



MASSACHUSETTS RIVER OVERVIEW



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AGENDA

- Snowpack conditions
- Western Mass groundwater
- Near term river outlooks
- Conclusions

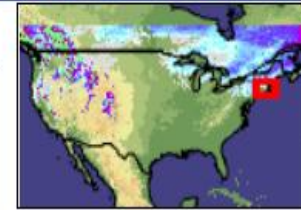
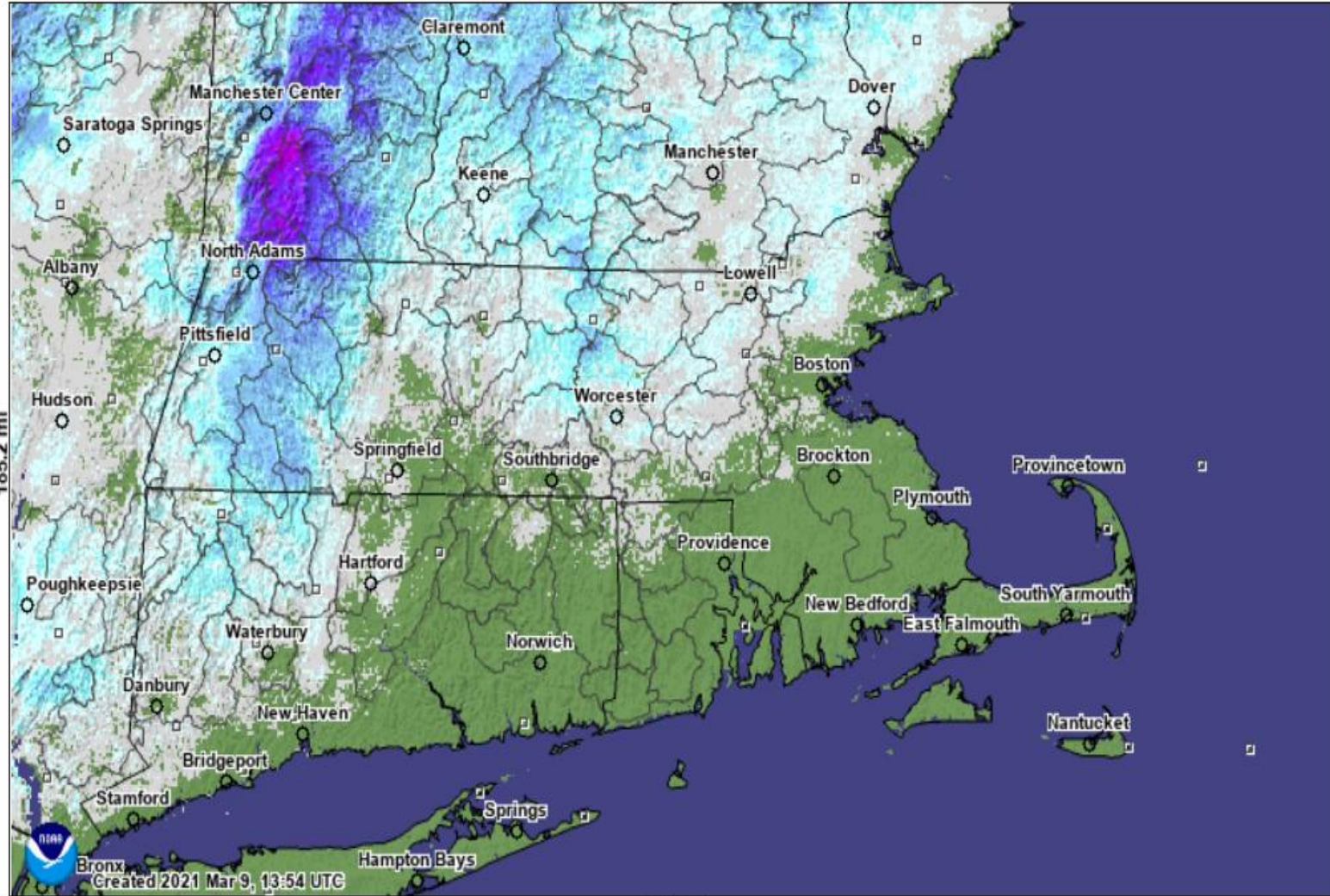
CURRENT SNOWPACK CONDITIONS

- Snow has melted off across most of the coastal plain.
- A decent snowpack remains across the Berkshires for recharge of groundwater and river systems.
 - Hoosic...Deerfield...Westfield and Housatonic all look to gain some recharge over the next month.
 - The mainstem Connecticut will also recharge from northern New England snowmelt.
- A more modest snowpack remains in north central Massachusetts.

