MASSACHUSETTS RIVER OVERVIEW

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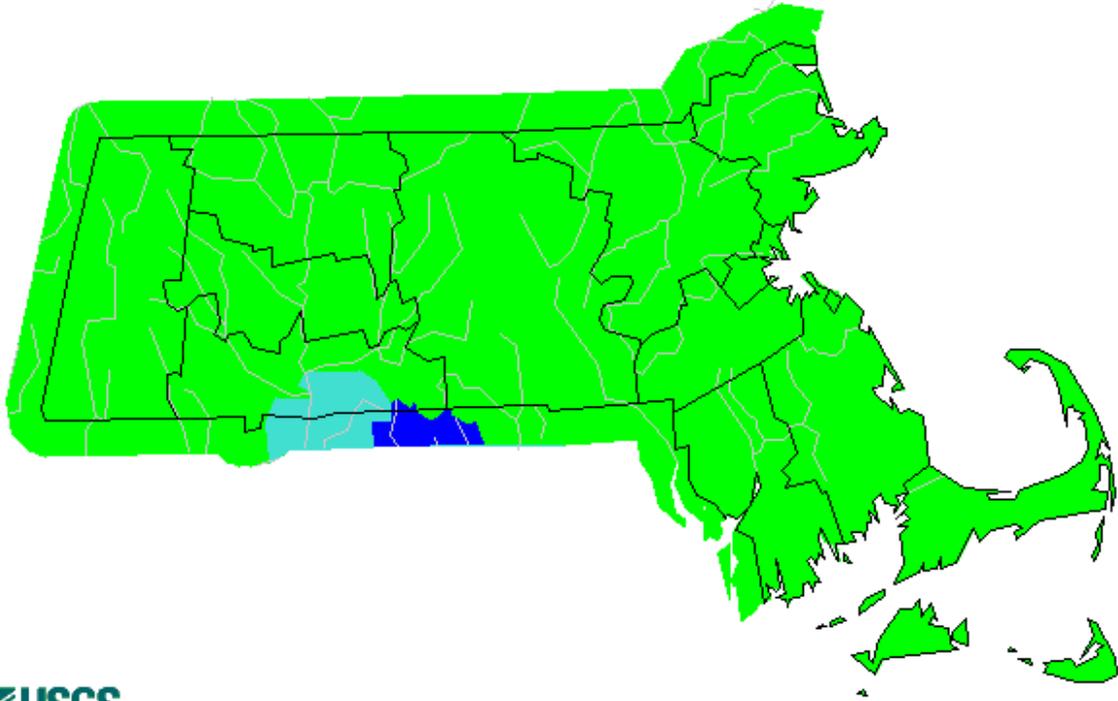
6 August 2024
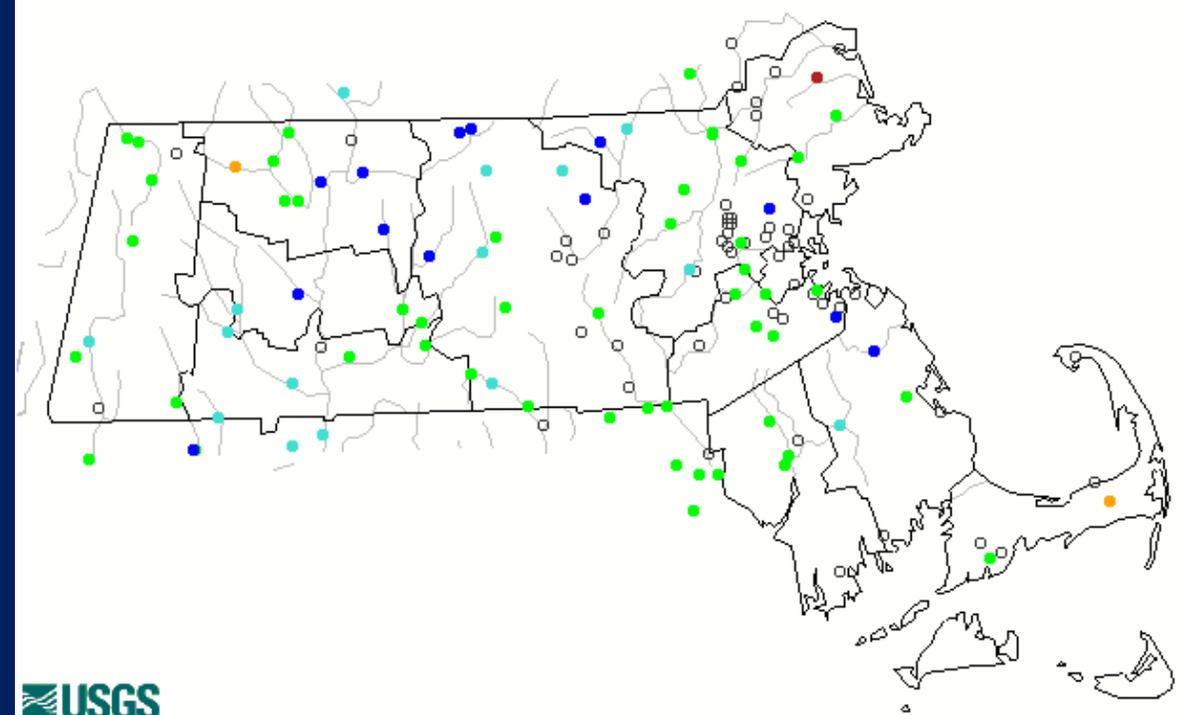
OUTLINE

