



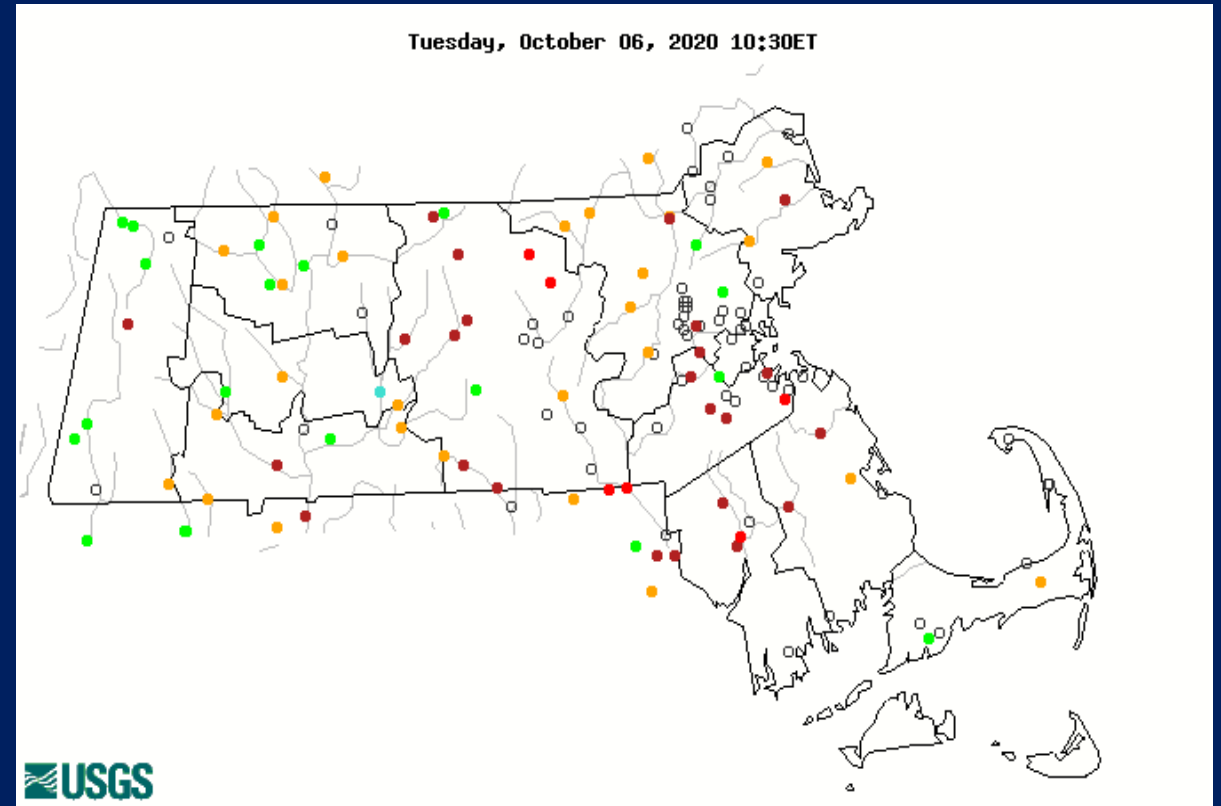
MASSACHUSETTS RIVER OVERVIEW



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7 October 2020

CURRENT RIVER FLOWS

- Highest flows in western Mass where 2-4 inches of rain fell last week west of the Connecticut River (**Hoosic and Housatonic basins**)
- Lowest across north central and interior southeast Mass where some new daily low flow records are being set