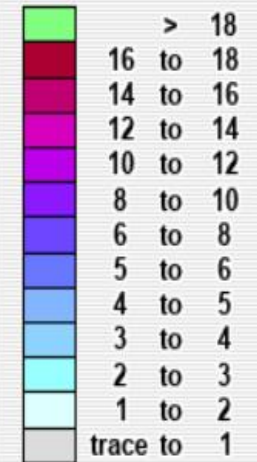
CURRENT SNOWPACK CONDITONS - cont

Modeled Snow Water Equivalent (Shallow-snow Legend) forecasted for 2021 March 9, 15:00 UTC

239.9 mi



Inches of water equivalent



Not Estimated

Elevation in feet



3 to 5+ inches of water still available in the Berkshires

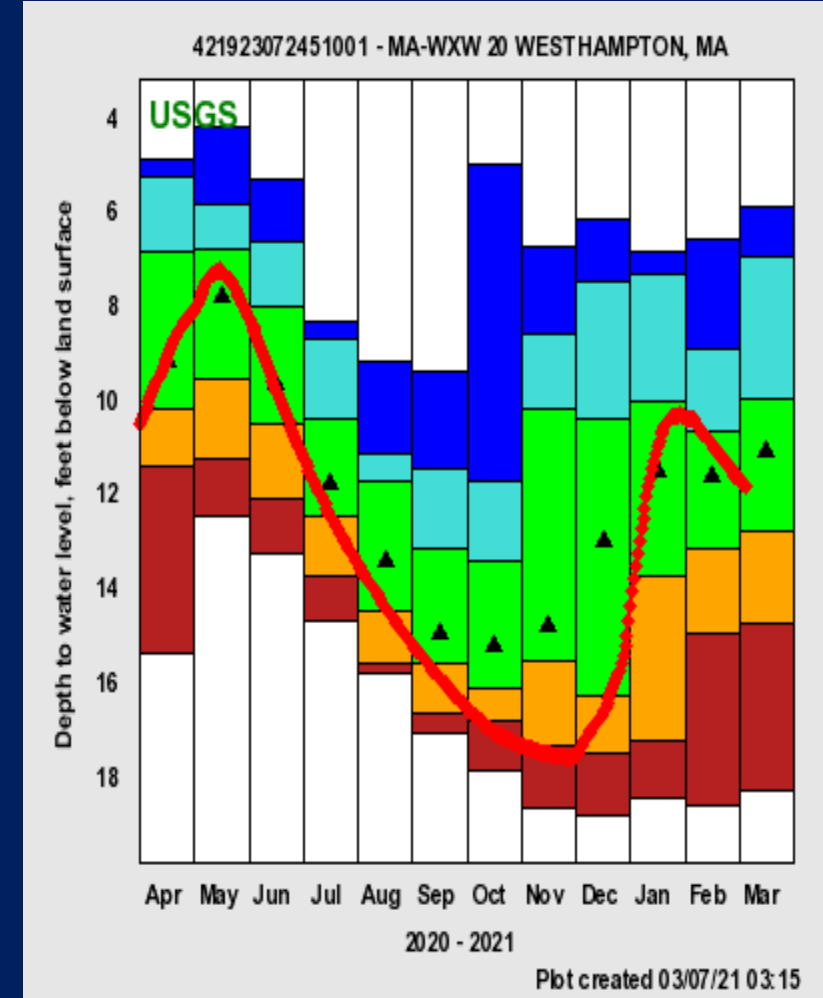
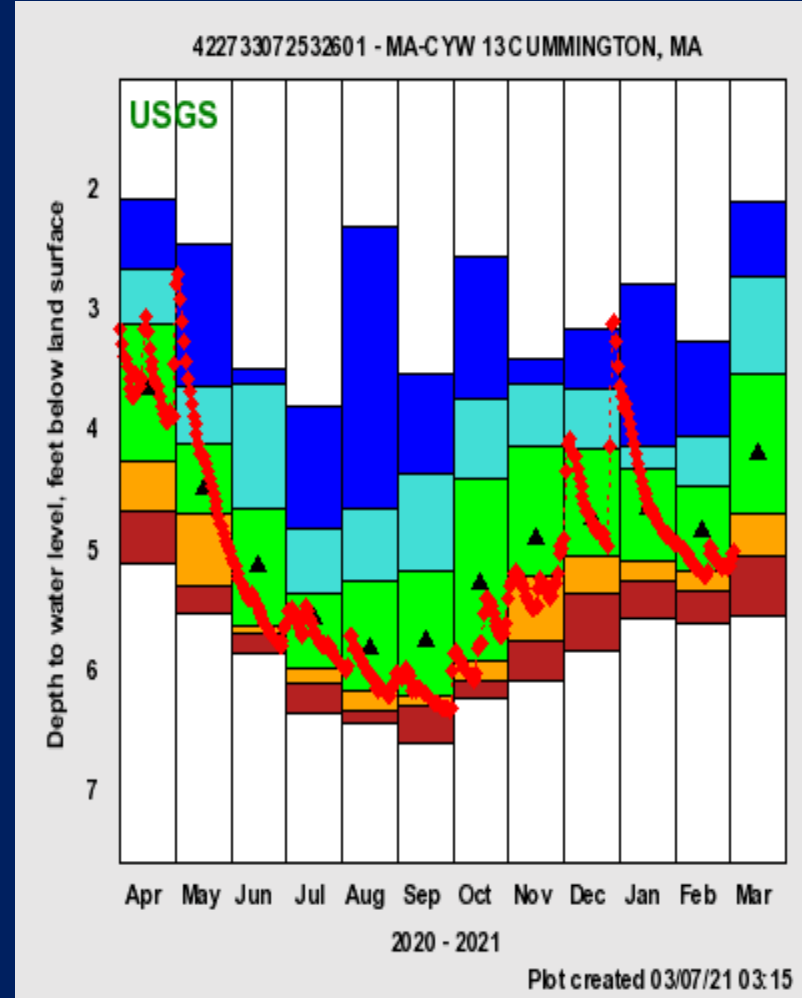
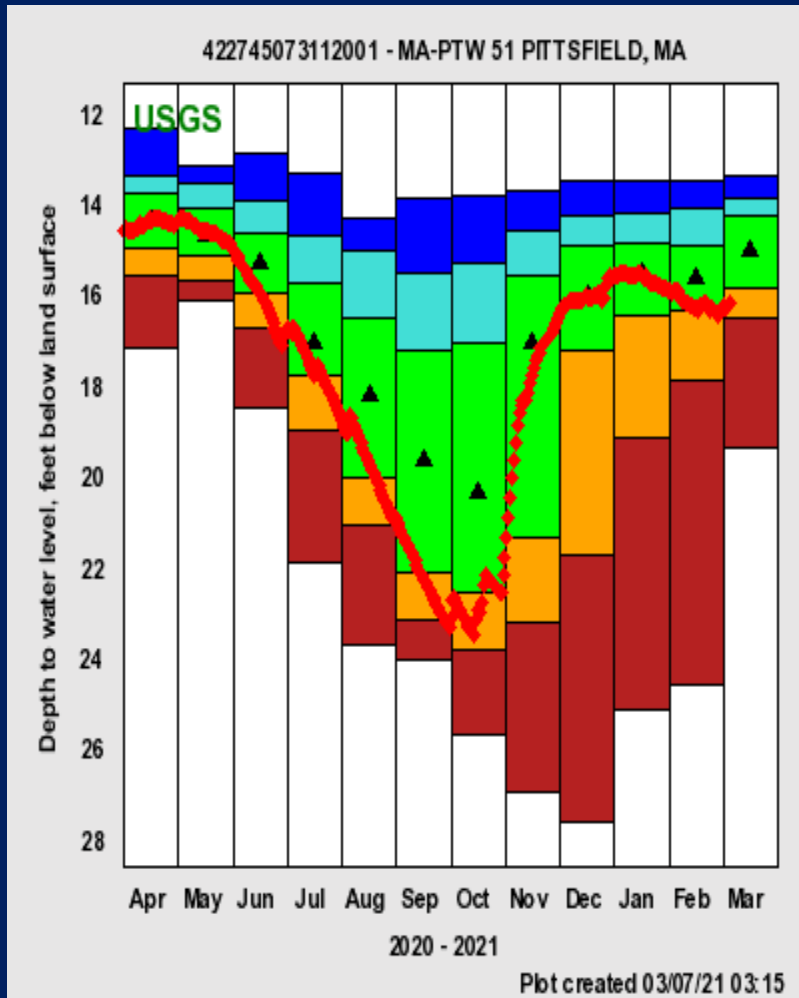
< 2 inches available for most of the lower Merrimack tributary basins