- Snapshot of Massachusetts River Flows
- NERFC River Forecast Outlook (through mid-August)
- Conclusions

MASSACHUSETTS RIVER FLOWS
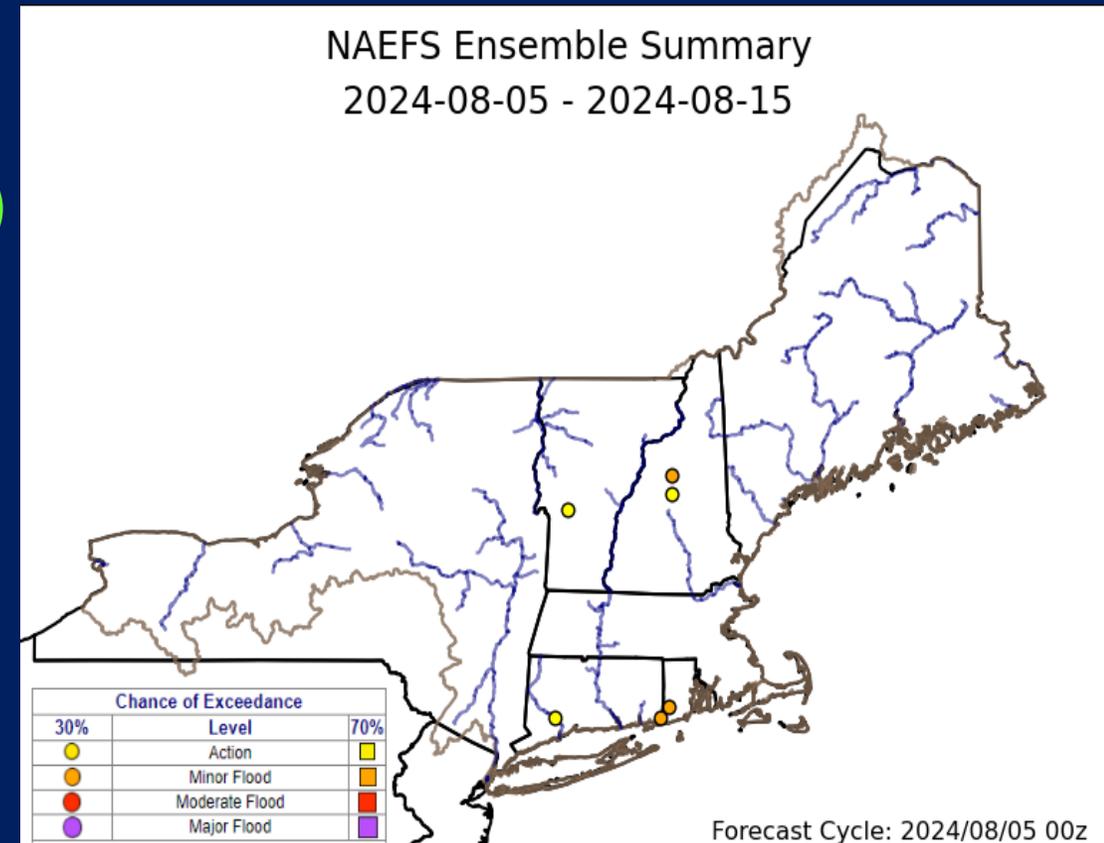

Monday, July 01, 2024

Monday, August 05, 2024 15:30ET

Explanation - Percentile classes

Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Over the past month...flows relative to normal have held steady or increased across the Commonwealth except