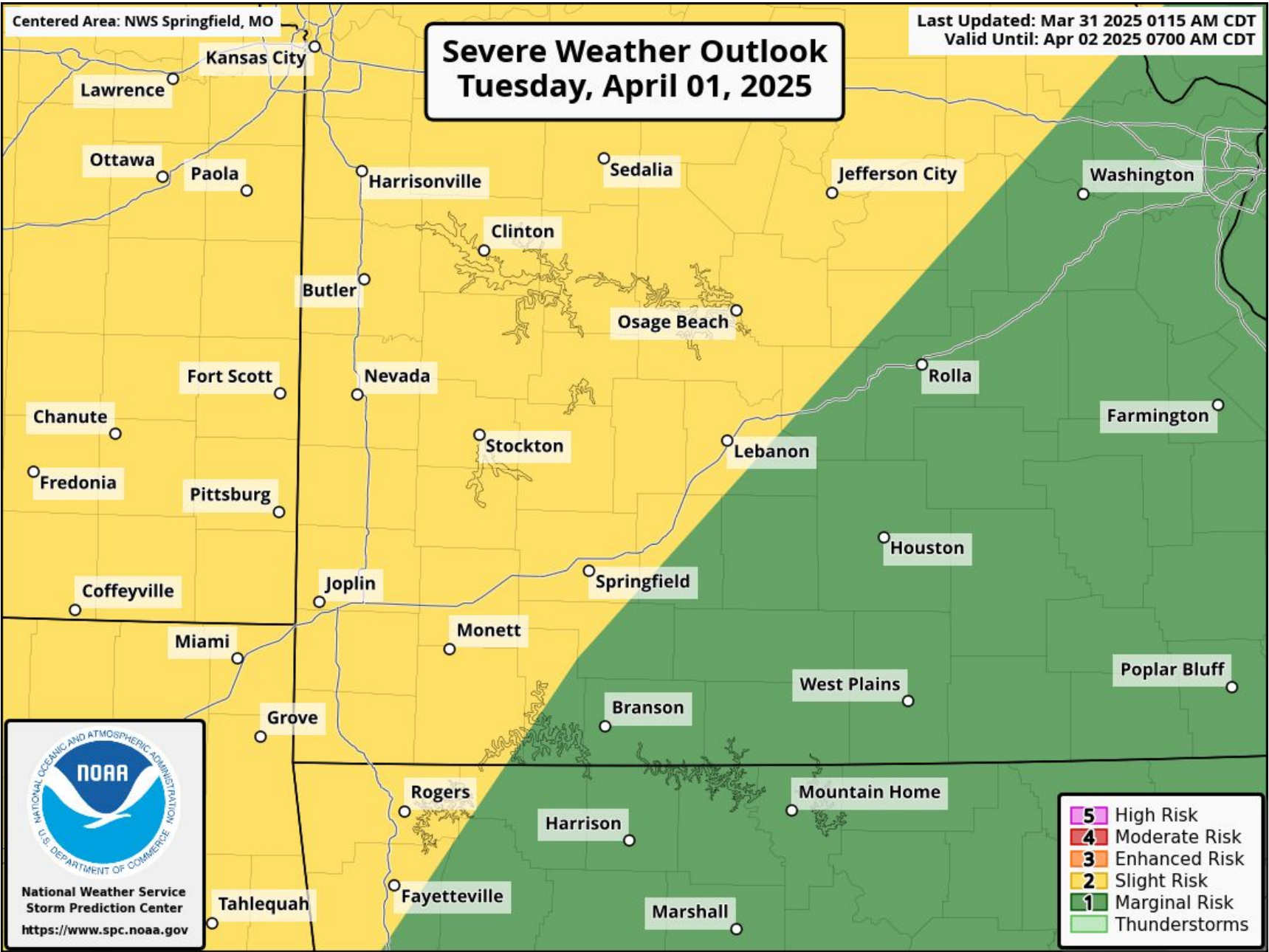
Hail



Wind



Flooding



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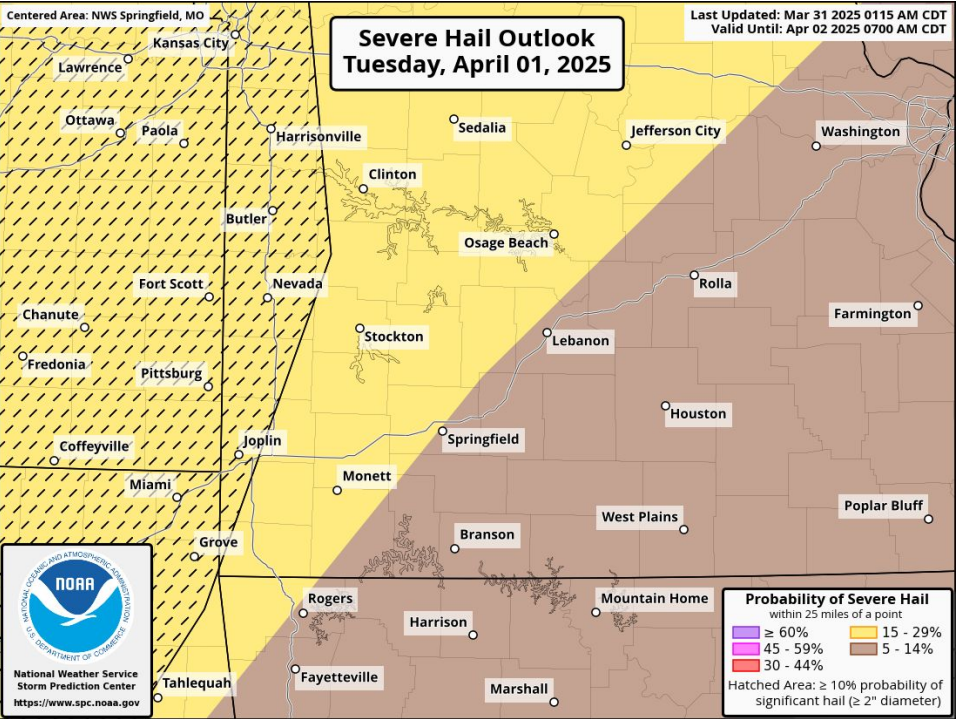
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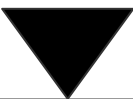
Severe Hazard Probabilities Tuesday