Nothing left for southeast Mass

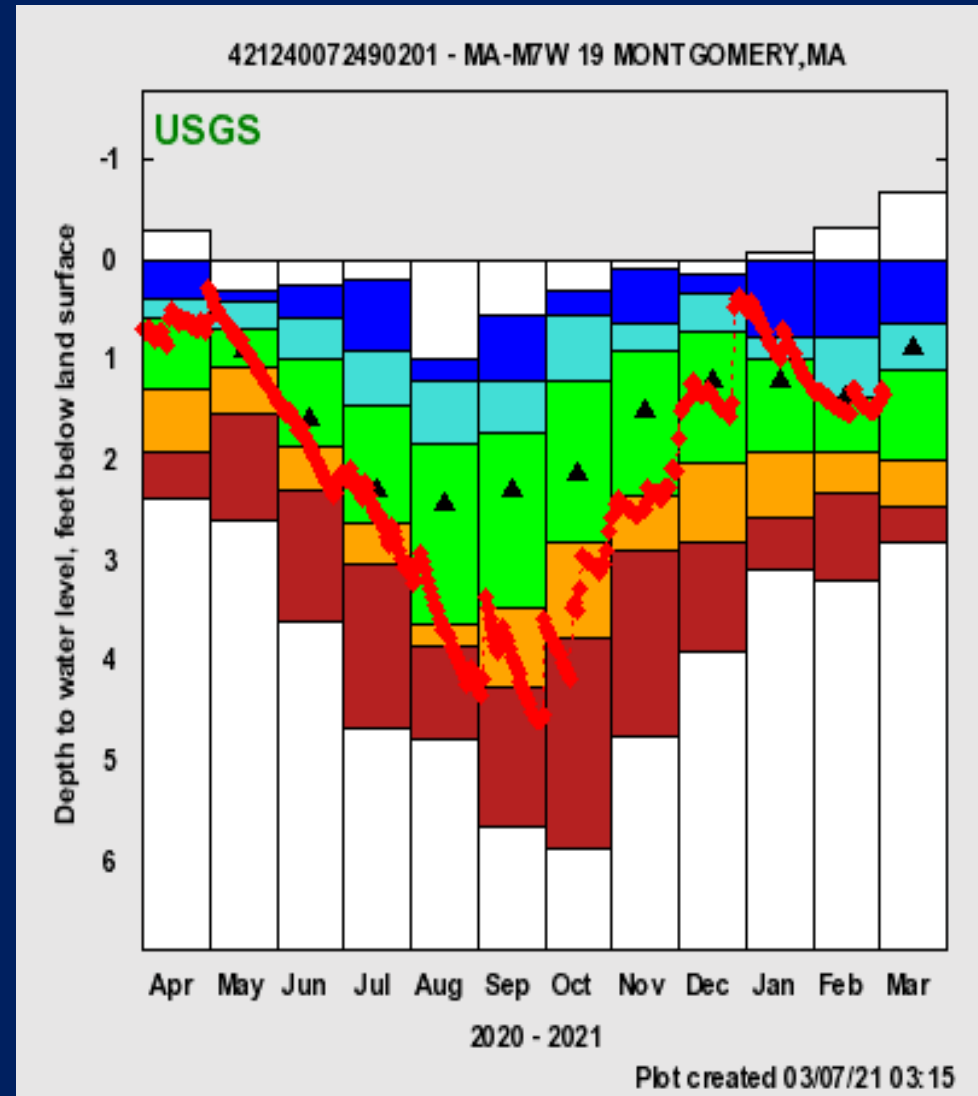
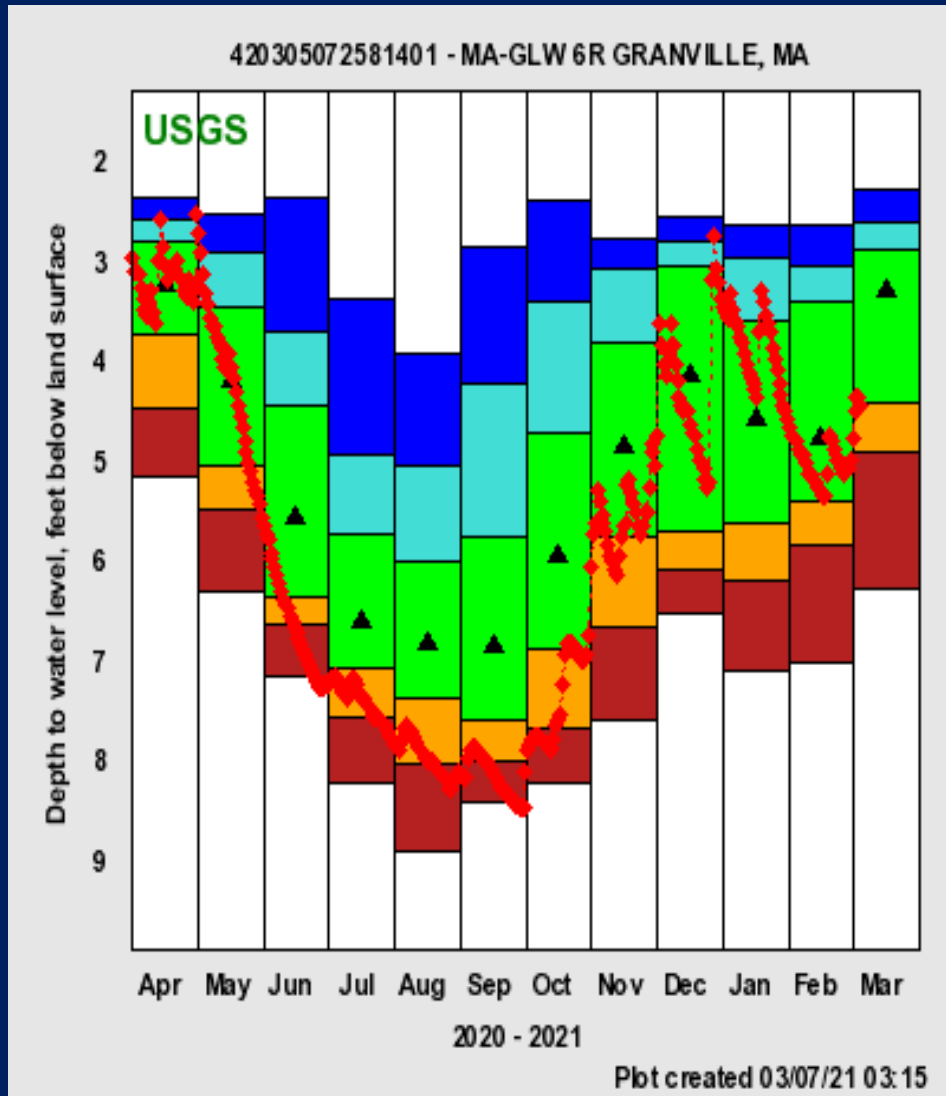
WESTERN MASS GROUNDWATER

- Groundwater levels across western Massachusetts are near to below normal but that part of the state is in line to receive the most recharge from snowmelt.