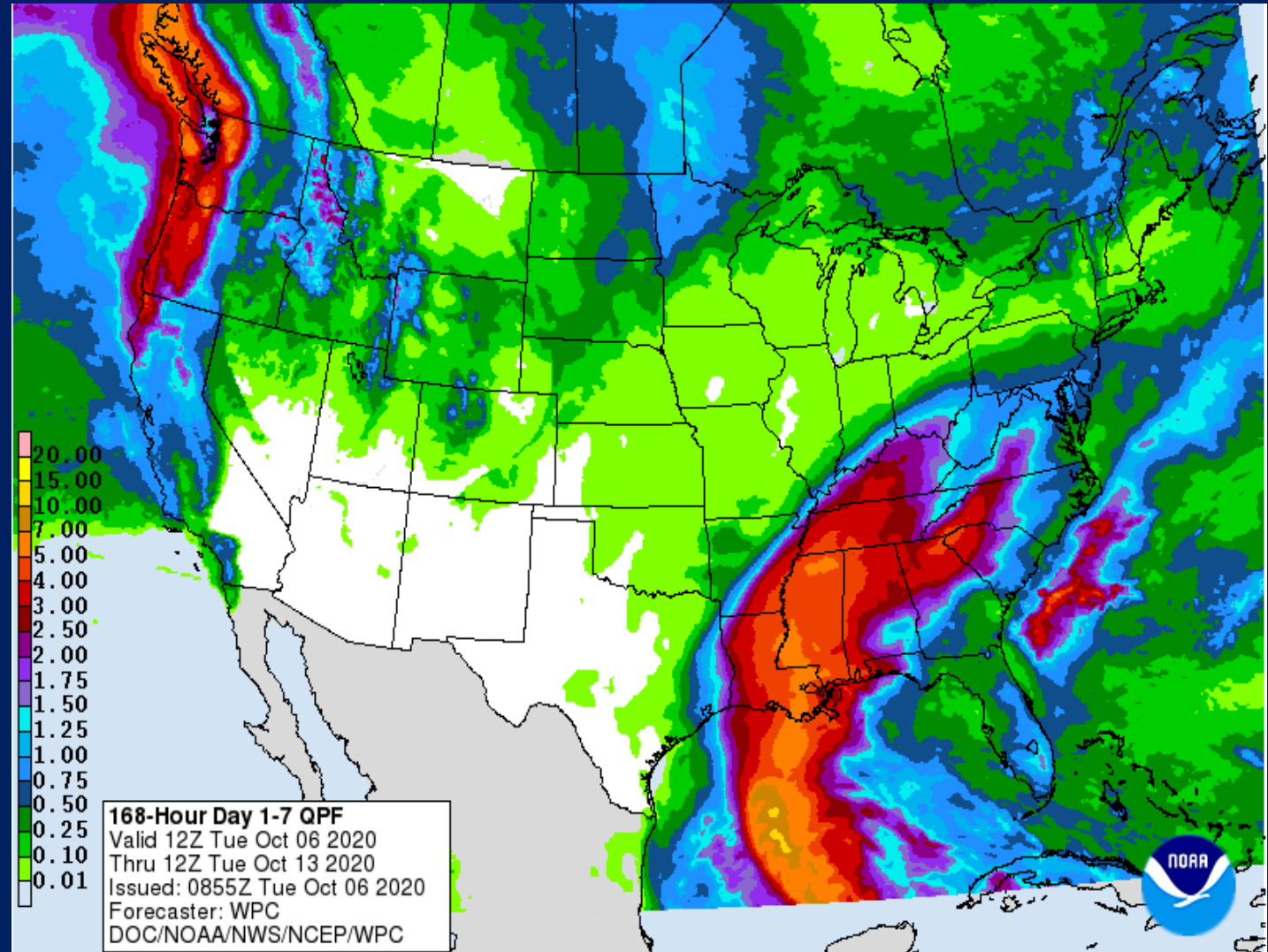
Explanation - Percentile classes							
	●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

CURRENT RIVER FLOWS - cont

- New daily low flows for 6 October 2020
 - North Nashua River at Fitchburg (48 year record)
 - North Nashua River near Leominster (85 year record)
 - Threemile River at North Dighton (54 year record)
 - Old Swamp River near South Weymouth (54 year record)

RIVER FORECAST OUTLOOK

- Limited rainfall over the next week.
- Medium range pattern to become more active as a large upper level trough forms over the central U.S. next week??