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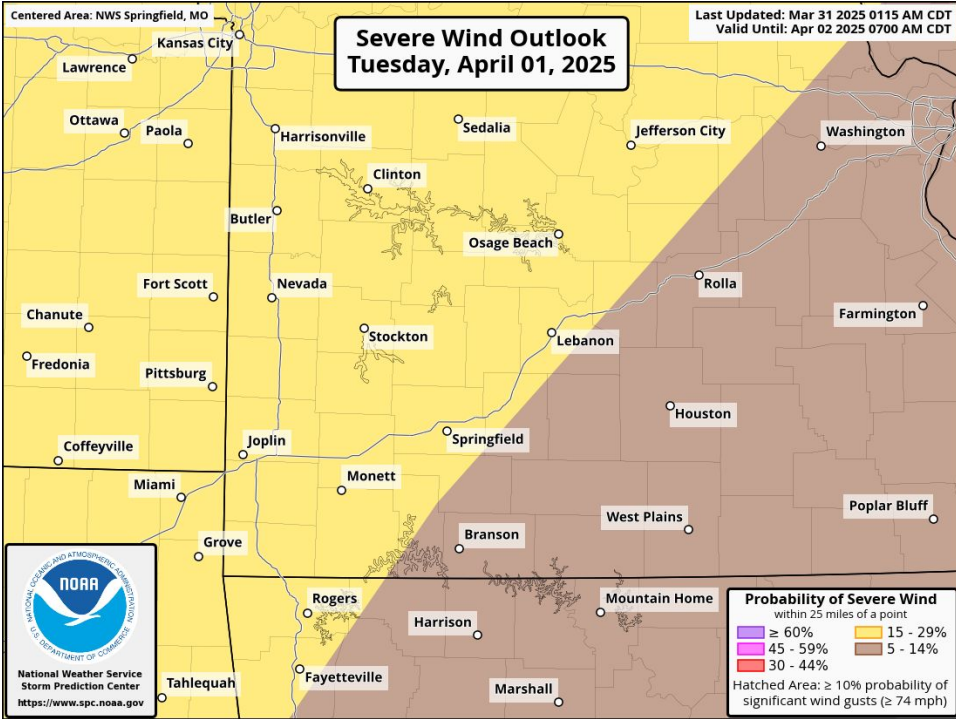
Very large hail up to tennis balls possible along and west of I-49



Hail Probability



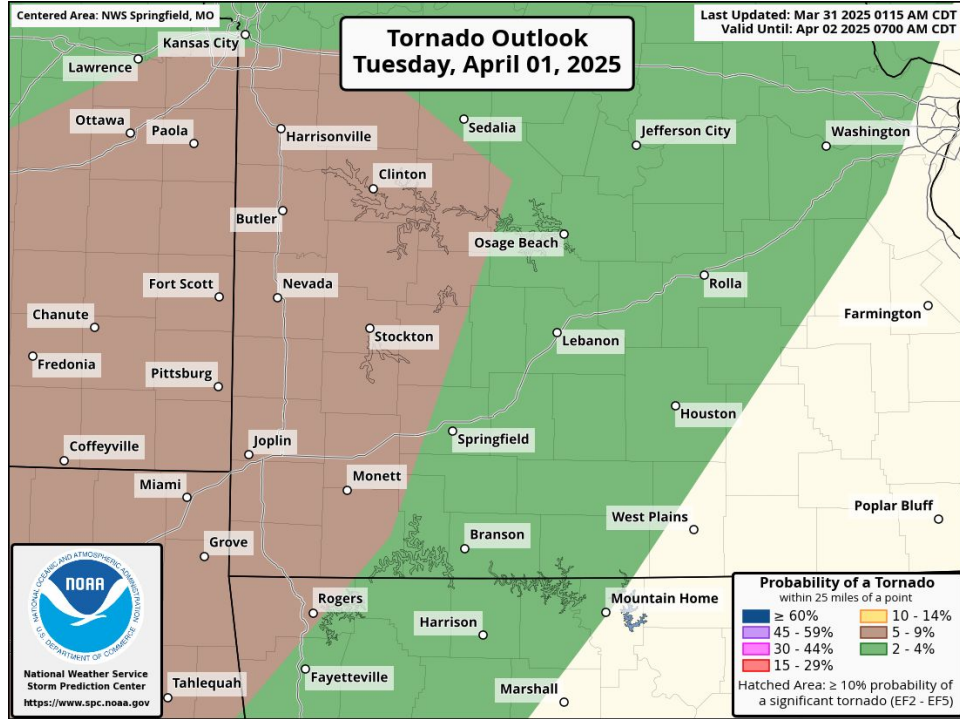
Pennies	Quarters	Golf Balls	Baseballs
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Wind Probability



< 60 mph	60-70 mph	70-80 mph	>80 mph
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Tornado Probability



Very Low	Low	Moderate	High
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Confidence Levels for Tuesday

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Threats are conditional at the moment.

Confidence on Location



Confidence on Timing



Confidence in Severe Occurrence



Confidence in Flooding Occurrence



Confidence Details

- Severe threat is very conditional based on the strength and speed of moisture/instability return Tuesday. Model spread shows zero to moderate instability.
- Medium-low confidence in a line of storms developing along the cold front overnight Tuesday.
- Low confidence in isolated supercells late Tuesday evening along and west of I-49.

Alternate Scenarios

- There is a potential scenario where stout capping inhibits any thunderstorm from developing. This is most to keep isolated supercells from developing in the evening, but strong forcing later at night could overcome this.
- If isolated supercells are able to develop, the hazard ceiling is high with all hazards possible including tornadoes and hail up to the size of tennis balls. These would mainly be along and west of I-49