WESTERN MASS GROUNDWATER - cont



WESTERN MASS GROUNDWATER - cont



NEAR TERM RIVER OUTLOOKS

- Western Massachusetts rivers and streams will benefit from snowmelt over the next several weeks so flows there should be in large increase from current levels.
- Central but especially southeastern Massachusetts watersheds have now become essentially dependent on weather systems for their flow rates.
- Lets check out a few simulations...

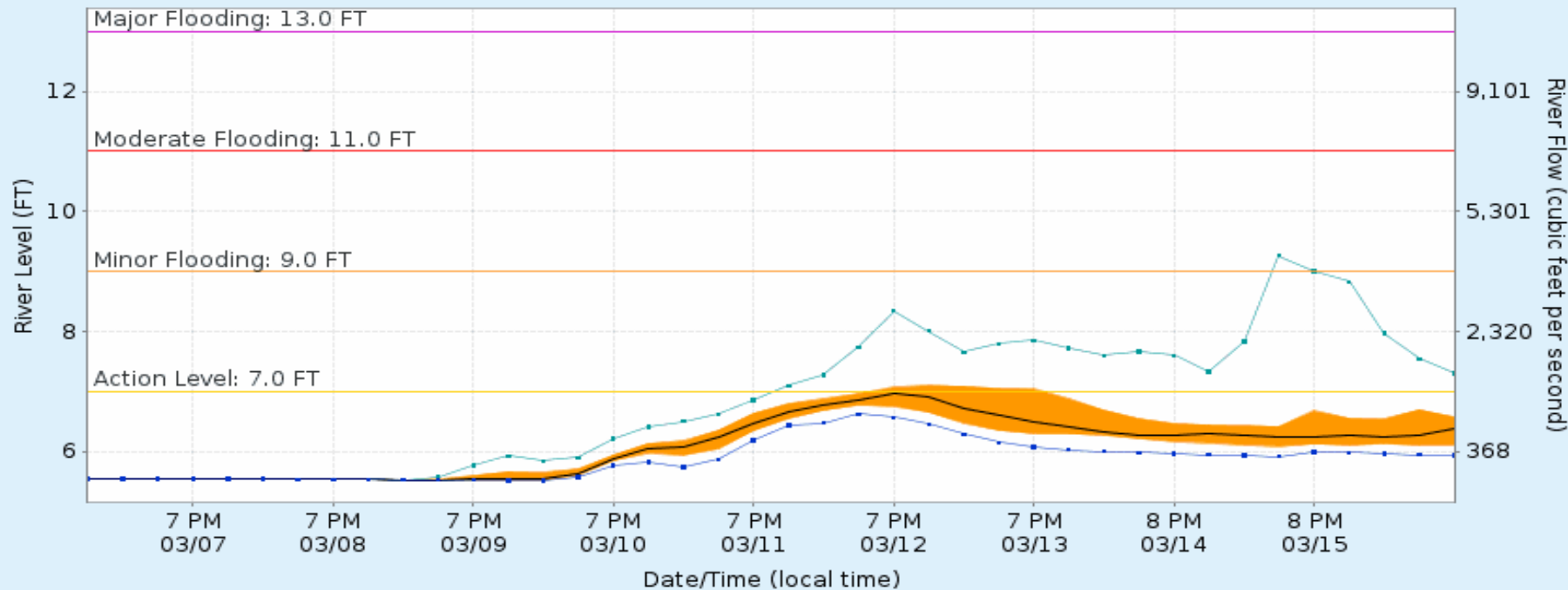
NEAR TERM RIVER OUTLOOKS - cont



10 Day NAEFS Potential River Levels

Used to Estimate the Chance of Flooding and the Range of Possible River Levels

Hoosic River at Williamstown, MA (WILM3)



Rises primarily due to snowmelt

- + Minimum River Level (Simulations indicate a 5% Chance of Falling Below this Level)
- Median River Level (Simulations indicate a 50% Chance of Exceeding this Level)
- Maximum River Level (Simulations indicate a 5% Chance of Exceeding this Level)
- More Likely Range (Simulations indicate a 40% chance river levels will fall within this range)