NAEFS ENSEMBLE RIVER FORECAST OUTLOOK

- A 42 member ensemble run for all NERFC forecast points to give us an idea of the possible range of river flows
 - Basically 42 slightly different initial conditions lead to 42 different forecasts based on rainfall and temperature.
- Will show results for the North Nashua at Fitchburg (FBGM3) and the Hoosic River at Williamstown (WILM3)

NAEFS – FBGM3

Stage/Flow Traces (with thresholds)

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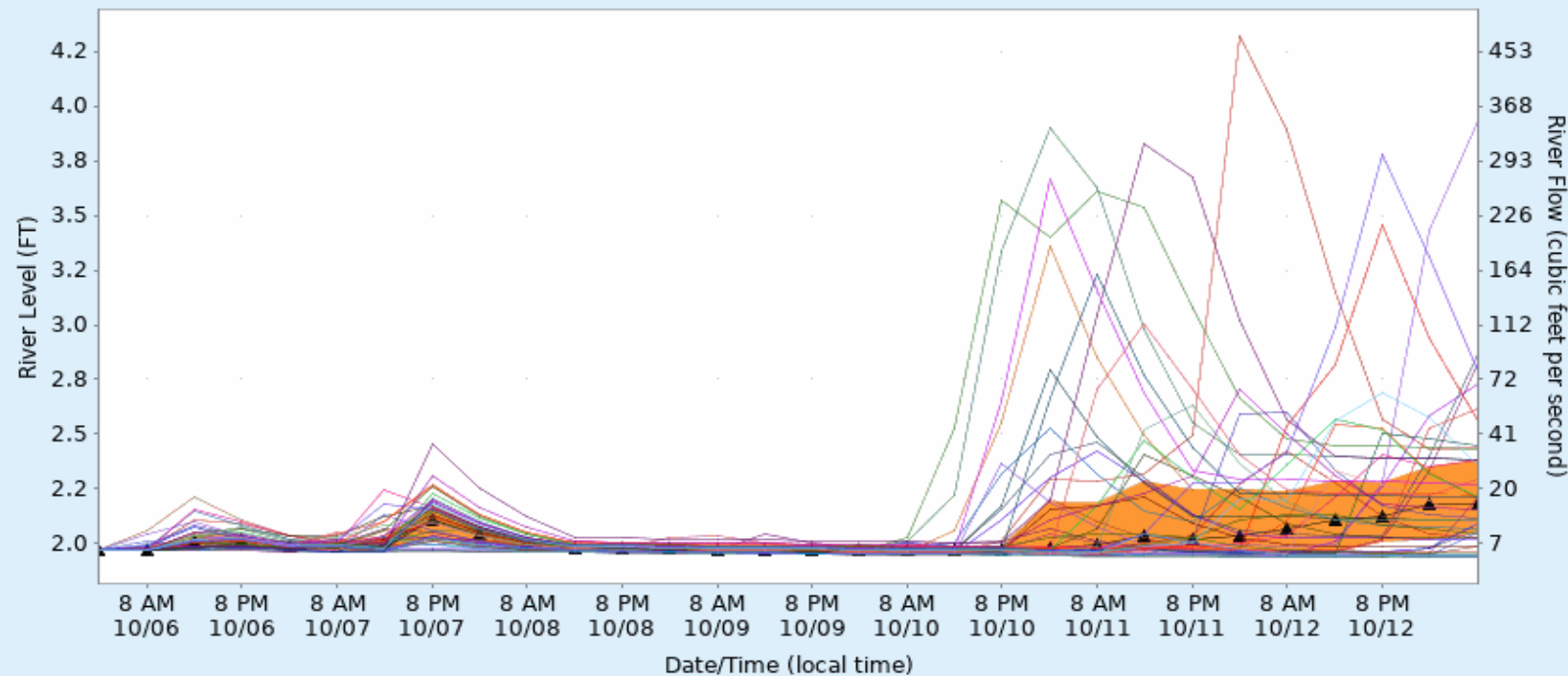


7 Day NAEFS River Level Simulations

Used to Estimate the Chance of Flooding and the Range of Possible River Levels
Each Line Shows an Individual Model Simulation (42 Total)



North Nashua River at Fitchburg, MA (FBGM3)



- Individual Model Simulations (42 Total)
- ▲ Median River Level (Simulations indicate a 50% Chance of Exceeding this Level)
- More Likely Range (Simulations indicate a 40% chance river levels will fall within this range)

10/06/2020 00 UTC NAEFS Model

Uncertainty next week but river is still contained in a narrow range due to dry antecedent conditions