for Essex and Barnstable Counties where they have decreased a bit
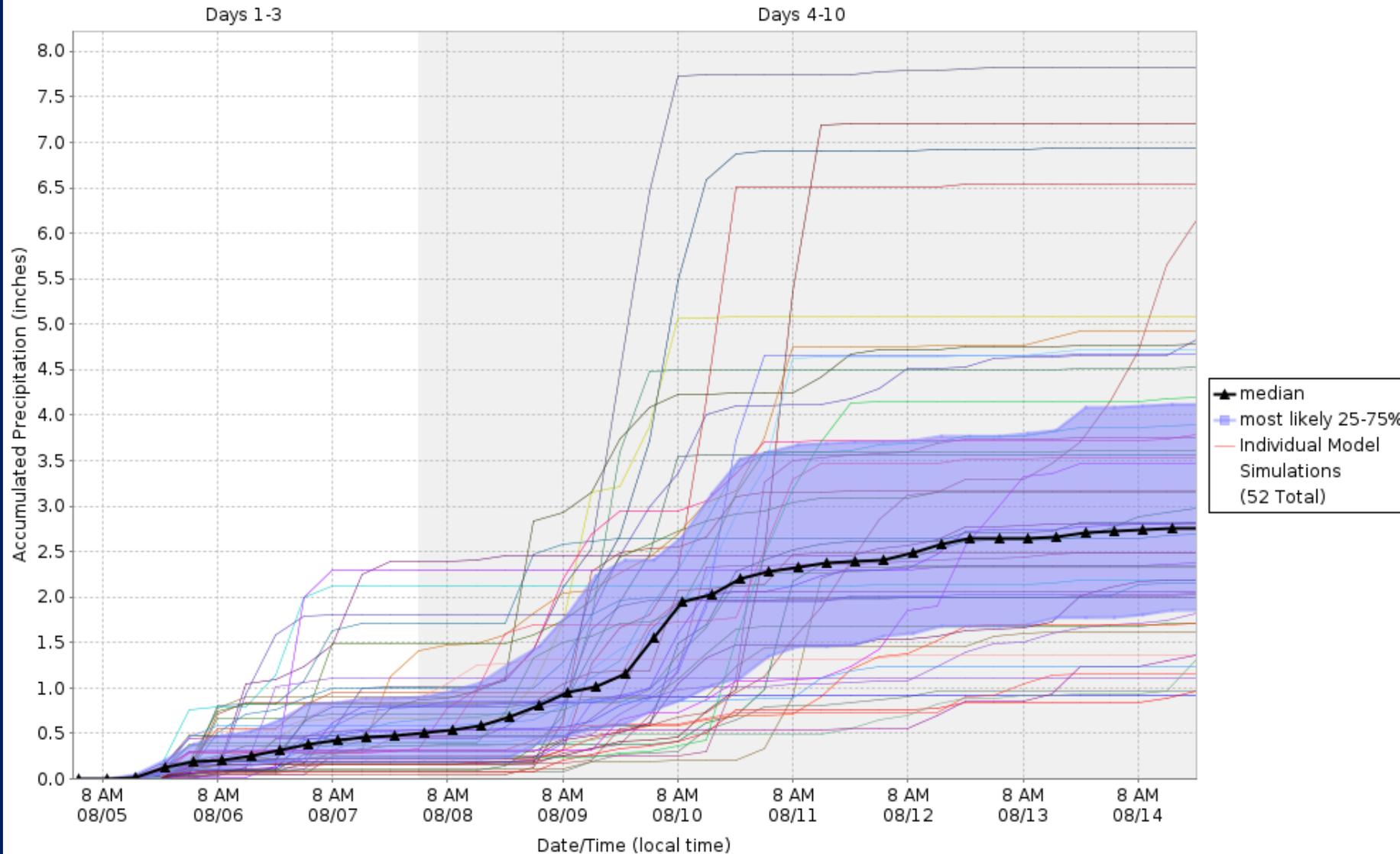
NAEFS ENSEMBLE RIVER FORECAST OUTLOOK

- A 52 member ensemble run for all NERFC forecast points to give us an idea of the possible range of river flows out 10 days.
  - Basically 52 slightly different initial conditions in the weather models lead to 52 different river forecasts based on rainfall and temperature.

