



MASSACHUSETTS RIVER OVERVIEW



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Task Force

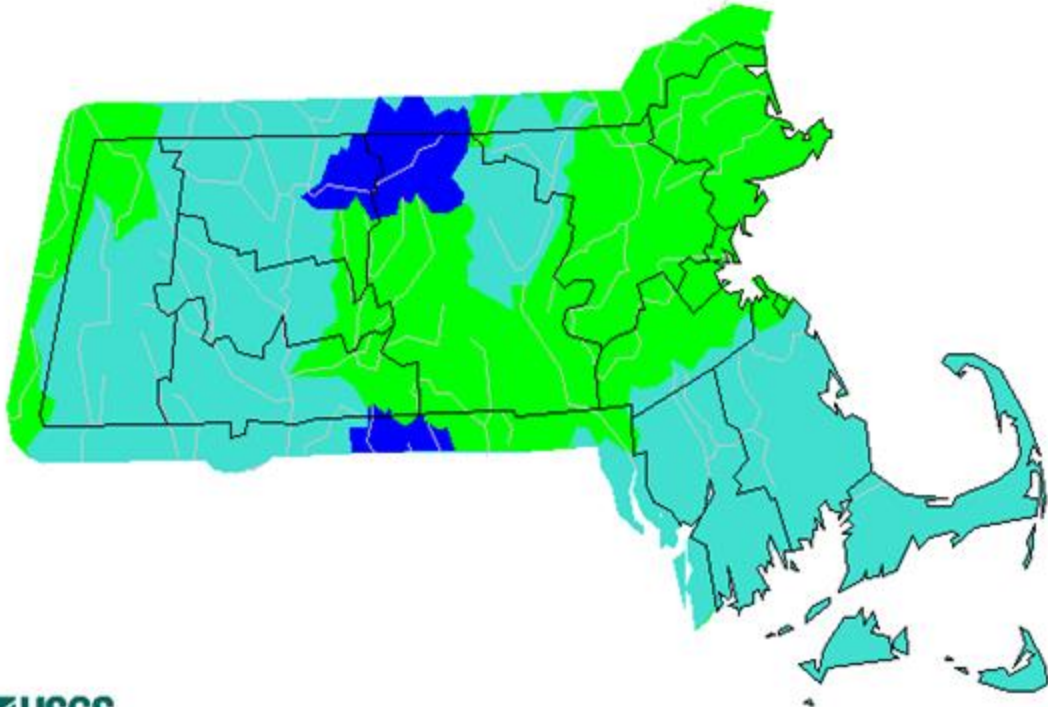
09 September 2024

OUTLINE

- Snapshot of Massachusetts River Flows
- NERFC River Forecast Outlook Focus – Northeastern Massachusetts.
- Conclusions

