

# Streamflow and Groundwater Conditions in Massachusetts

## Massachusetts Drought Task Force Meeting

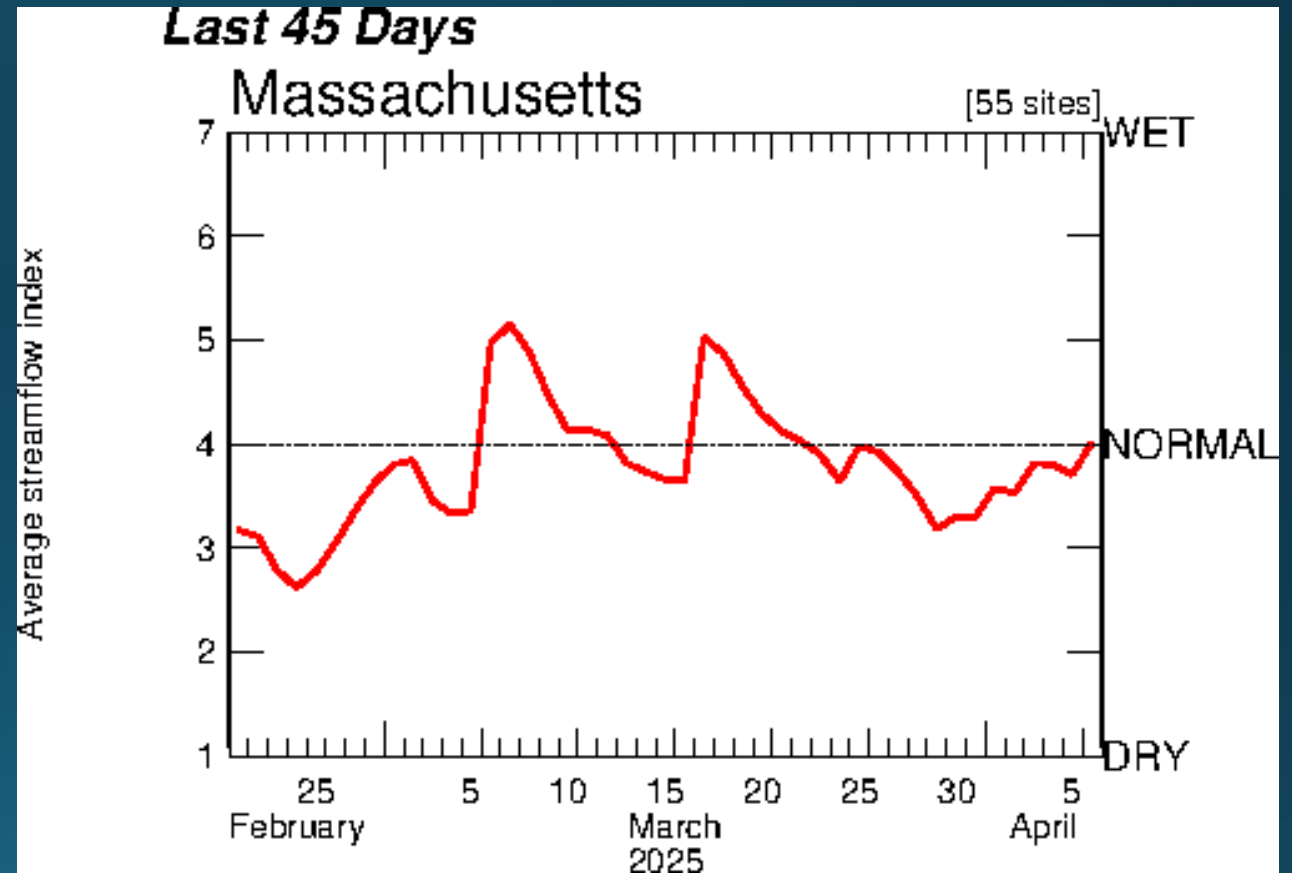
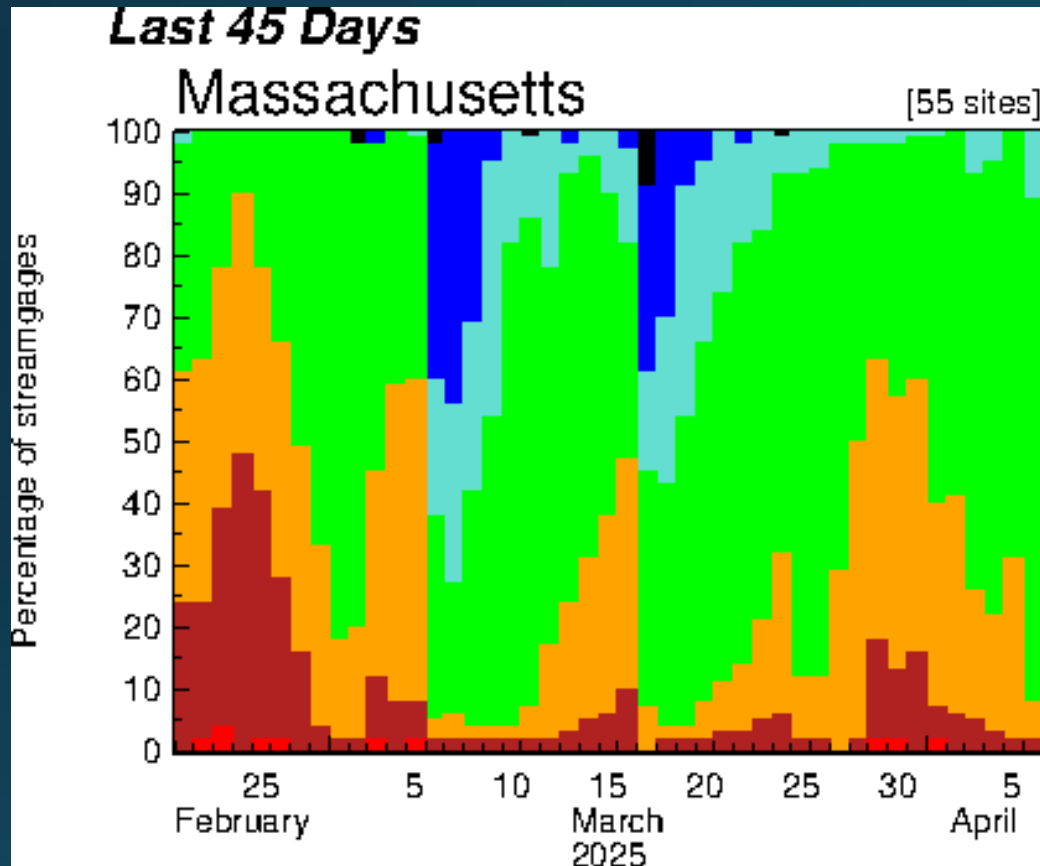
April 8, 2025