- Will show results for...
  - Hoosic River near Williamstown (WILM3)
  - Shawsheen River near Wilmington (WLMM3)
  - Taunton River near Bridgewater (BDGM3)

NAEFS Ensemble Summary
2024-08-05 - 2024-08-15

Chance of Exceedance		
30%	Level	70%
○ (yellow)	Action	□ (yellow)
○ (orange)	Minor Flood	□ (orange)
○ (red)	Moderate Flood	□ (red)
○ (purple)	Major Flood	□ (purple)

Forecast Cycle: 2024/08/05 00z

NAEFS RAINFALL – WILM3

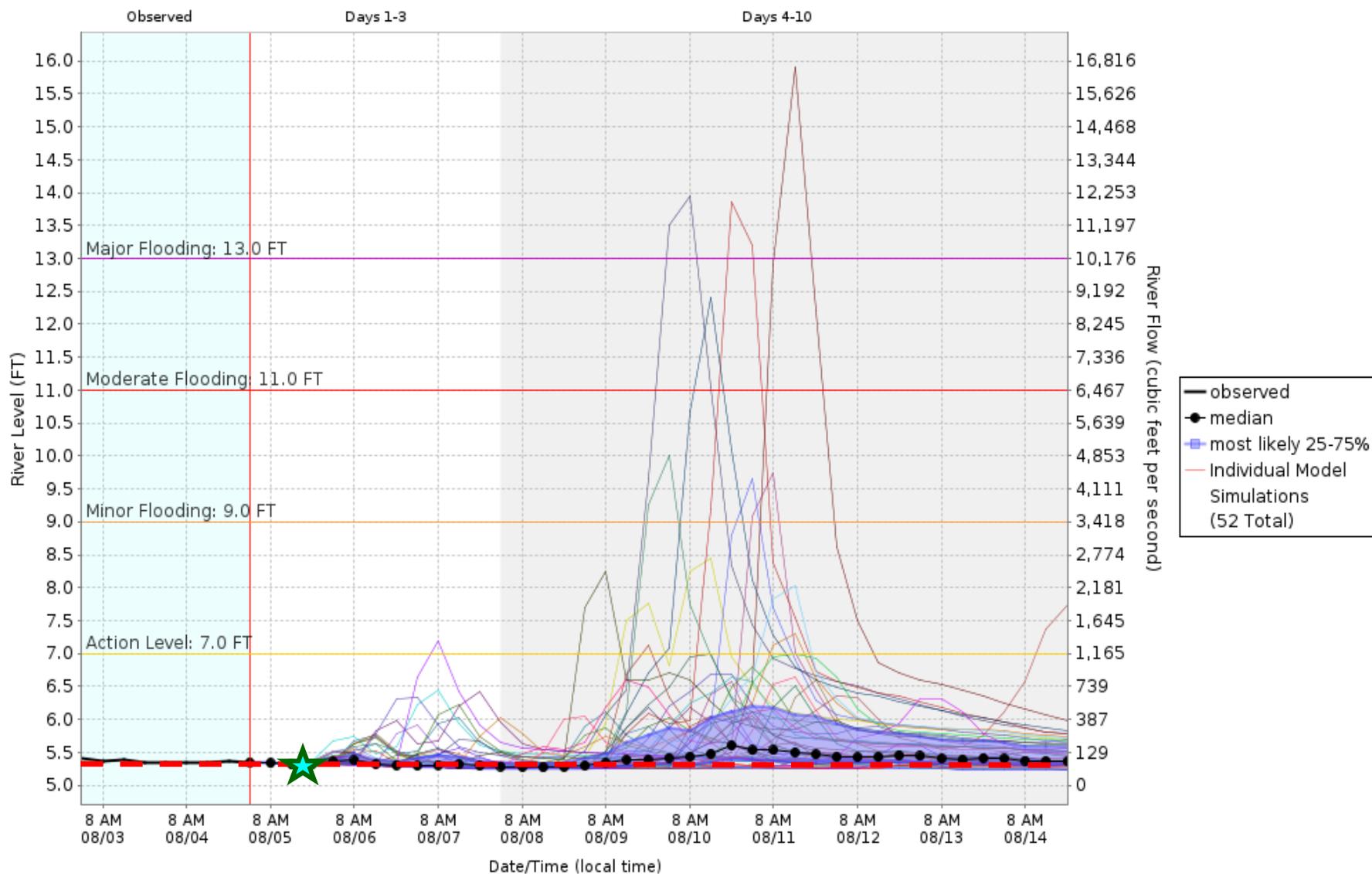Aug 05 - Aug 15, 2024
Hoosic River at Williamstown, MA (WILM3)

Over the next 10 days…median forecast rainfall is well above normal (2.5 – 3.0 inches).