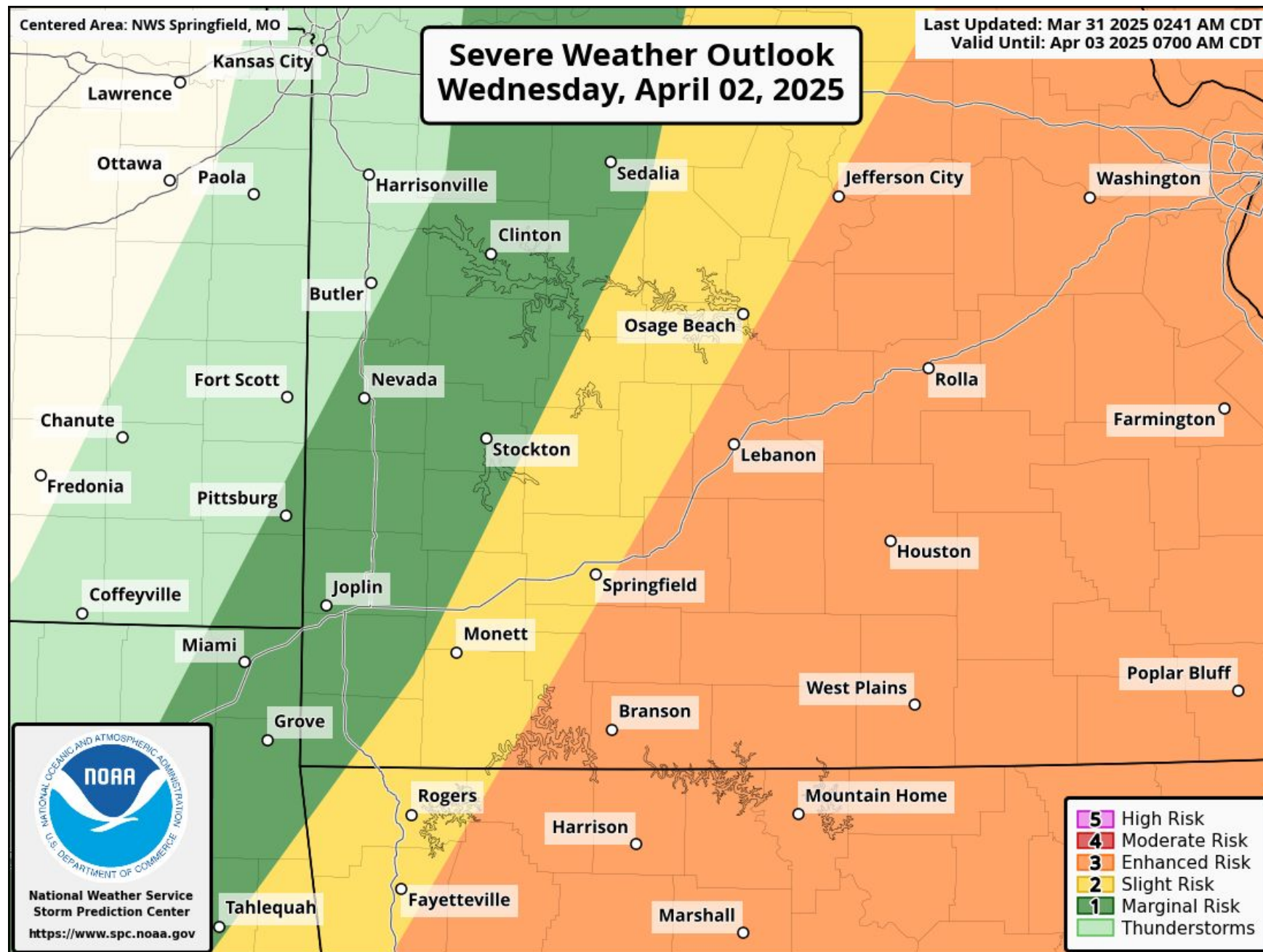


Enhanced Risk Wednesday

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Key Points

- Additional severe thunderstorms are possible Wednesday for much of our forecast area.
- Much like our last severe event, the exact location of the Enhanced Risk (Orange) will be dependent on the behavior of storms Tuesday night.
- If storms do form, the environment will be conducive for all hazards, potentially significant.
- Per the Storm Prediction Center's Discussion: "Very large hail, significant tornadoes, and damaging winds all appear likely".



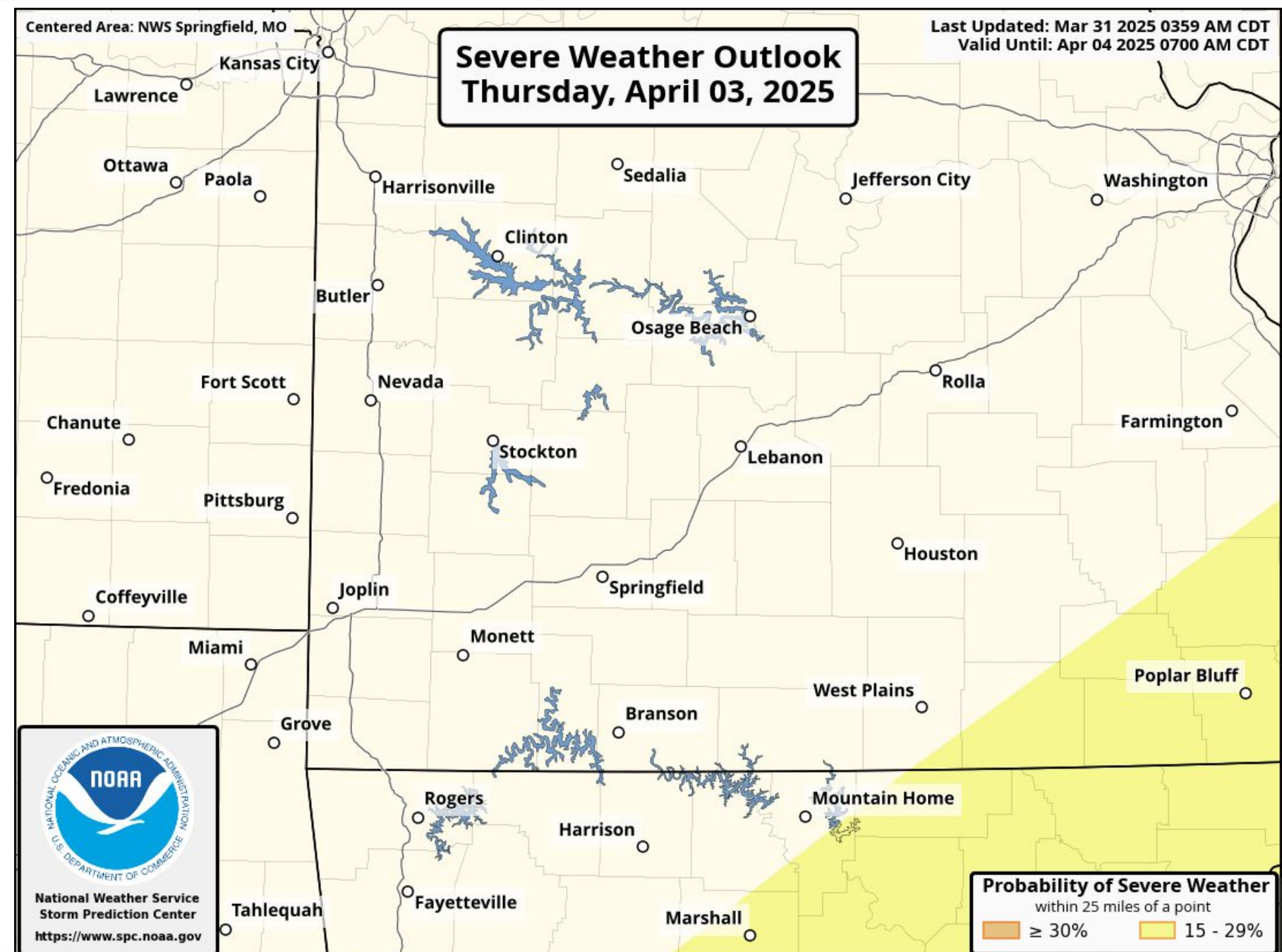


Severe Risk Thursday

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Key Points

- Additional severe thunderstorms are possible on Thursday in our far southeast forecast area.
- Details remain uncertain and the exact delineation of the 15% risk will likely change.
- With a stalled front likely to our south, any severe threat would be from elevated storms, meaning hail would be the main hazard.



