

Streamflow and Groundwater Conditions in Massachusetts

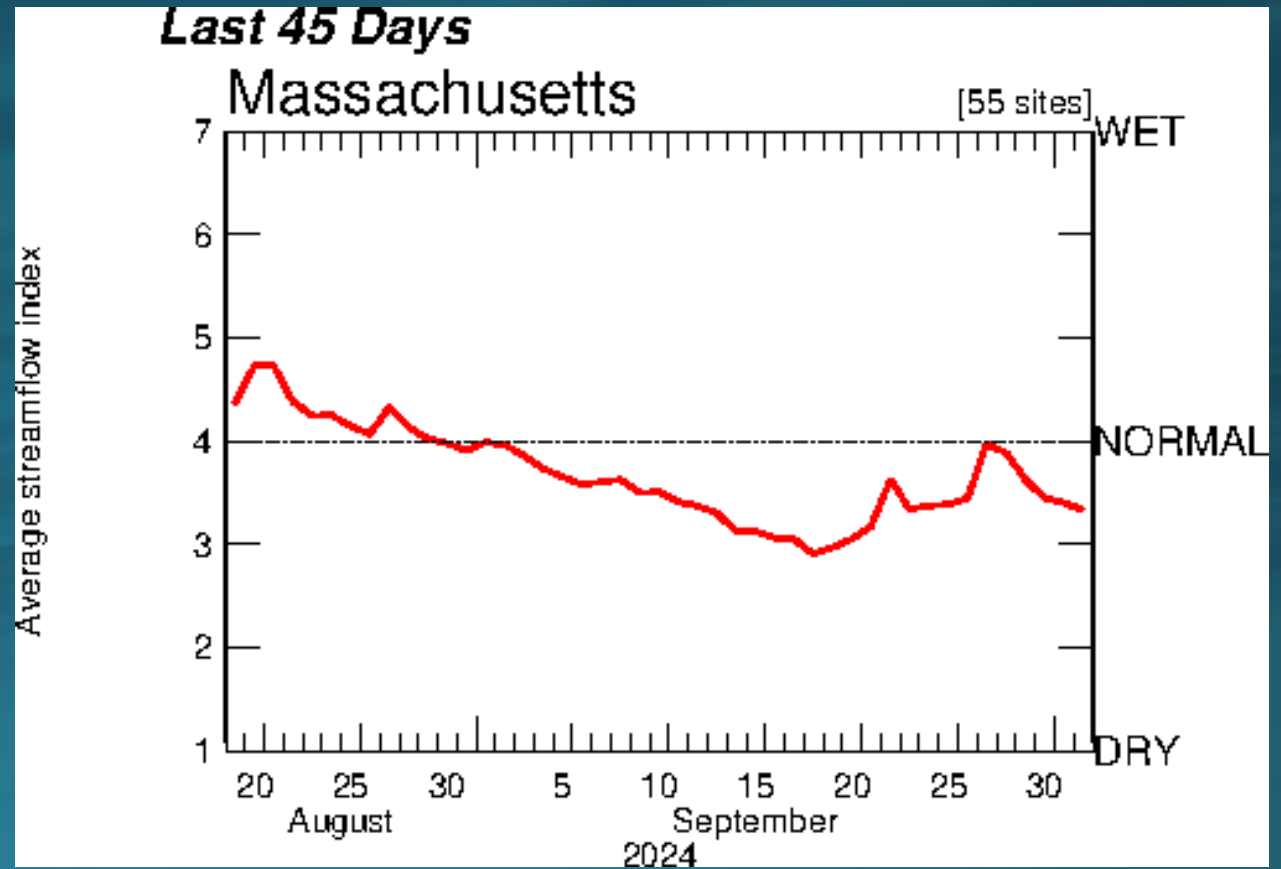
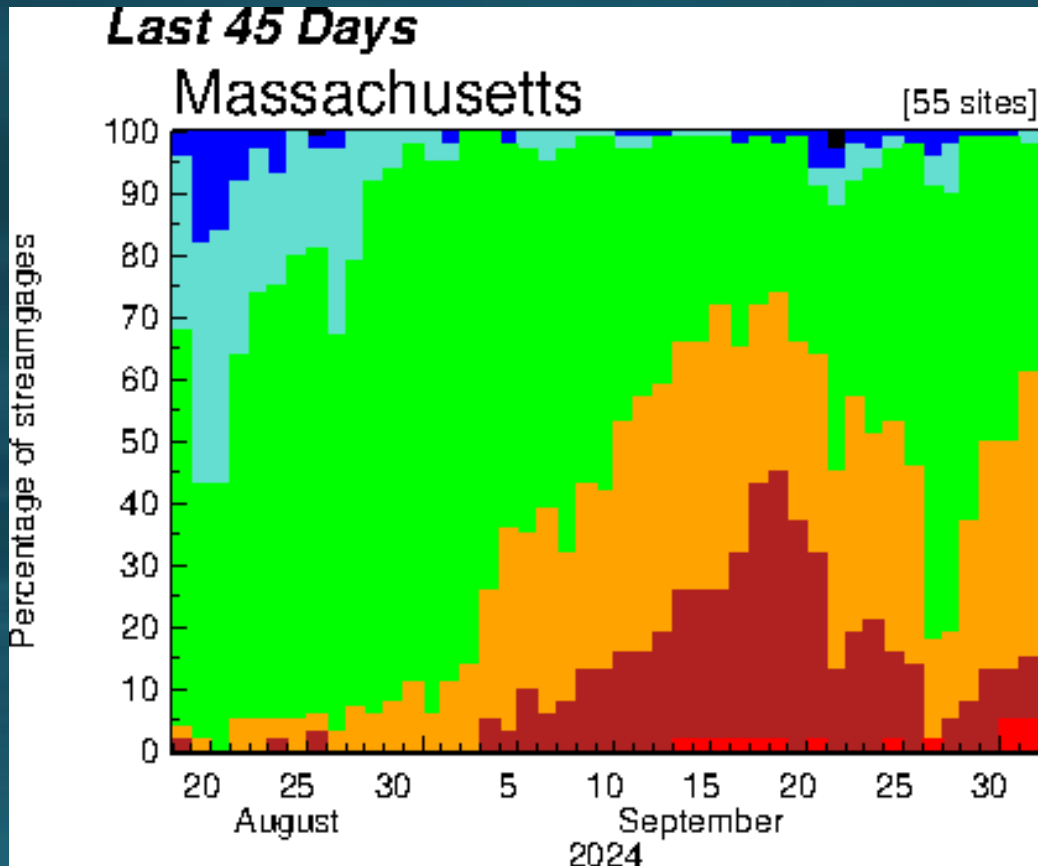
Massachusetts Drought Task Force Meeting
October 10, 2024