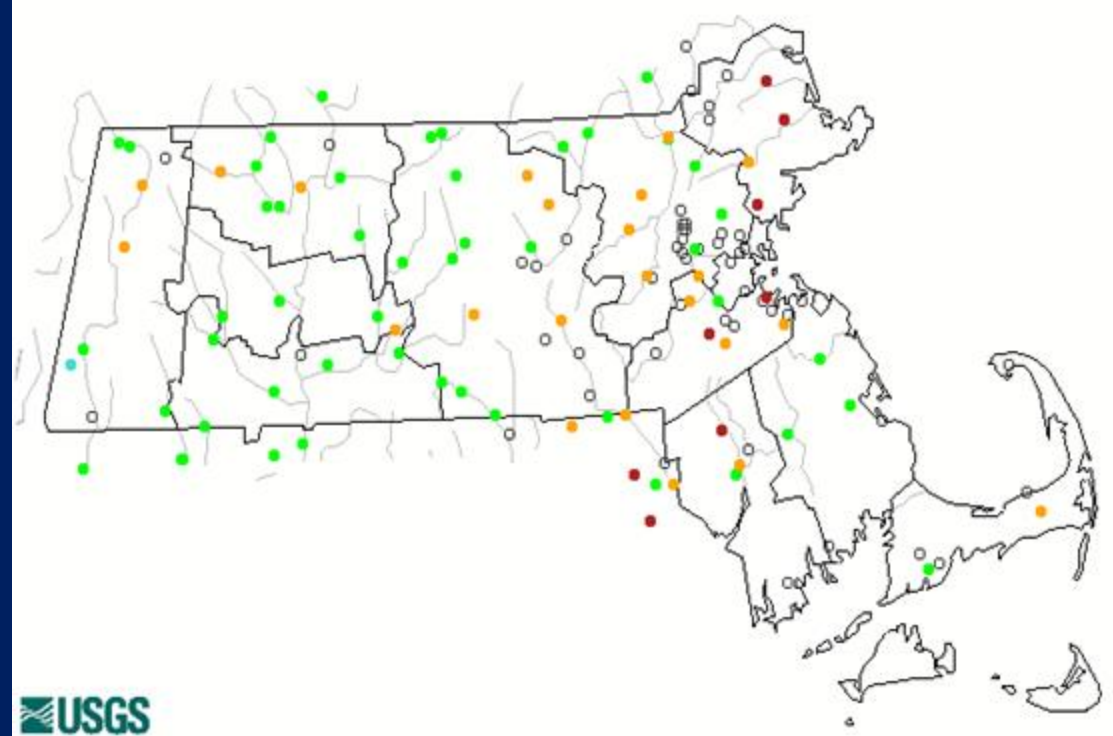
MASSACHUSETTS RIVER FLOWS

Tuesday, August 06, 2024



USGS

Monday, September 09, 2024 06:30ET



USGS

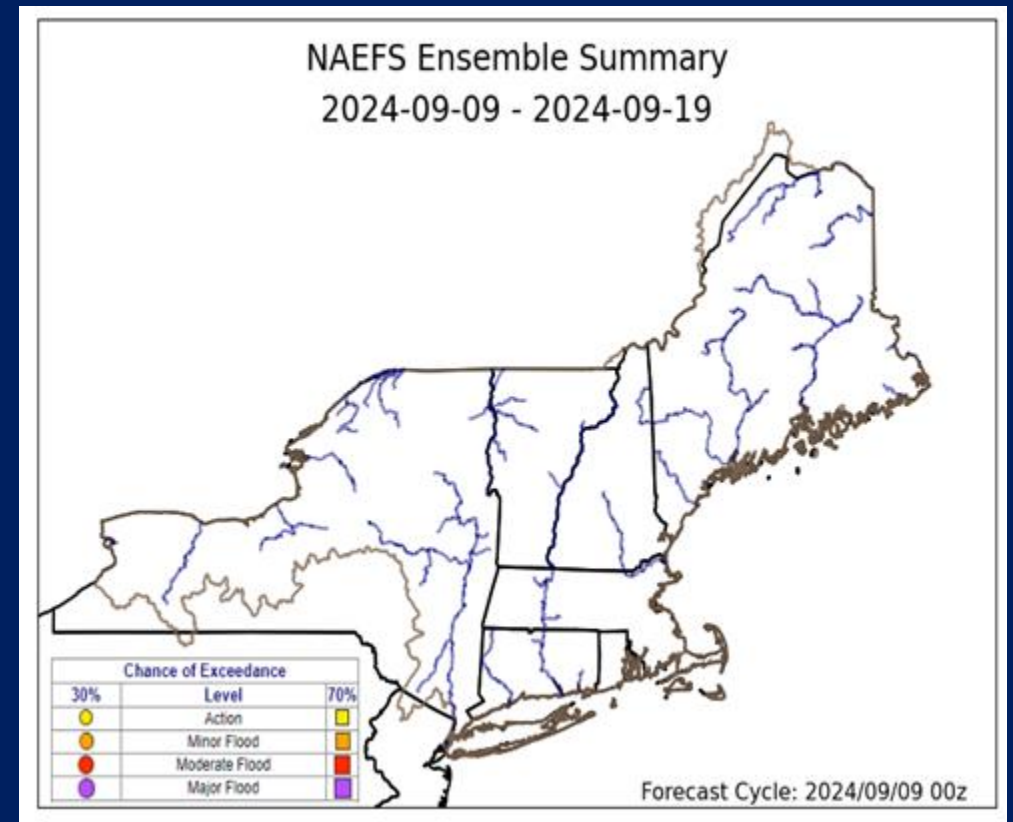
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

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Over the past month...flows relative to normal have decreased across the state especially in parts of eastern Massachusetts where some of the greatest 30 day below normal precipitation departures are observed.