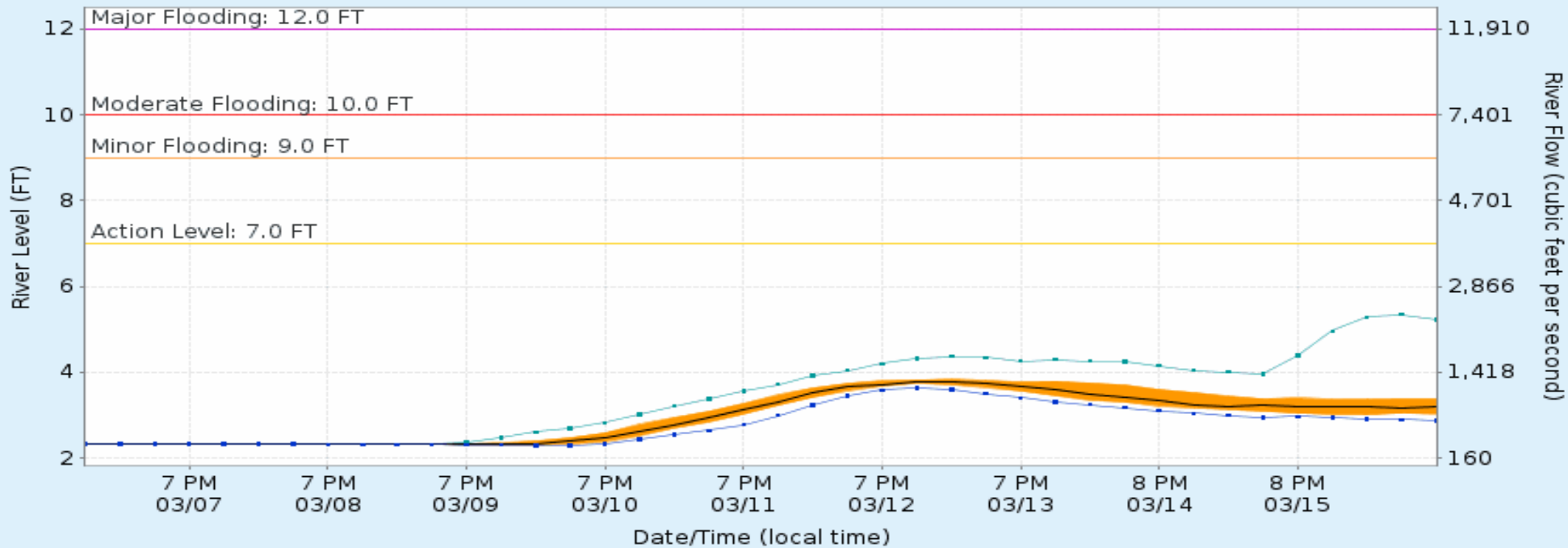
NEAR TERM RIVER OUTLOOKS - cont



10 Day NAEFS Potential River Levels

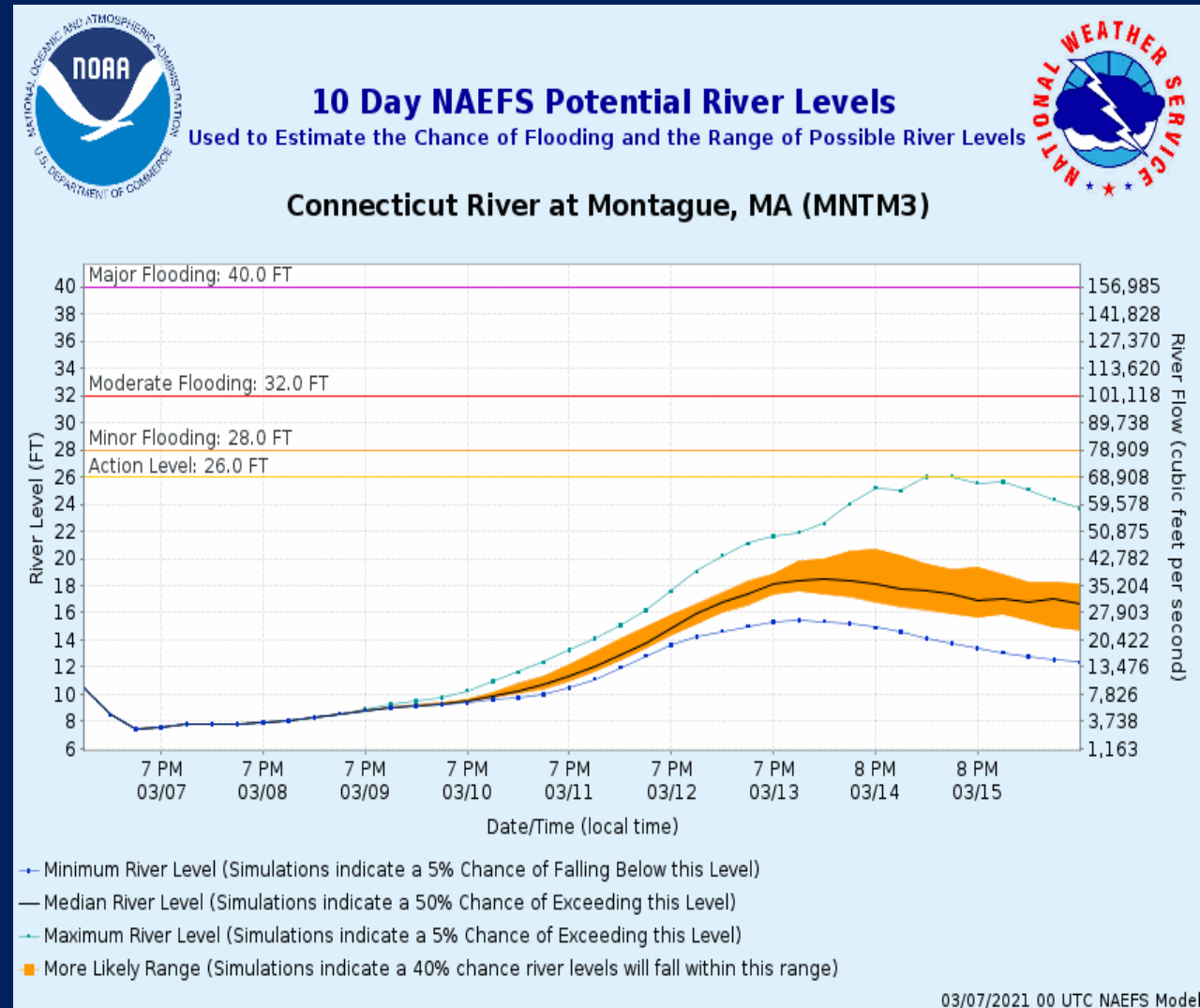
Used to Estimate the Chance of Flooding and the Range of Possible River Levels