U.S. Geological Survey
New England Water Science Center

Brian Loving



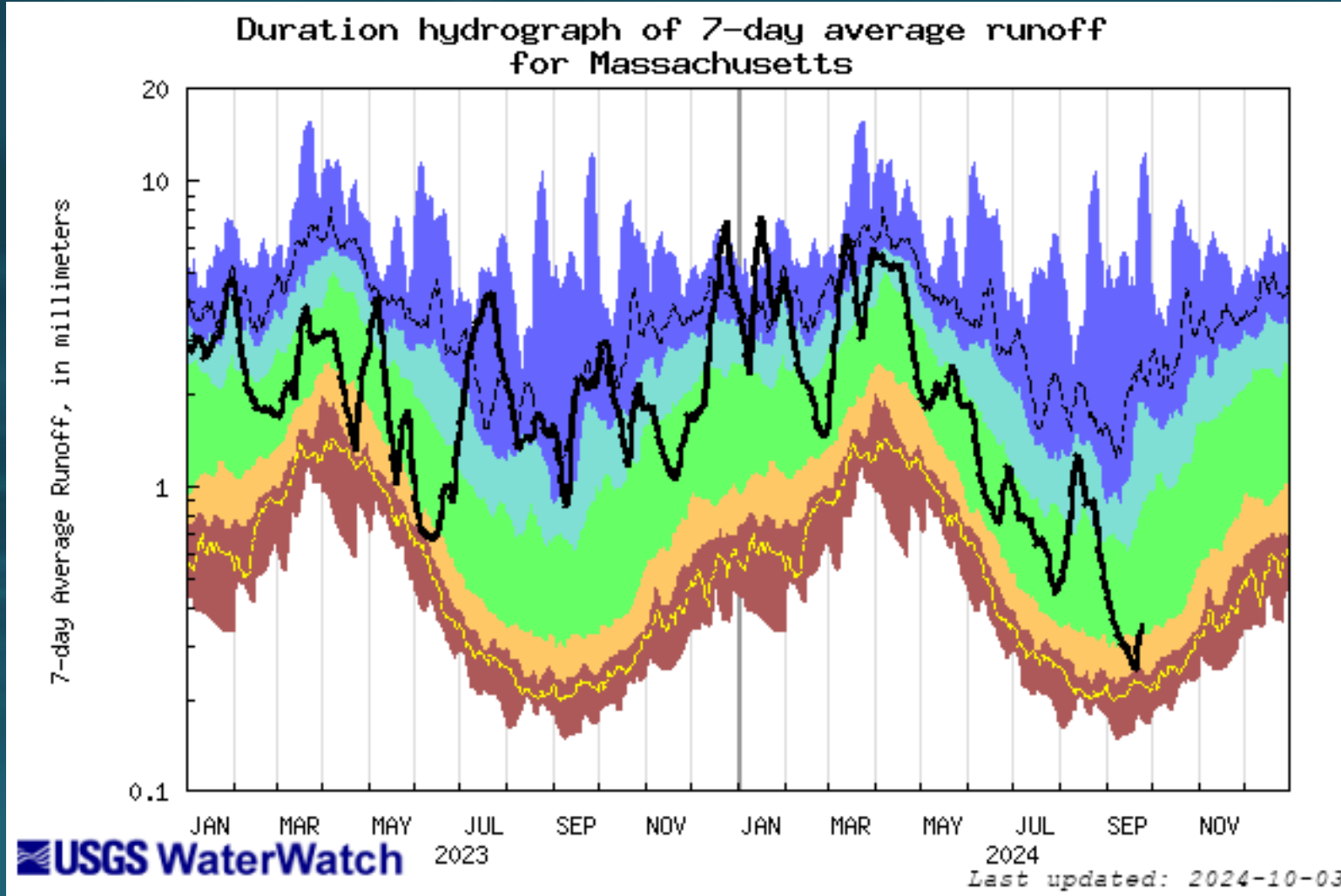
Streamflow Conditions – last 45 days



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		