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...
 - Concord River at Lowell (LCNM3)
 - Shawsheen River at Andover (ANDM3)



NAEFS RAINFALL – LCNM3

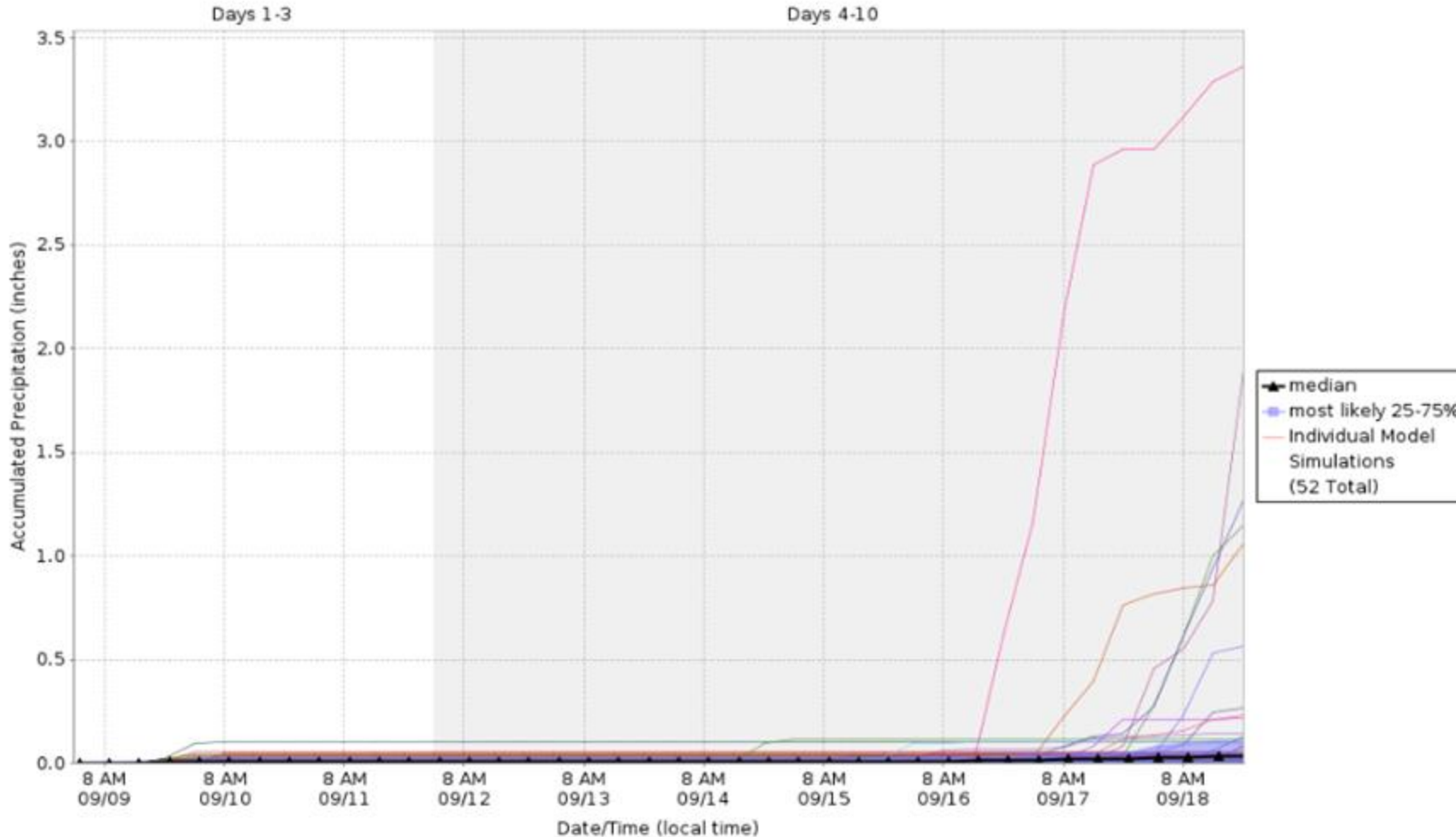
NAEFS - 10 Day Accumulated Precipitation Probabilities

Based on North American Ensemble Forecast System Model Simulations
Used to Estimate the Range of Possible River Levels



Sep 09 - Sep 19, 2024

Concord River at Lowell, MA (LCNM3)



Over the next 10 days...median forecast rainfall is low (under 0.25 inch) as high pressure allows for dry weather conditions.