NAEFS – WILM3

Stage/Flow Traces (with thresholds)

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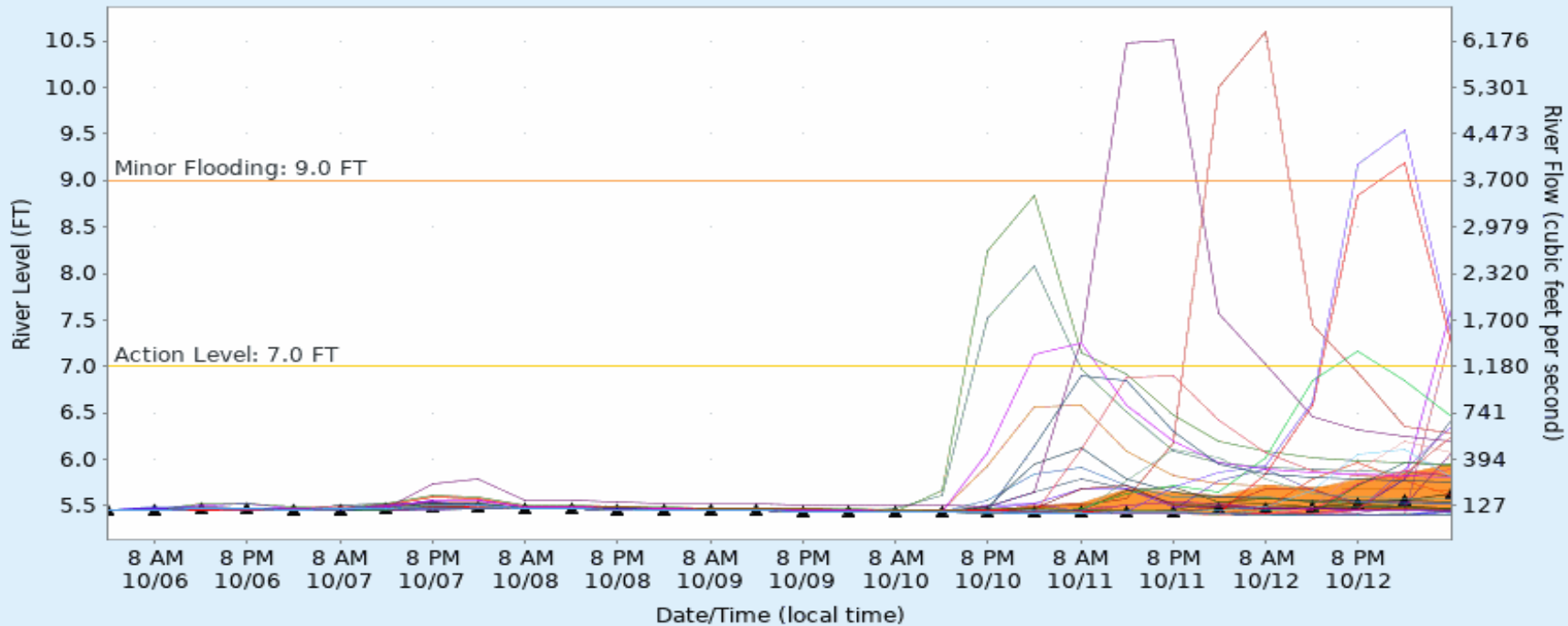


7 Day NAEFS River Level Simulations

Used to Estimate the Chance of Flooding and the Range of Possible River Levels
Each Line Shows an Individual Model Simulation (42 Total)



Hoosic River at Williamstown, MA (WILM3)



- Individual Model Simulations (42 Total)
- ▲ Median River Level (Simulations indicate a 50% Chance of Exceeding this Level)
- More Likely Range (Simulations indicate a 40% chance river levels will fall within this range)

10/06/2020 00 UTC NAEFS Model

High uncertainty next week (due to wetter antecedent conditions)

Most likely range is shaded in orange (still low flow)

CONCLUSIONS

- River flows are critically low across north central and portions of eastern Massachusetts
- Rainfall over the next week unlikely to provide substantial relief
- A wetter weather pattern is possible next week but with a high degree of uncertainty