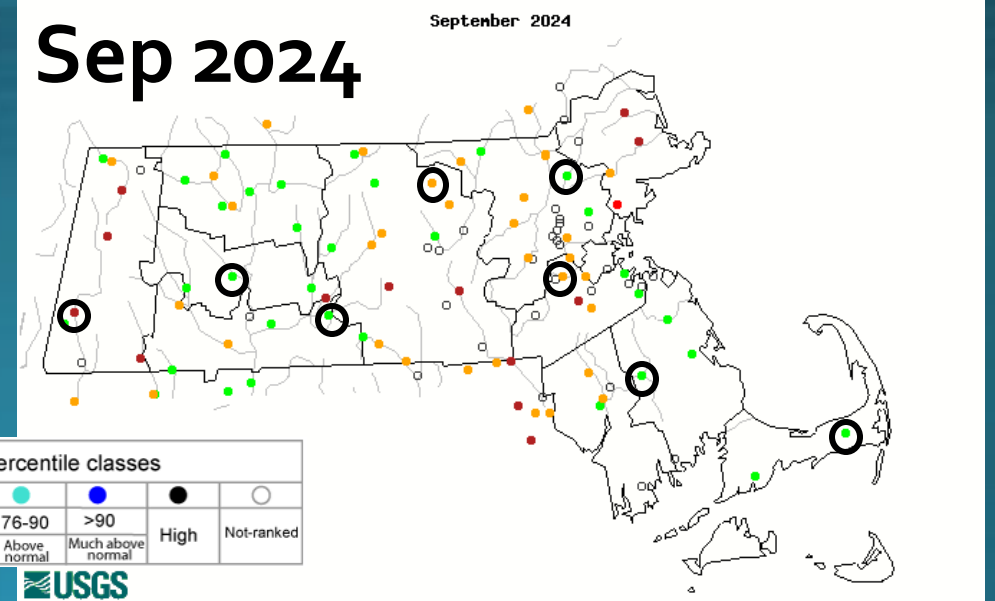
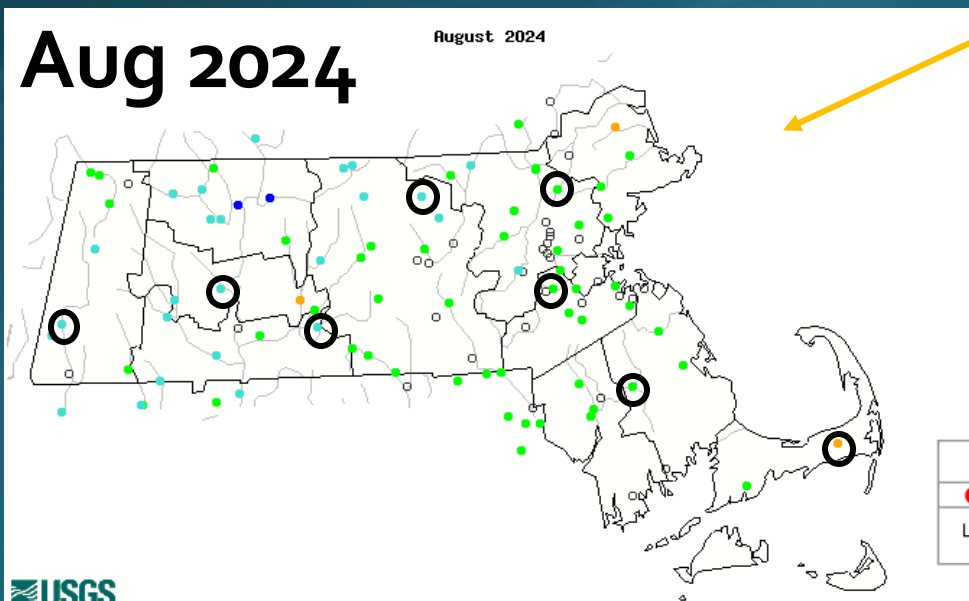
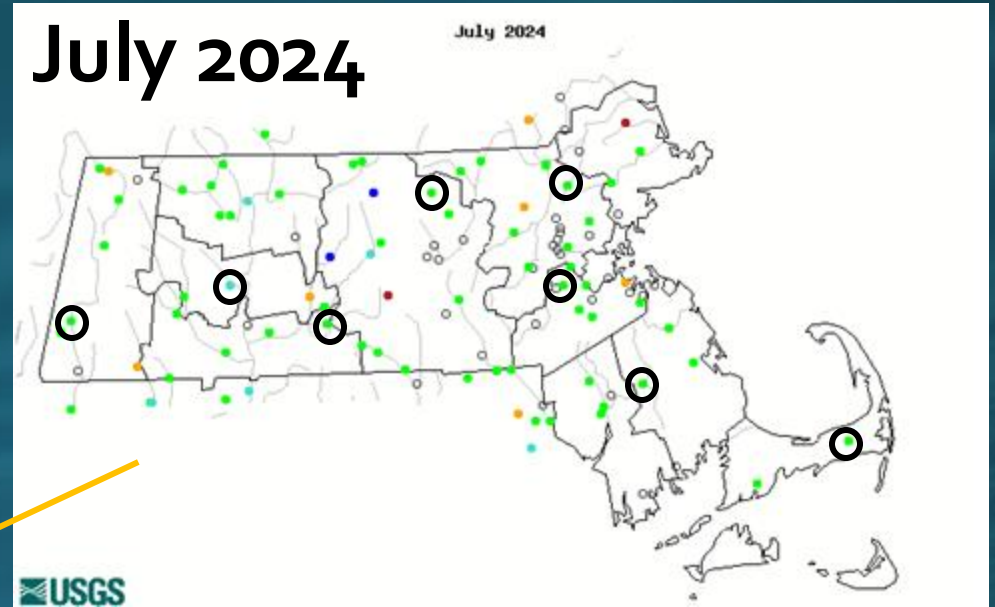
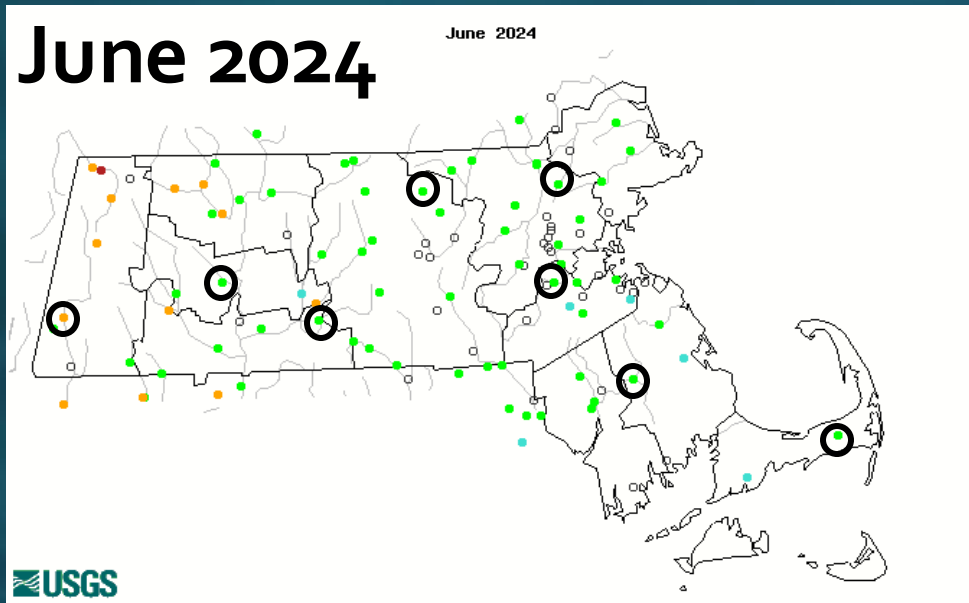
Streamflow Conditions 7-Day Moving Average



Explanation - Percentile classes

lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest	Runoff
Much below Normal		Below normal	Normal	Above normal		Much above normal	