Tremendous uncertainty exists regarding the impact of Hurricane Debby's remnants from 9-10 August.

NAEFS – WILM3

Aug 05 - Aug 15, 2024
Hoosic River at Williamstown, MA (WILM3)

For much of the next 10 days...flows are expected to remain around or above median early August levels (red dashed line).

Rainfall from the remnants of Debby have some potential to produce significant flooding. Right now...7 of 52 members suggest flooding.

NAEFS RAINFALL – WLMM3

Aug 05 - Aug 15, 2024
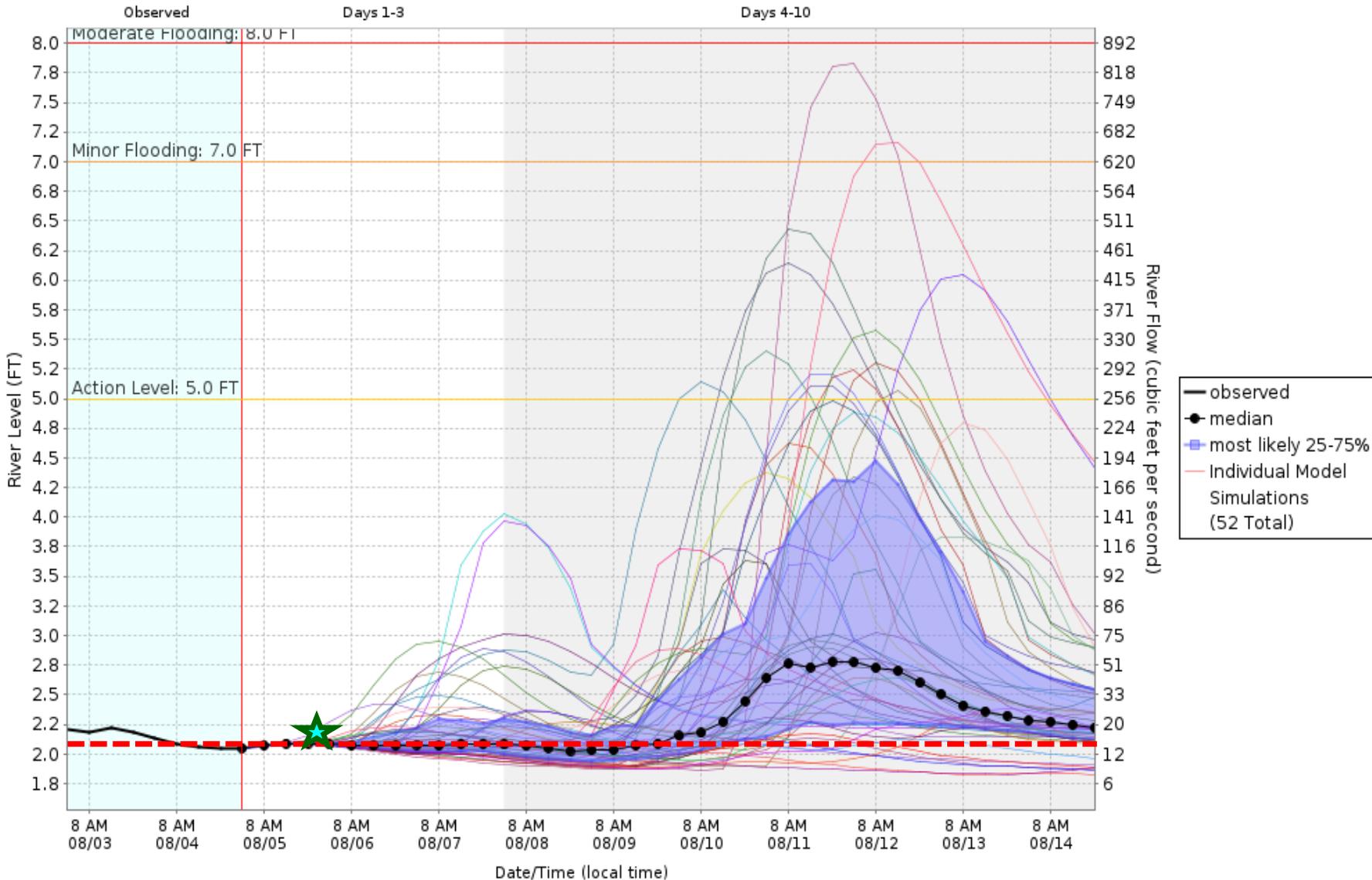Shawsheen River at Wilmington, MA (WLMM3)
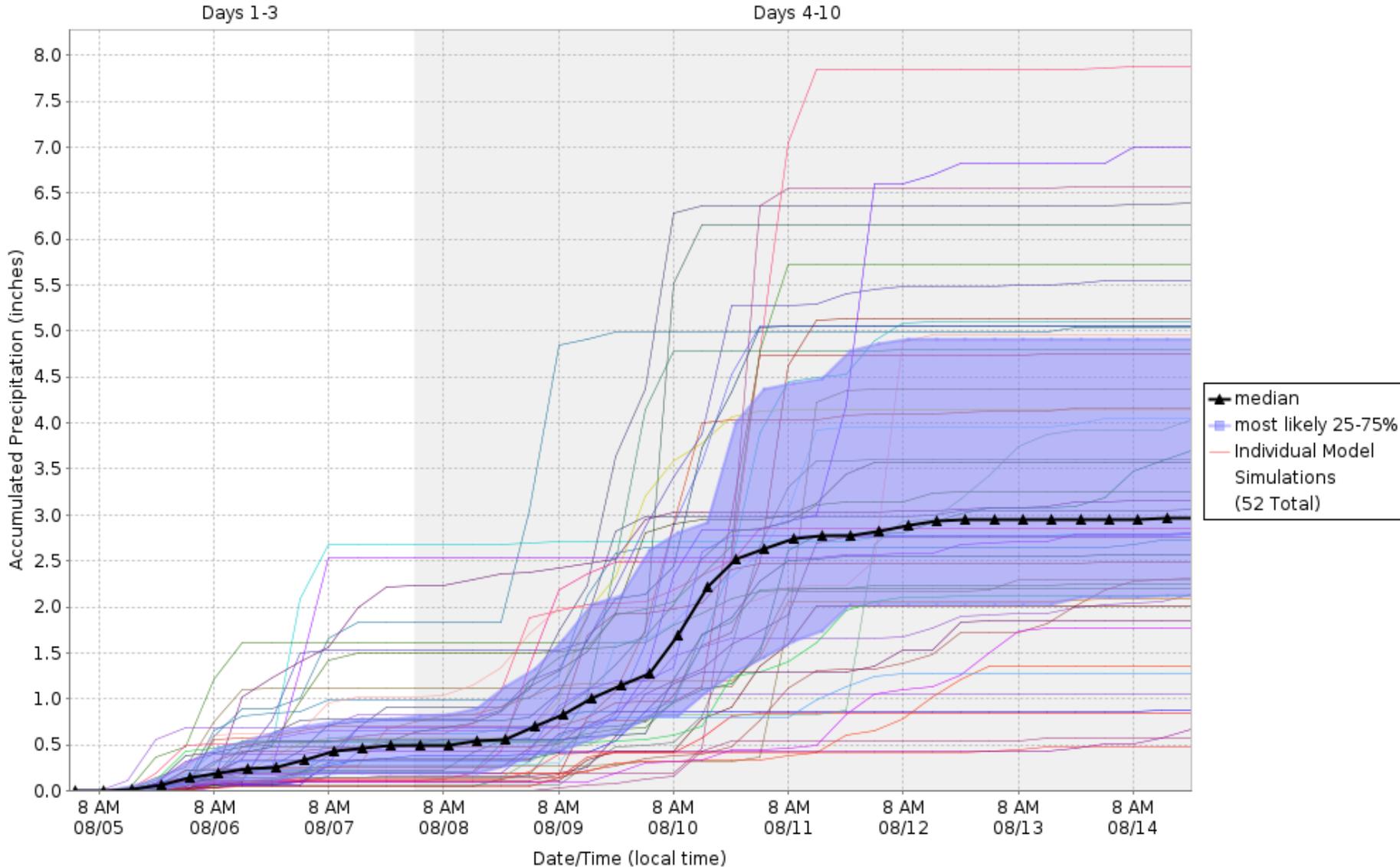
A very similar rainfall forecast compared to western portions of Massachusetts.

Median amounts are close to 3 inches with huge uncertainty (spread) dealing with the remnants of Debby.

NAEFS – WLMM3

Aug 05 - Aug 15, 2024
Shawsheen River at Wilmington, MA (WLMM3)

- Flows along the Shawsheen River are starting a bit above the forecast trace. We will likely be above median levels late this week and next week.