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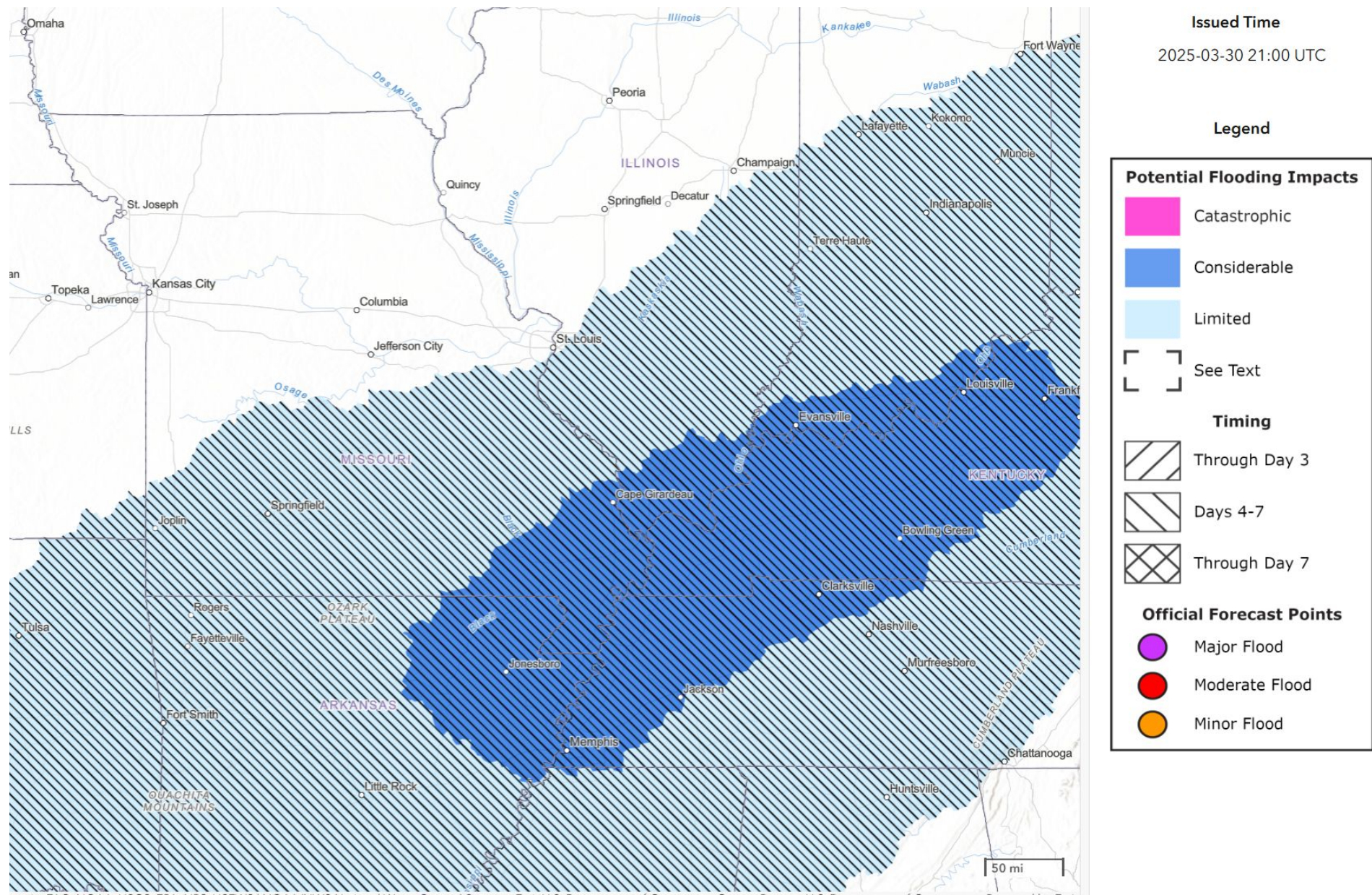


Late Week Flooding Potential

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Key Points

- Several rounds of heavy rainfall look to occur Wednesday through Saturday.
- Several inches of rainfall could add up which would cause flash flooding and increased river levels.
- There is already a signal for considerable flooding impacts across southeast Missouri into the Ohio river valley.



Experimental Flood Hazard Outlook (Late Week)





Excessive Rainfall Outlooks

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Wednesday - Wednesday Night

What

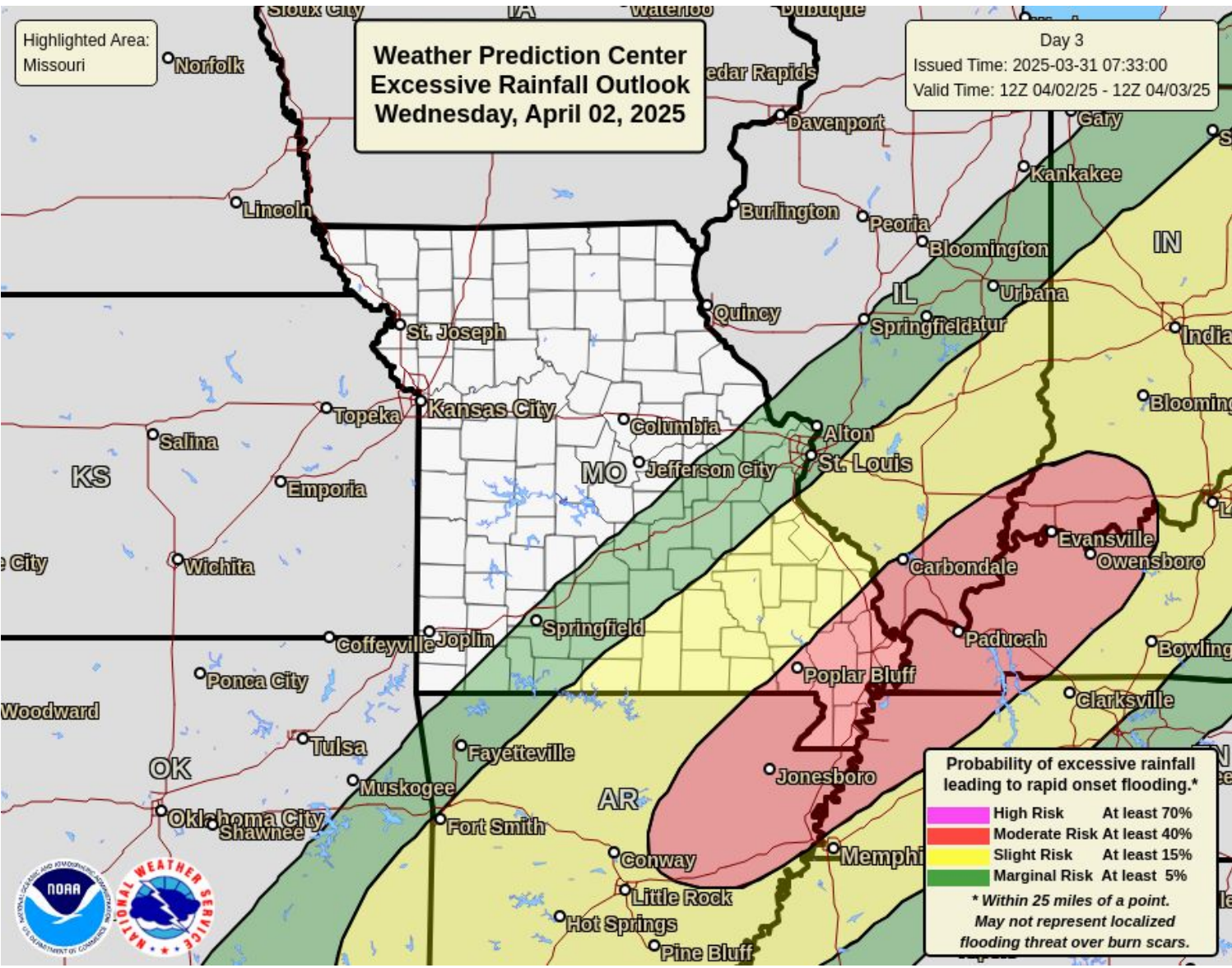
- Several inches of rainfall could occur from repeated rounds of thunderstorms. This would cause flash flooding and increased river levels.