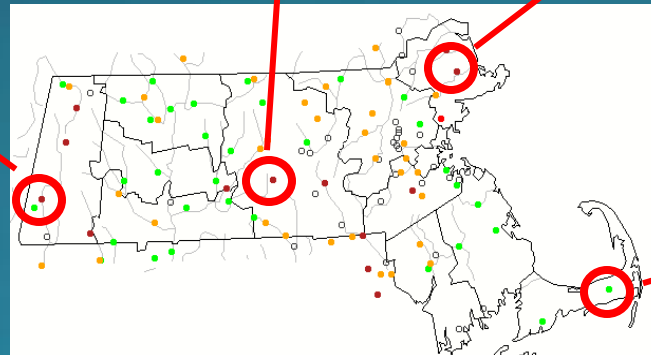
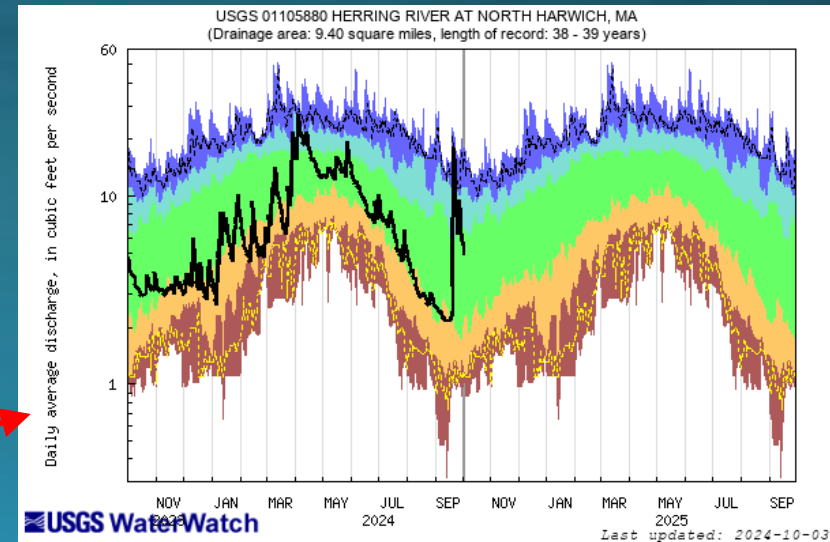
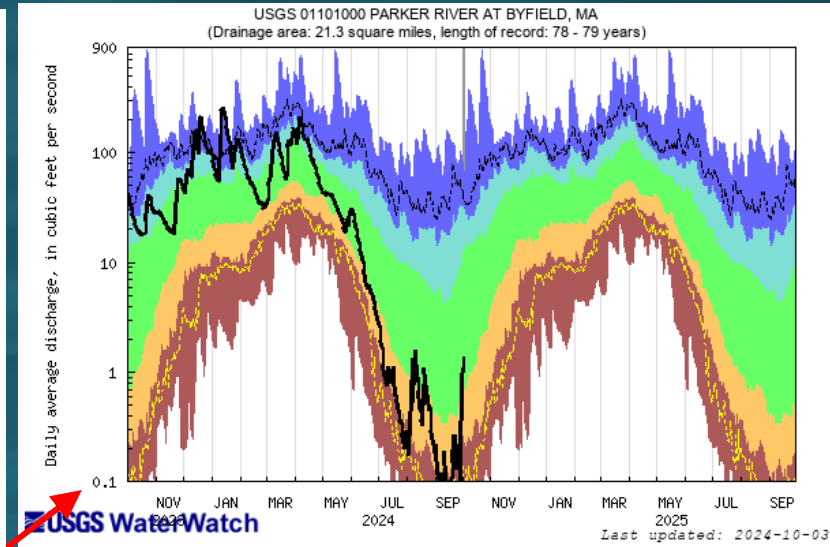
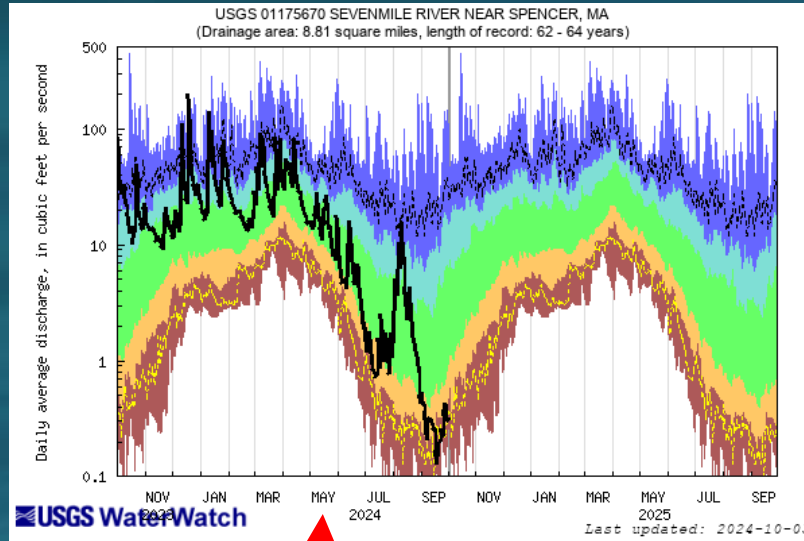
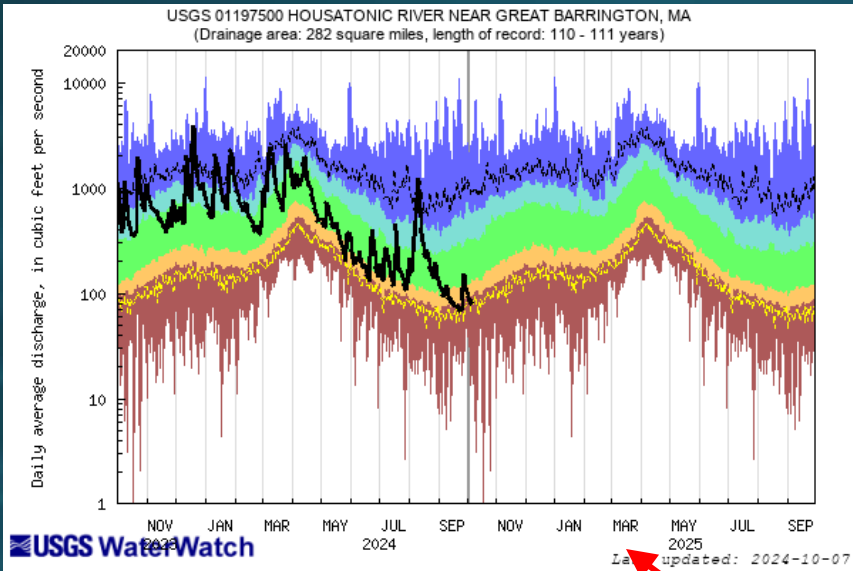
Streamflow Conditions – Monthly Average