Housatonic River at Great Barrington, MA (GTBM3)

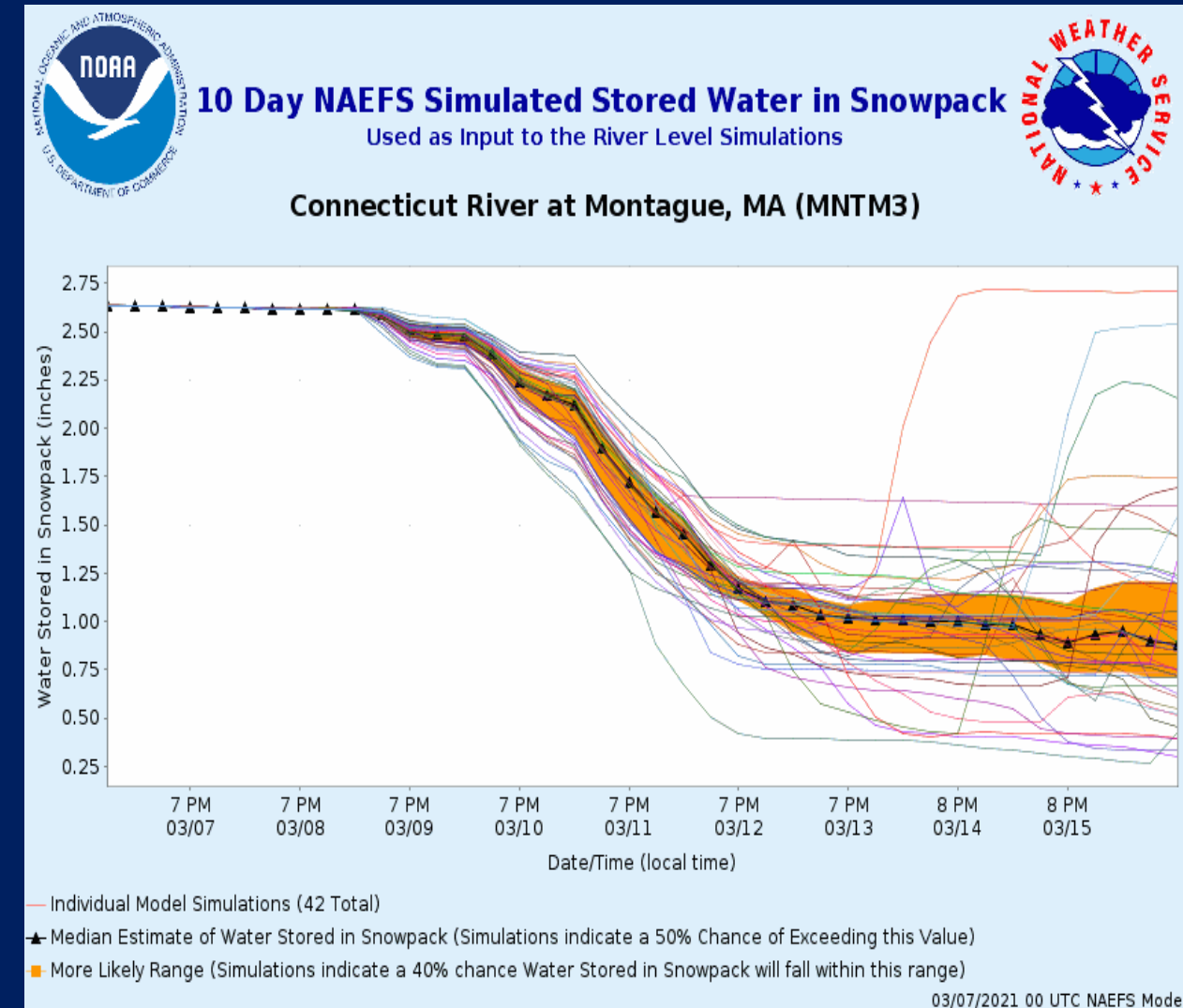


Rises again primarily due to snowmelt but not as significant as the Hoosic

NEAR TERM RIVER OUTLOOKS - cont



03/07/2021 00 UTC NAEFS Model



03/07/2021 00 UTC NAEFS Model

Rises due to local and northern New England snowmelt

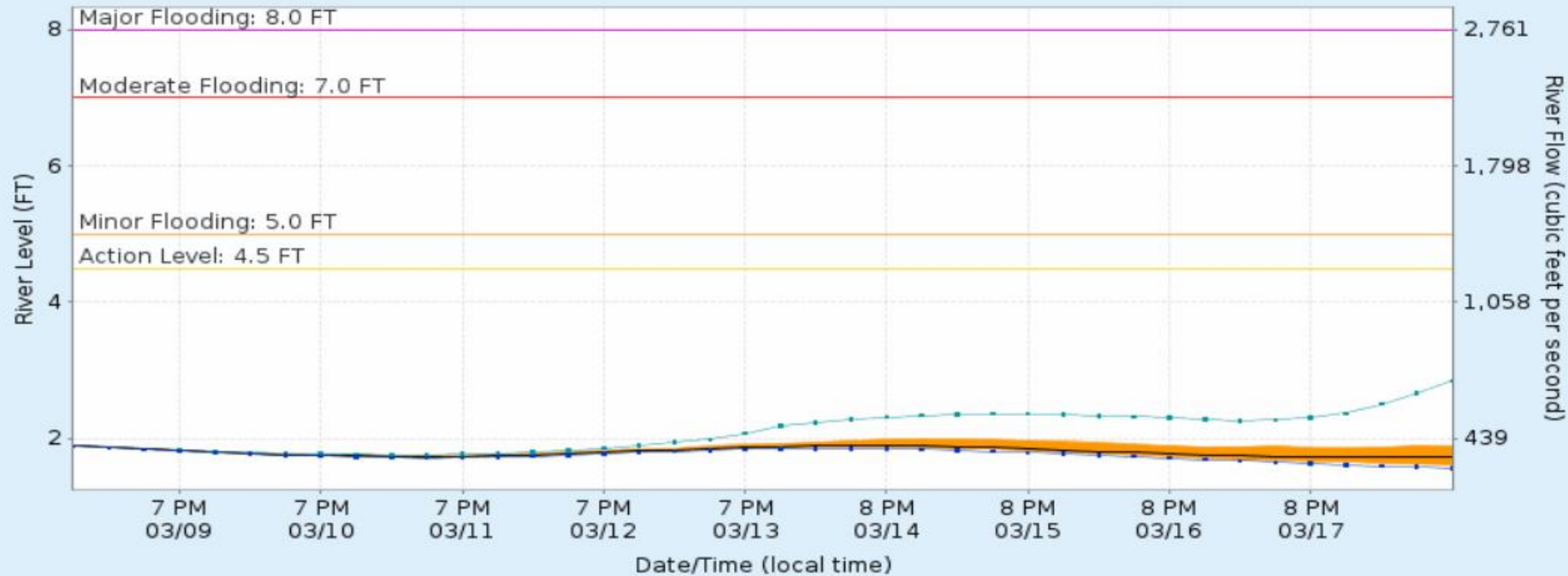
NEAR TERM RIVER OUTLOOKS - cont



10 Day NAEFS Potential River Levels

Used to Estimate the Chance of Flooding and the Range of Possible River Levels

Charles River at Dover, MA (DOVM3)



- Minimum River Level (Simulations indicate a 5% Chance of Falling Below this Level)
- Median River Level (Simulations indicate a 50% Chance of Exceeding this Level)
- Maximum River Level (Simulations indicate a 5% Chance of Exceeding this Level)
- More Likely Range (Simulations indicate a 40% chance river levels will fall within this range)

03/09/2021 00 UTC NAEFS Model

Steady to decreasing flows due to lack of snowmelt

CONCLUSIONS

- Although some groundwater levels are below normal across western portions of Massachusetts...the snowpack suggests this part of the state will experience the greatest recharge to both river flows and groundwater over the next 2 or 3 weeks.
- We may actually have more of an issue in the east and southeast where there is no snow left to melt and a near term dry weather pattern seems likely.
- Growing season is still a month away so time is not yet critical. If we do not maintain normal precipitation amounts going forward...drought could certainly rear its head again .

QUESTIONS??