Where

- Highest chances of excessive rainfall and flooding are southeast of Springfield across south central Missouri.

When

- The first round will occur Wednesday with additional daily rounds Thursday, Friday and Saturday.



Wednesday - Wednesday Night

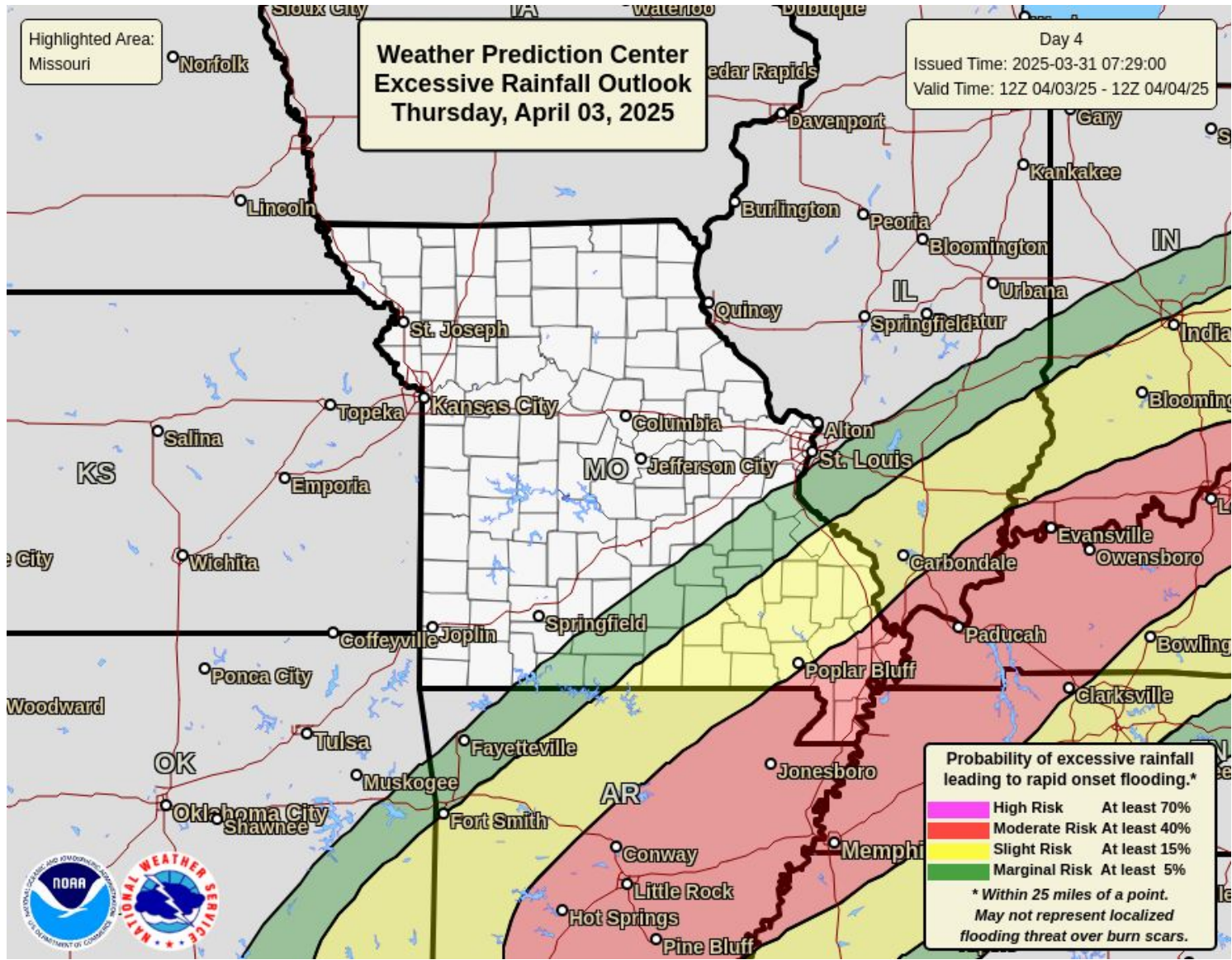




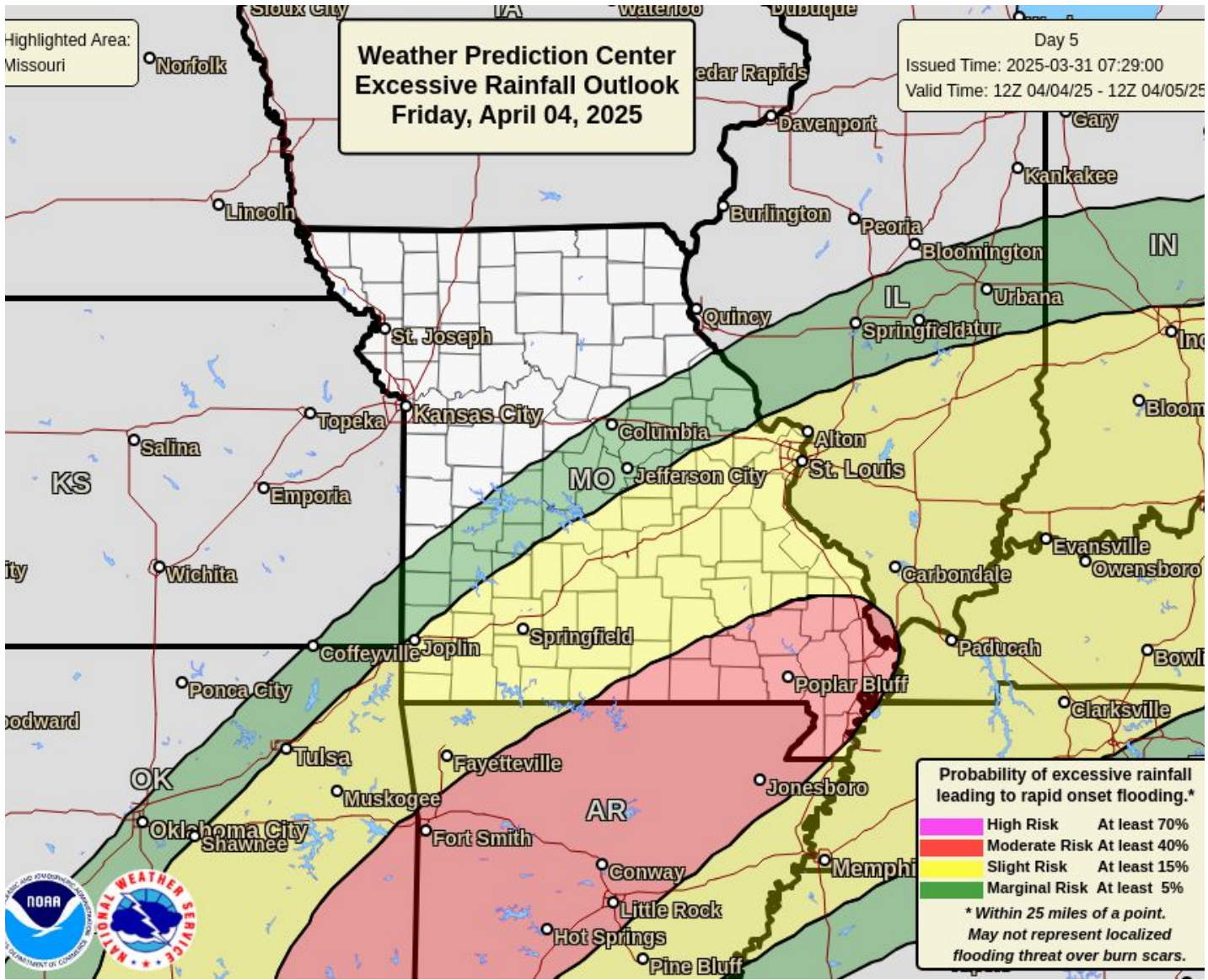
Excessive Rainfall Outlooks

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Thursday through Friday Night



Thursday - Thursday Night



Friday - Friday Night



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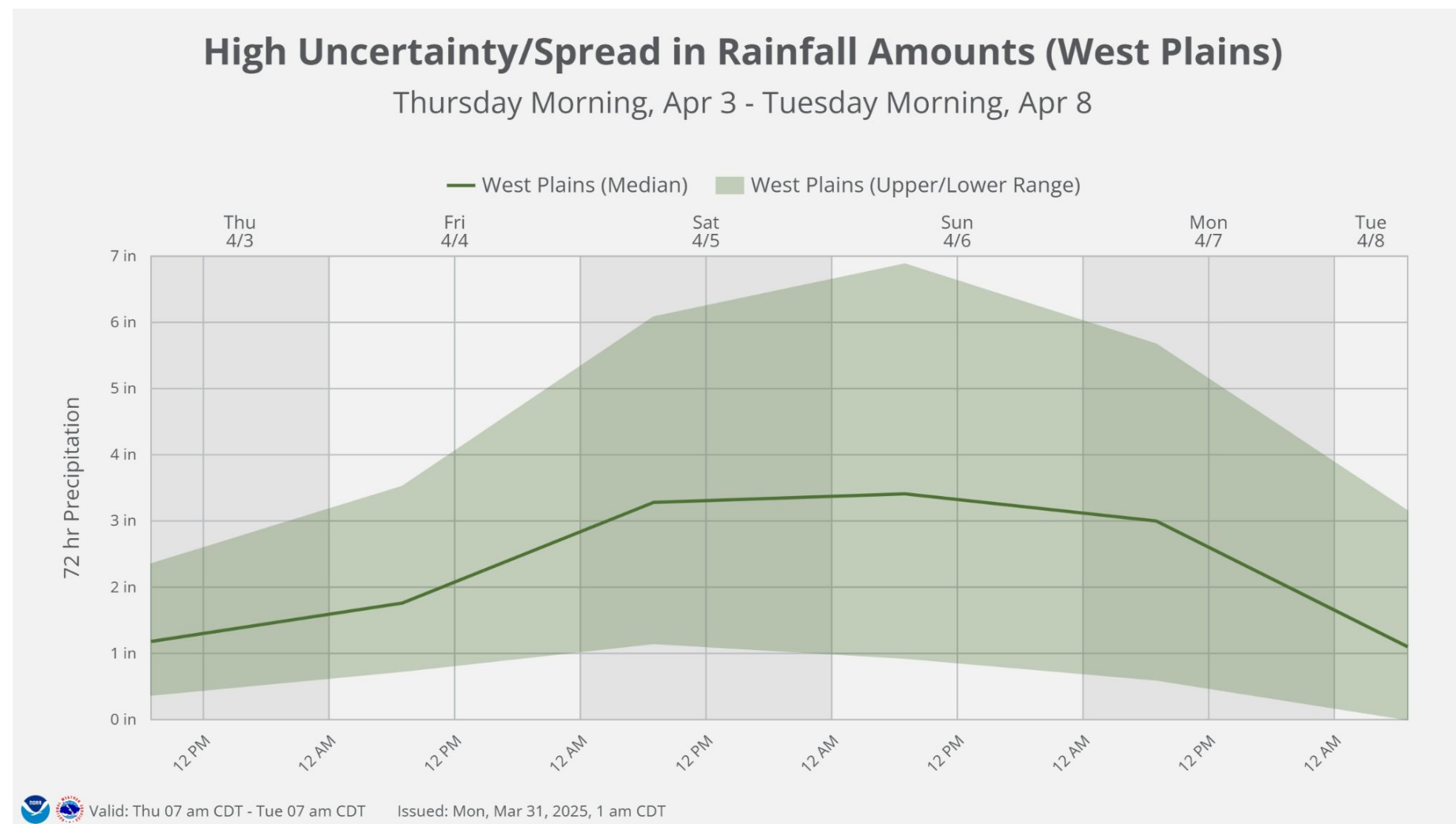


High Uncertainty/Spread in Rain Amounts

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Highlights

- The pattern suggests heavy rainfall occurring near or just southeast of the area late week into the weekend.
- However, at this time range there is significant spread in potential rainfall amounts
 - ◆ West Plains example to the right shows the spread in total rainfall amounts with either 1 inch or potentially up to 7 inches occurring by the weekend.
- Confidence in rainfall amounts will increase as we head through the week.