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		

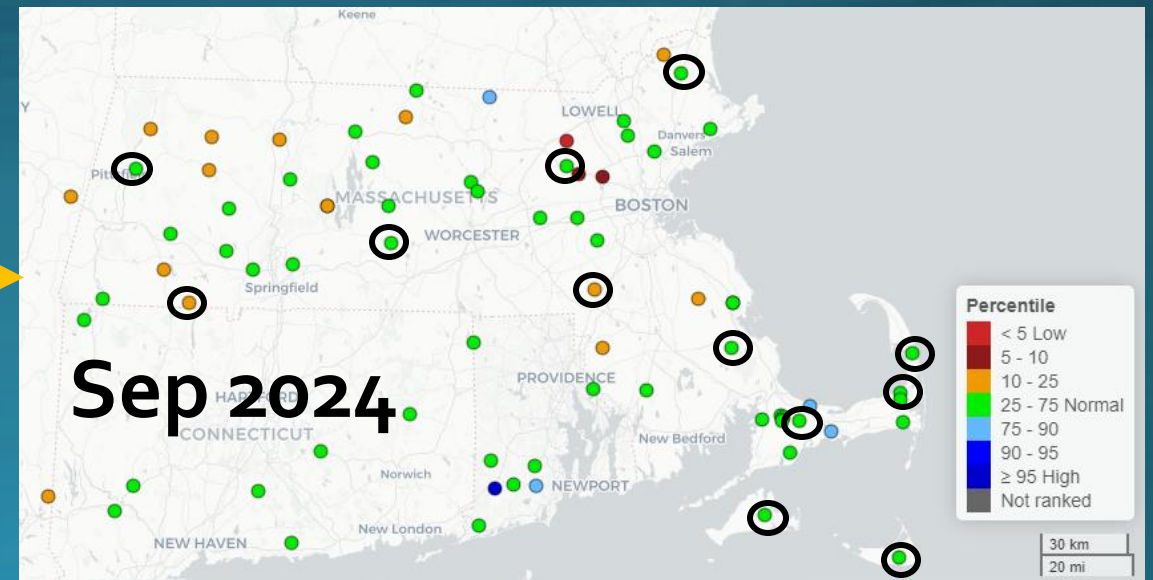
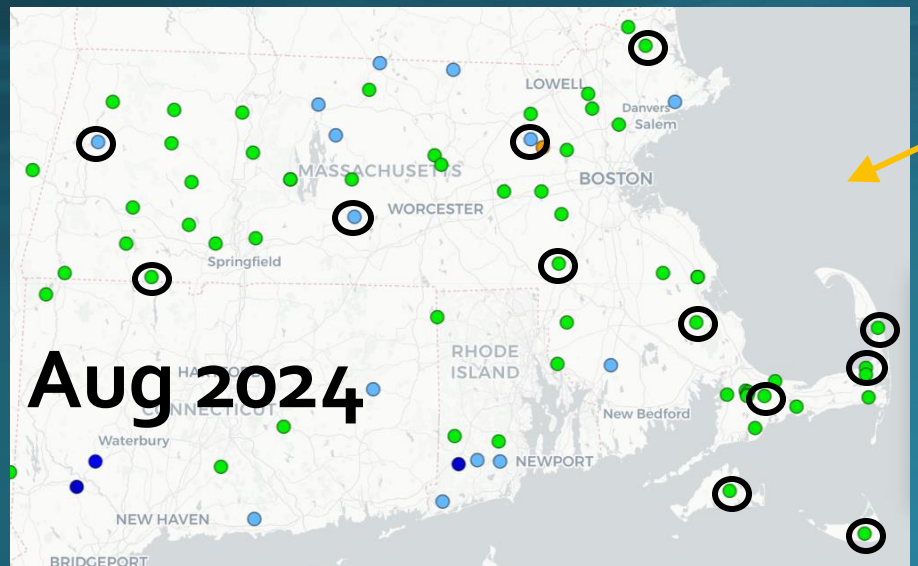
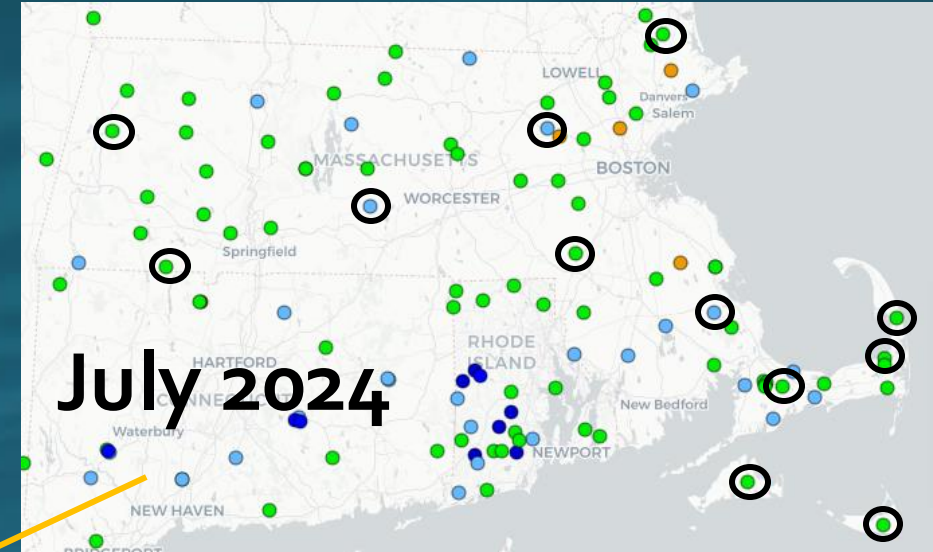
SW Conditions 7-Day Average