There is spread noted in the ensemble precipitation heading into next week.

NAEFS – LCNM3

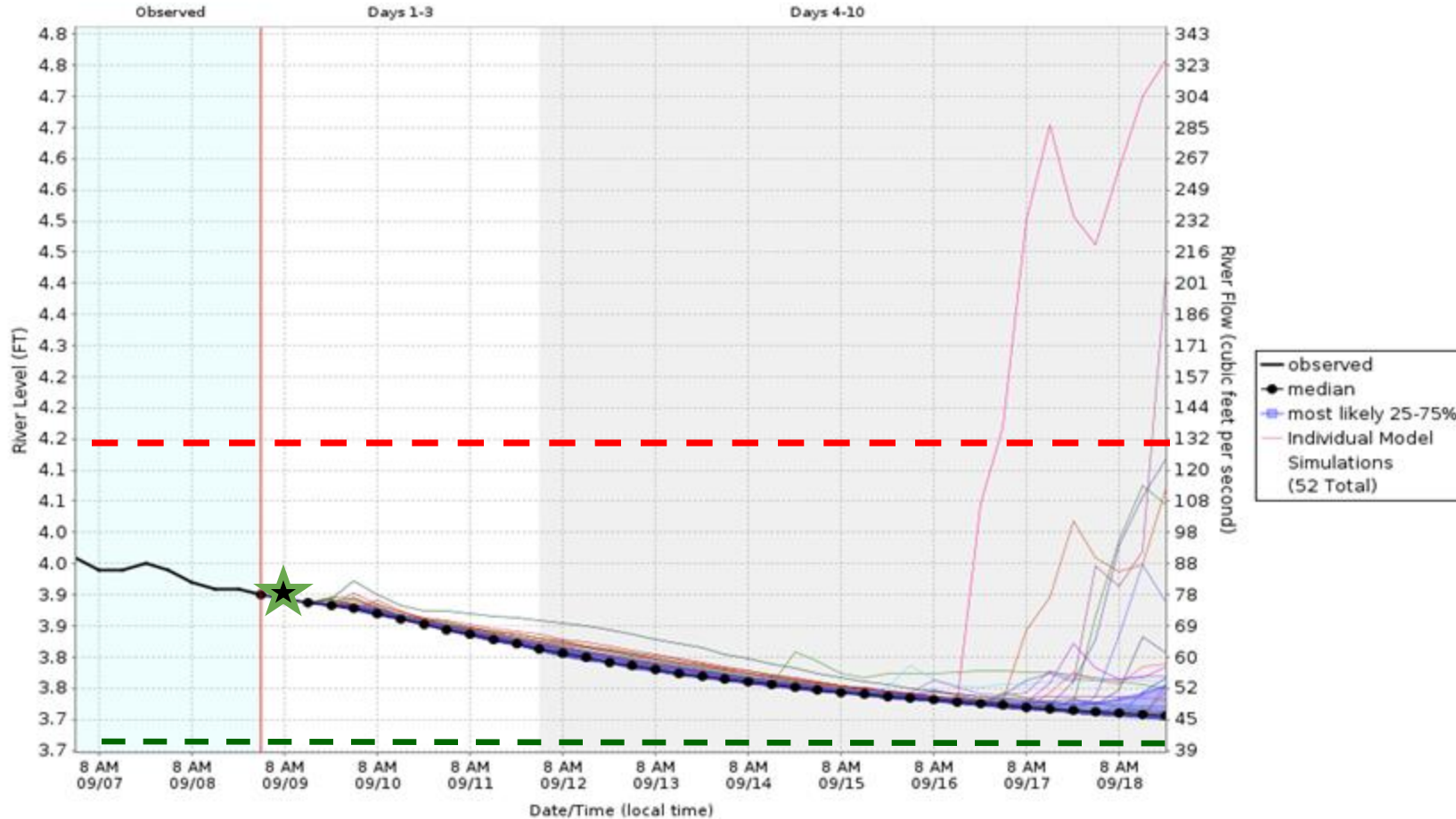
NAEFS - 10 Day River Level Probabilities

Based on North American Ensemble Forecast System Model Simulations
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Sep 09 - Sep 19, 2024

Concord River at Lowell, MA (LCNM3)



Model runtime: 02:00 AM EDT Sep 09 2024
Northeast River Forecast Center

> River flows are expected to remain below median mid September levels (red dashed line) but some of the ensemble members show increases next week.