- Most of the members keep forecast levels below flood with the remnants of Debby this upcoming weekend.
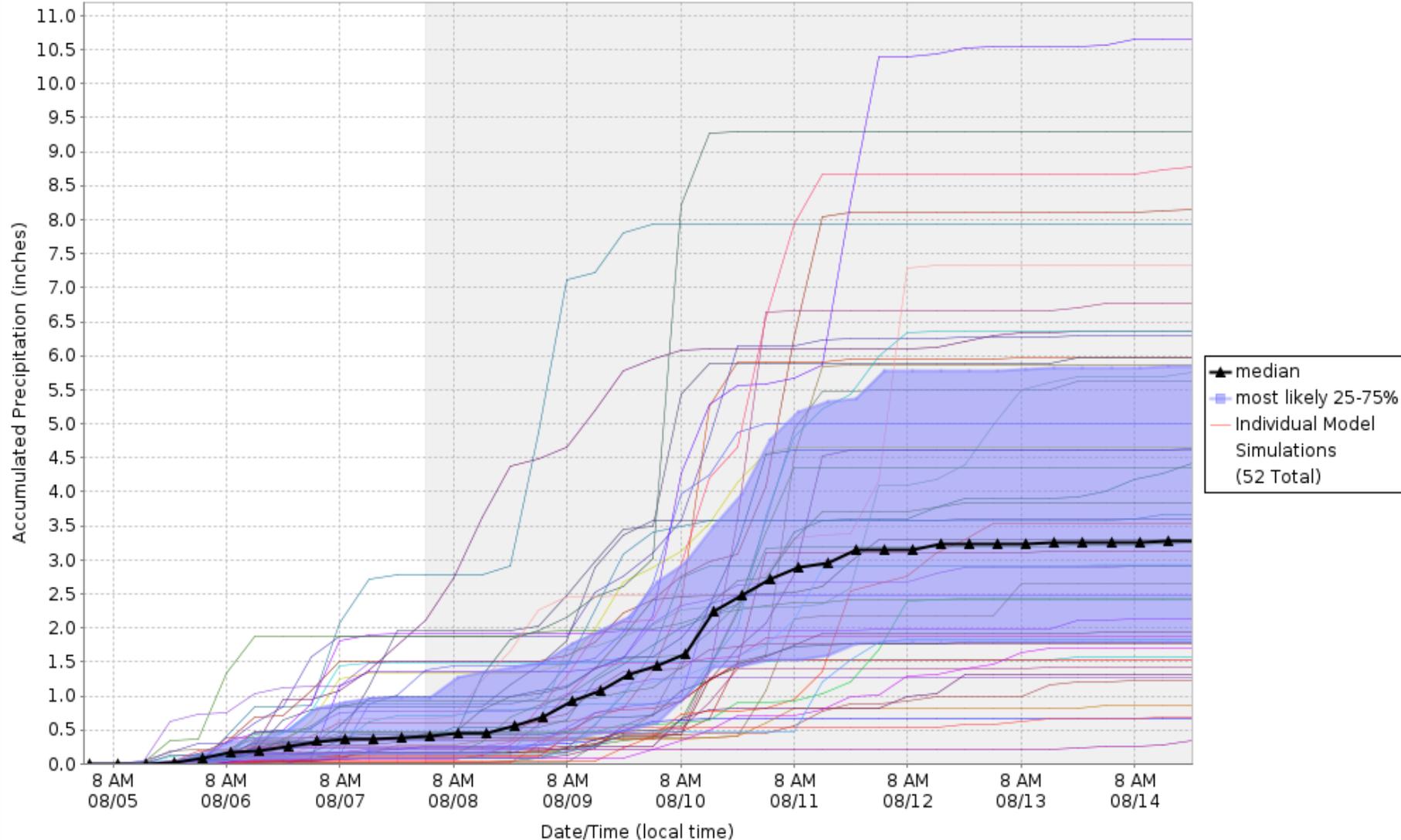
NAEFS RAINFALL – BDGM3