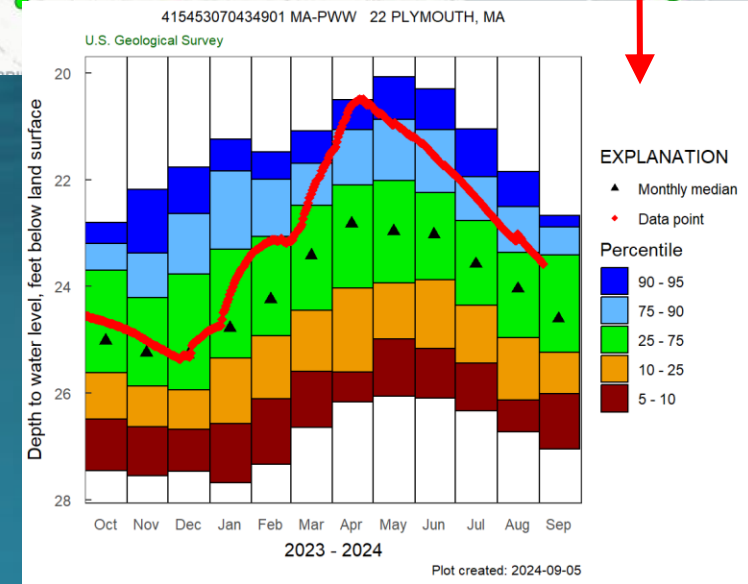
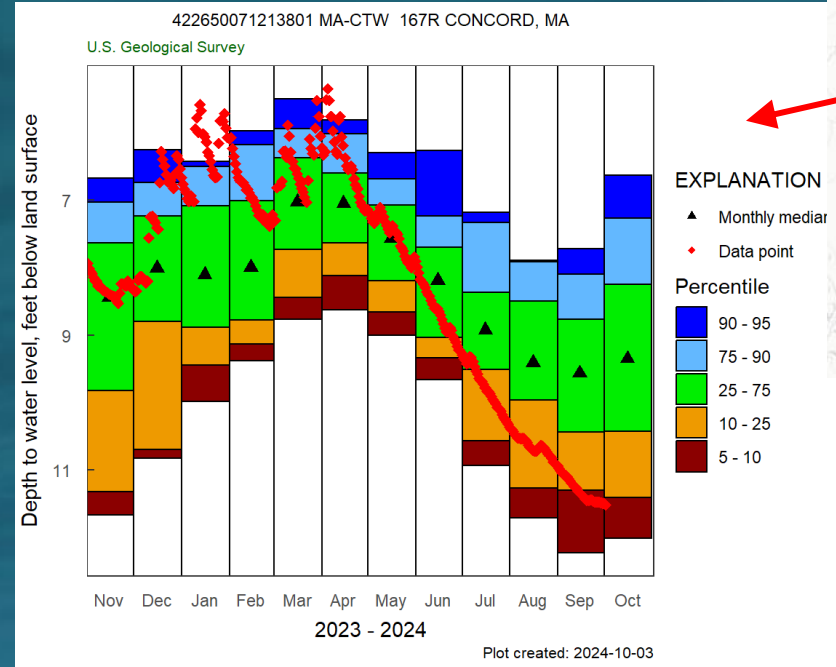
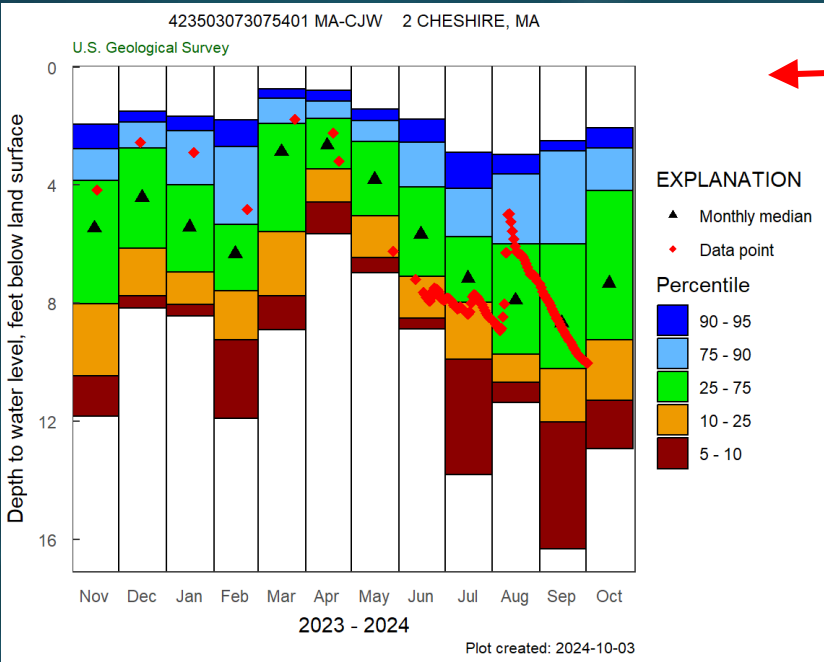
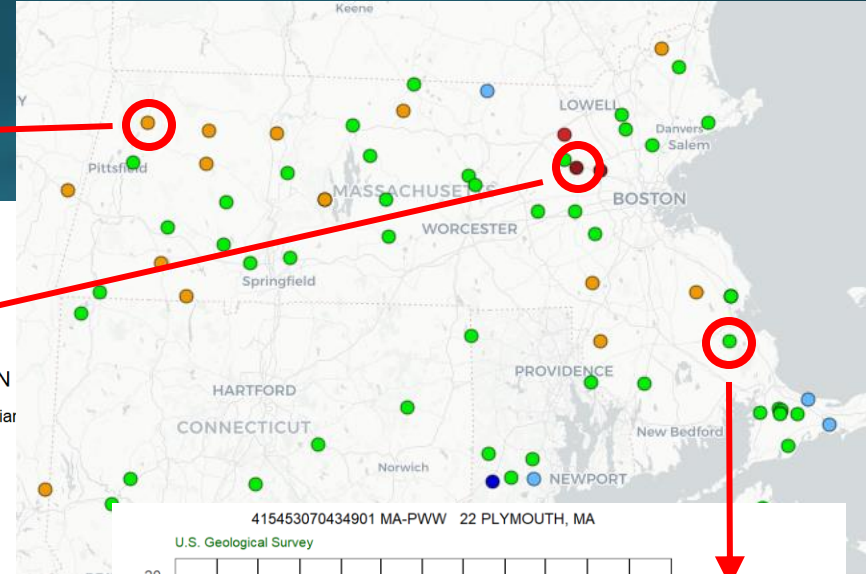
Explanation - Percentile classes

lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Runoff

Groundwater Conditions – End of Month



GW - Western, Central, and Southeast Regions



Period of Record: 69 yrs; Cont. 0.3 yrs

Period of Record: 58 yrs; Cont. 2 yrs

Period of Record: 64 yrs; Cont. 10 yrs

Summary of Conditions

- Streamflow conditions were seasonally much lower in September than August, in all drought regions across Massachusetts except the Cape. September conditions ranged from above normal in the Cape Region to below normal in the northern part of the Southeast Region, and were generally below to much below normal across the rest of the Commonwealth. (No USGS streamgages on the Islands)
- Groundwater condition trends were similar to streamflow, with conditions generally getting worse and becoming below to much below normal everywhere except the Cape and Islands.