> All 52 ensemble members maintain river flows above minimum mid September levels (green dashed line) over the next 10 days.

NAEFS RAINFALL – ANDM3

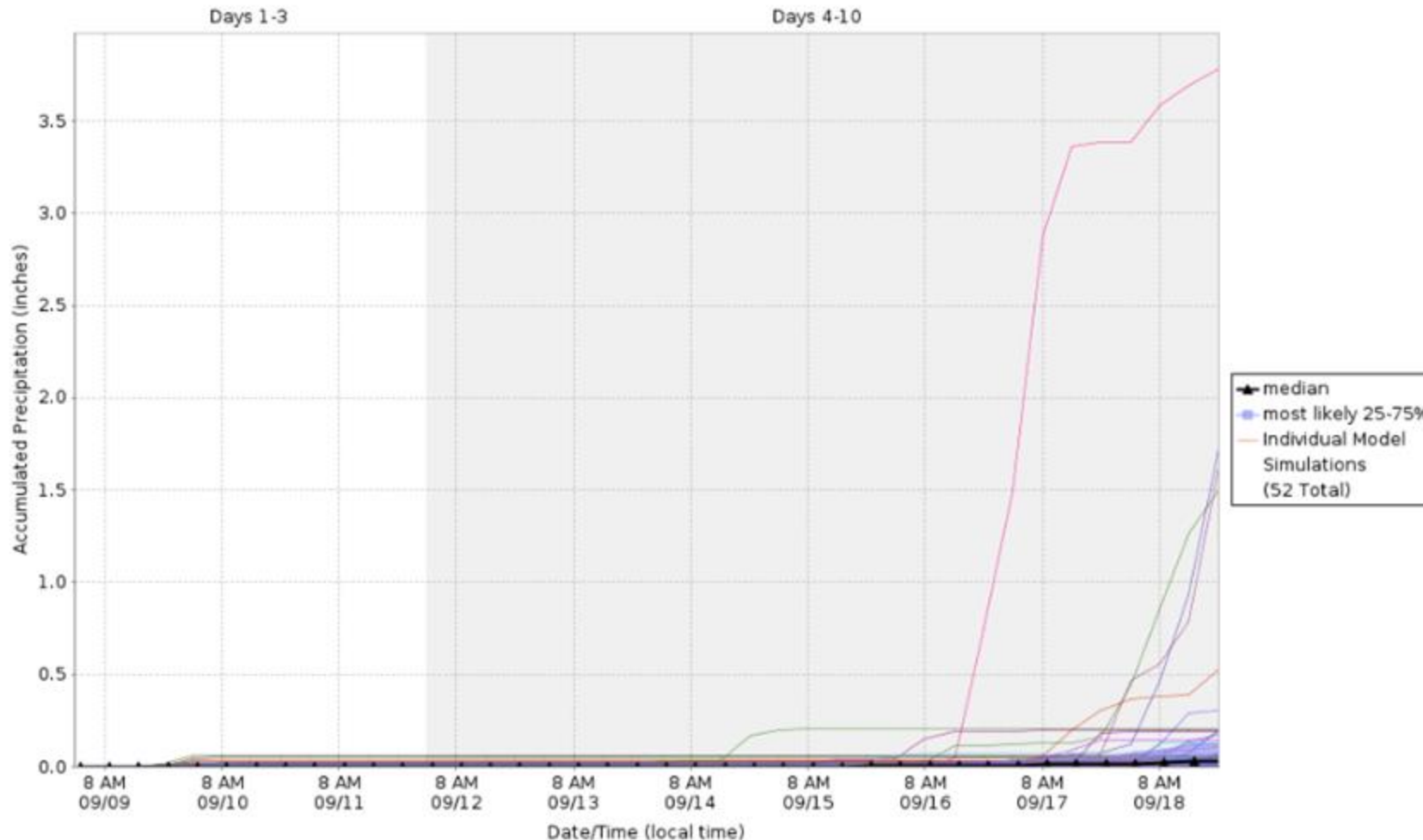
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Shawsheen River at Andover, MA (ANDM3)