Aug 05 - Aug 15, 2024
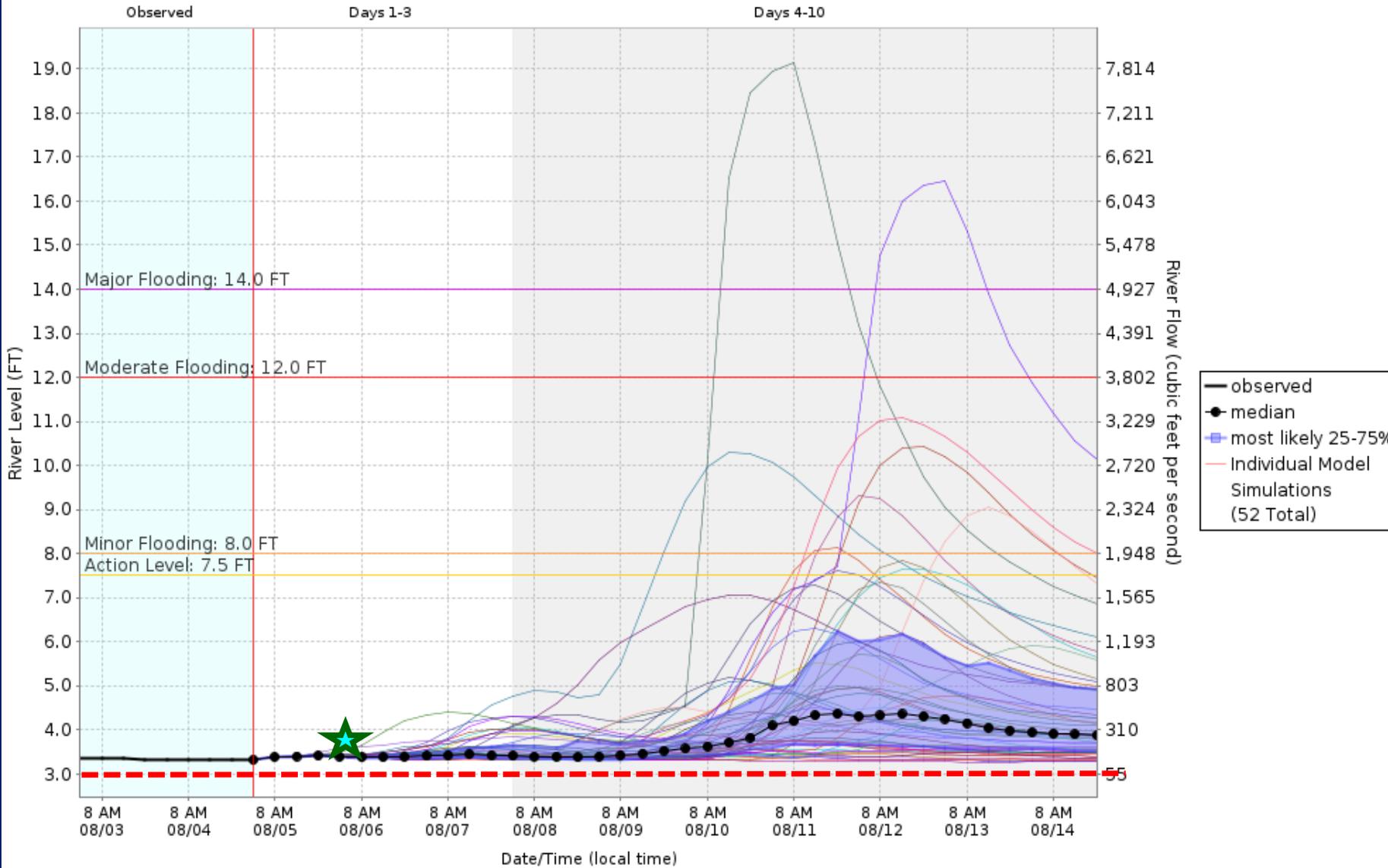Taunton River at Bridgewater, MA (BDGM3)

- Median rainfall amounts are a tad higher across southeast Massachusetts with amounts of 3.0 – 3.5 inches.

- Extreme members of the ensemble run indicate 9 to 10+ inches of rainfall.

NAEFS – BDGM3

Aug 05 - Aug 15, 2024
Taunton River at Bridgewater, MA (BDGM3)

- The Taunton River should stay comfortably above median levels right into mid-August.

- The remnants of Debby do pose a risk for flooding by early next week…especially since we are starting above the forecast trace.

CONCLUSIONS

- As of early August 2024...river and stream flows across the Commonwealth are near to above normal with a few exceptions. Localized areas of below normal flows have developed across Essex County in northeast MA and across outer portions of Cape Cod.

- We are heading into what looks like a much cooler and much wetter weather pattern which will extend at least into mid-August. This should reduce evapotranspiration rates significantly.

- Rainfall is forecast to be above to much above normal over the next 10 days across all areas in Massachusetts.

- Depending on the exact track of Hurricane Debby's remnants this upcoming weekend...flooding could develop along some of the Commonwealth's river systems. Some of the flooding has the potential to be significant.

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