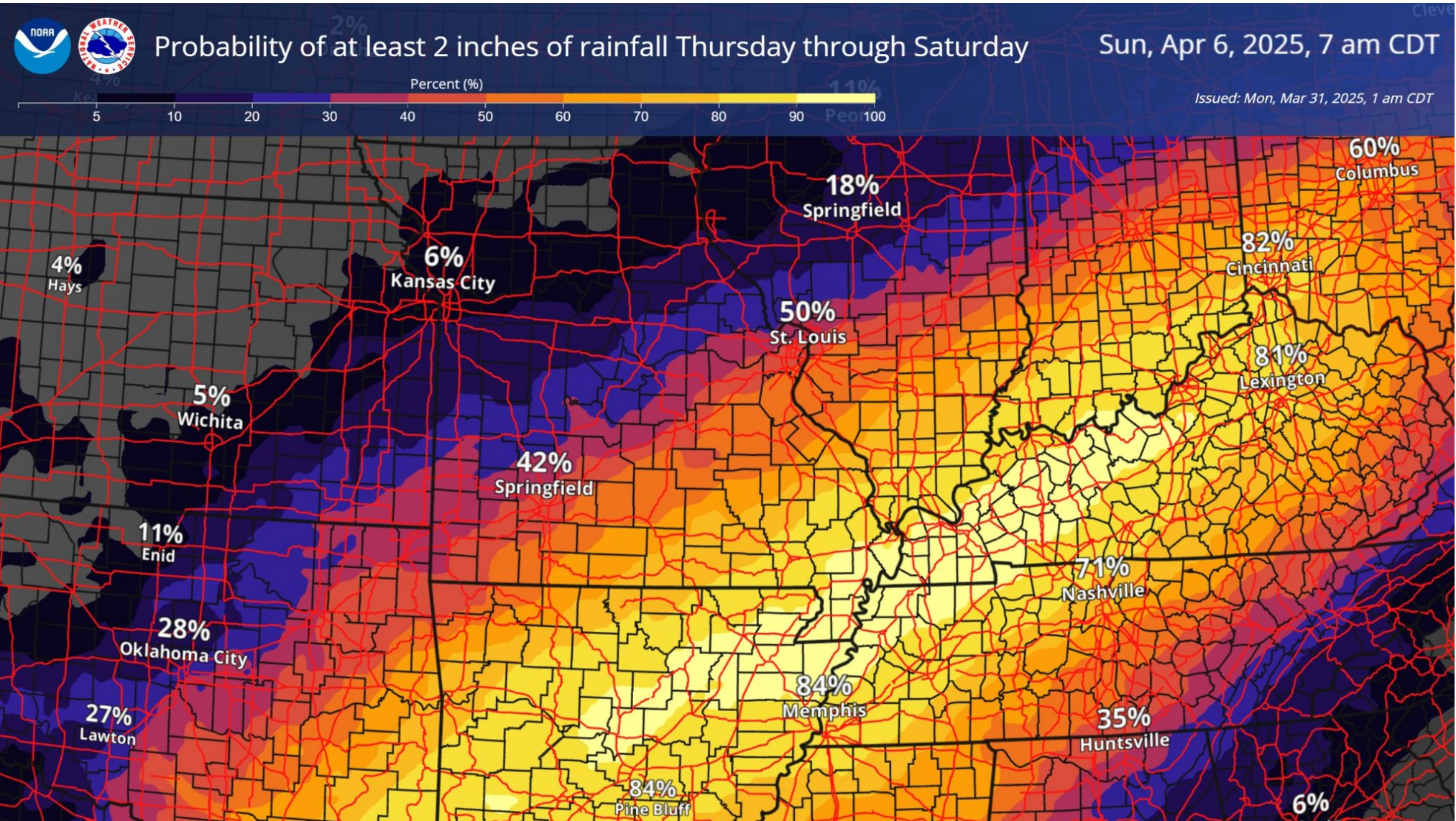


Early Look at Rainfall Potential

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Highlights

- The probabilities for 2 inches (this slide) and 4 inches (next slide) of rainfall Thursday through Saturday are highest from south central Missouri and points southeast.
- This axis of heavy rainfall potential could still shift/change as we head through the week.



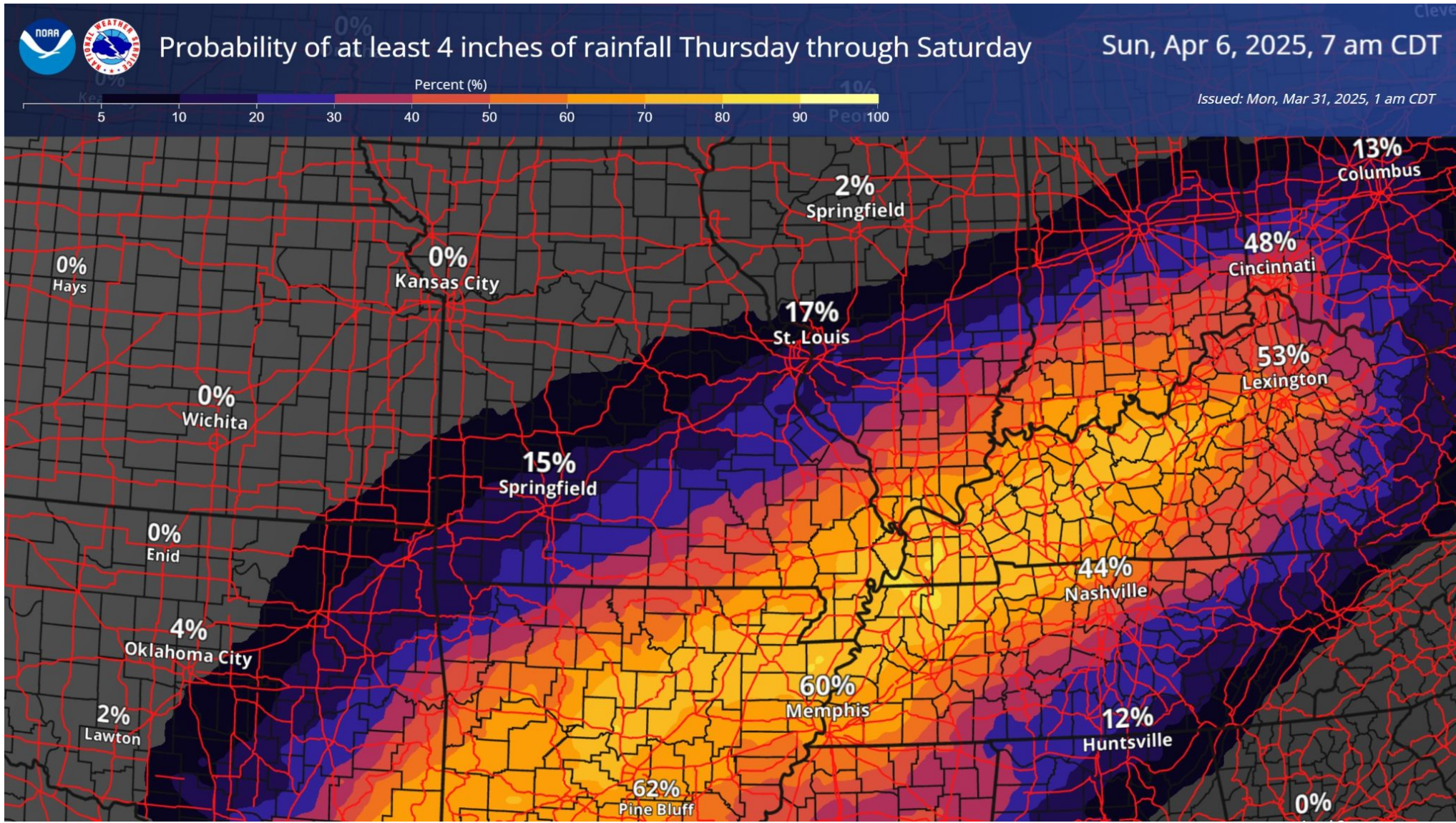
Probability of > 2.0" of rainfall (Thursday - Saturday)