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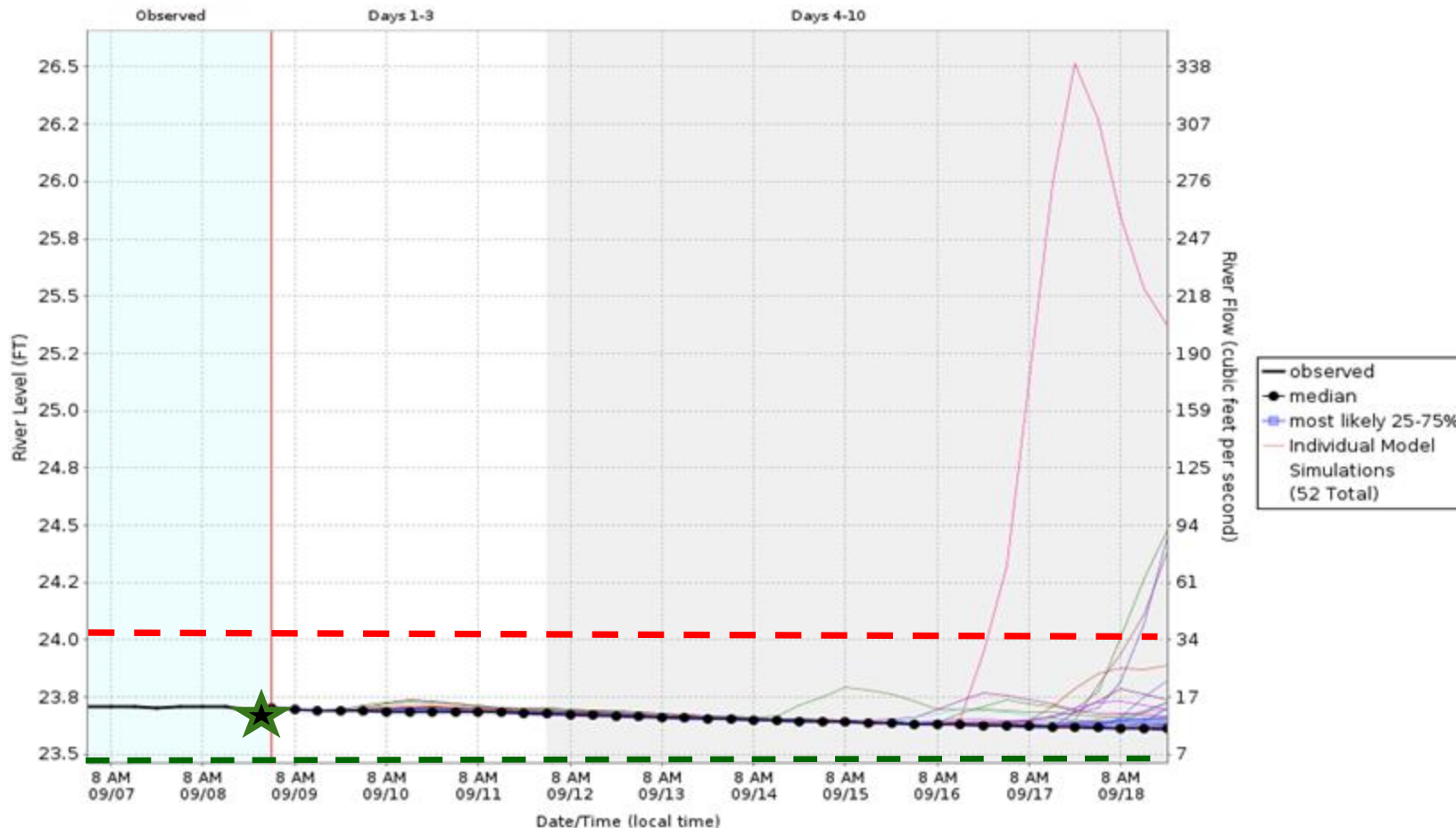
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CONCLUSIONS

- Over the past month...river flows across most of the Commonwealth have decreased especially across the eastern part of the state. Below normal to some near normal stream flows are observed in the eastern portion of the state. Near normal stream flows are observed across most of the western portion of the state.
- The lowest stream flows are currently found over portions of Essex...Middlesex and Norfolk counties in Eastern Massachusetts.
- The weather pattern looks fairly quiet over the next 10 days. Ensemble data indicates the possibility for some rainfall heading into next week but with significant spread. As a result...the NERFC river forecast ensembles call for receding rivers and streams over the next 10 days.

[weather.gov/nerfc](https://www.weather.gov/nerfc)