Early Look at Rainfall Potential

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Probability of > 4.0" of rainfall (Thursday through Saturday)





River Flood Potential

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Highlights

- Long range ensemble forecasts are showing increasing percentages for action to minor flood stages across the Jacks Fork and Current River basins.
- The image to the right is not a hydrograph but instead a probability of occurrence for the Jacks Fork River at Alley Spring, Missouri.
- There is already a 70% chance of exceeding action stage at this location within the next 10 days.
- Locations along creeks and rivers will need to monitor the situation closely later this week, especially southeast of Springfield.

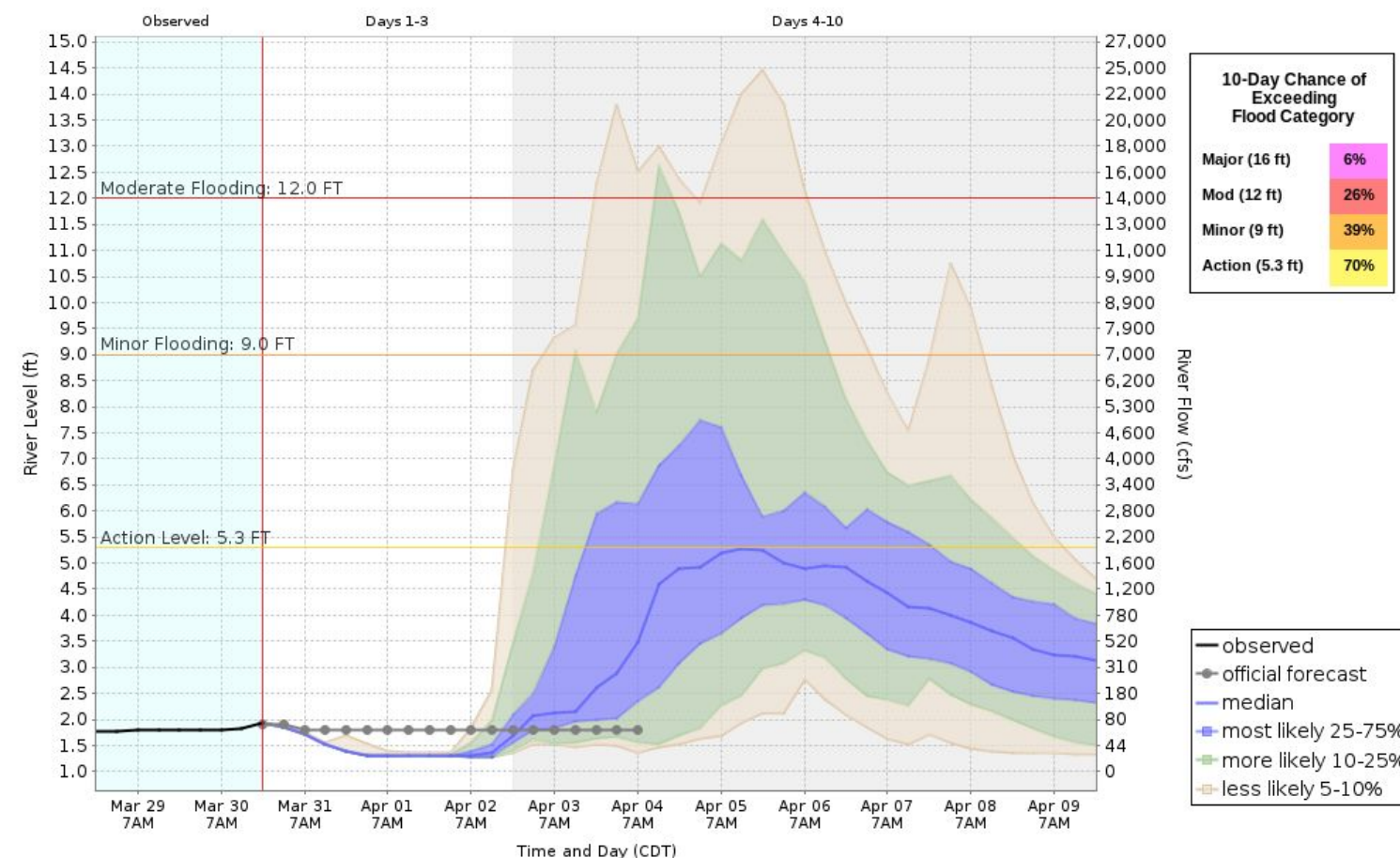
HEFS - 10 Day River Level Probabilities

Based on Hydrologic Ensemble Forecast Service Model Simulations
Used to Estimate the Range of Possible River Levels



Mar 31 - Apr 10, 2025

JACKS FORK RIVER AT ALLEY SPRING



Model runtime: 07:00 PM CDT Mar 30 2025
Lower Mississippi River Forecast Center

****Not a Hydrograph** - Probability of Occurrence**
Jacks Fork River at Alley Spring, Missouri

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Additional Resources

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For Additional Information

- [NWS Springfield Webpage](#)
- [IDSS Point Forecasts](#)
- [Graphical Hazardous Weather Outlook](#)
- [SPC Convective Outlooks](#)
- [WPC Excessive Rainfall Outlooks](#)
- [WPC Precipitation Outlooks](#)
- [Submit Storm Reports](#)

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