U.S. Geological Survey  
New England Water Science Center

Brian Loving



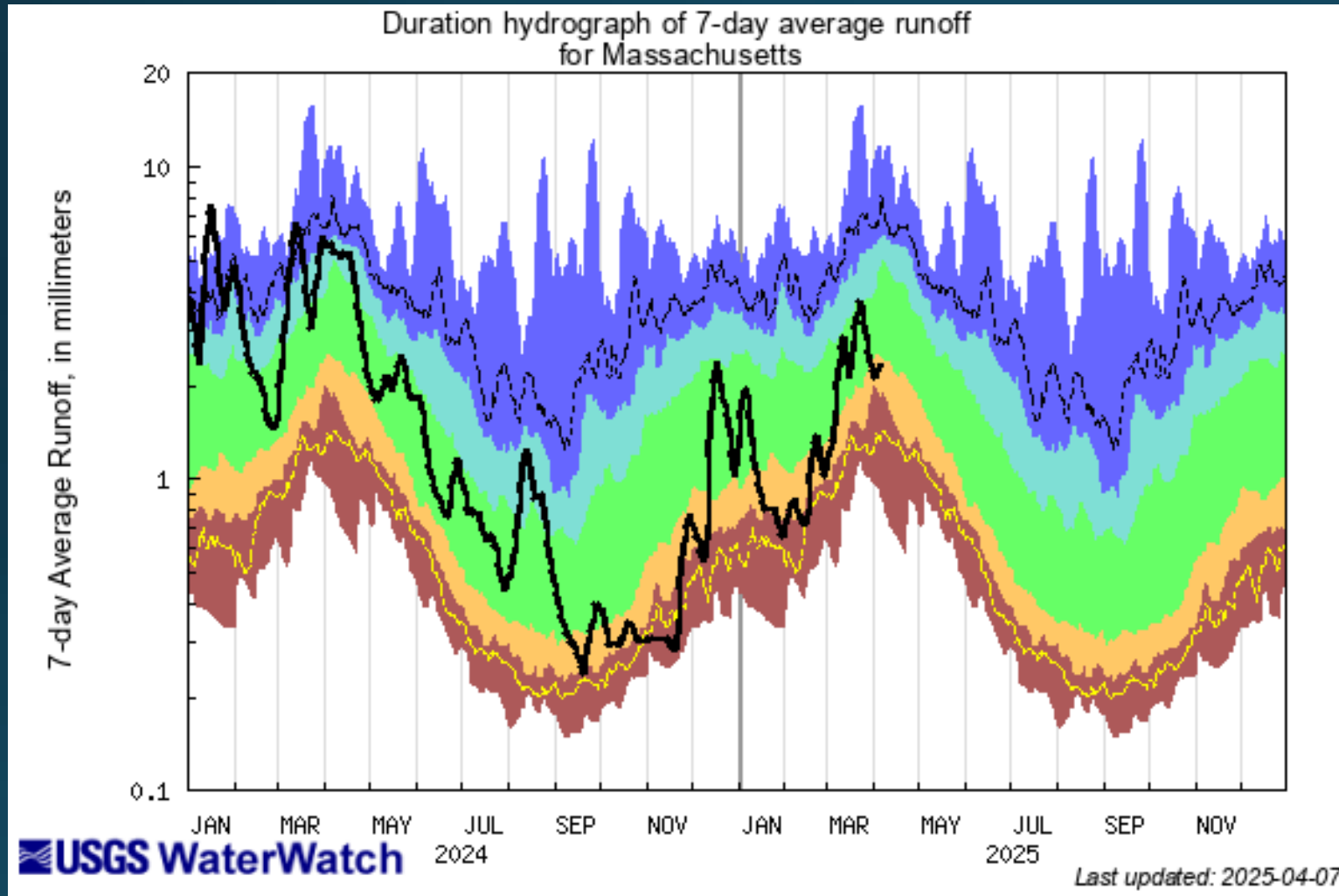
# Streamflow Conditions – last 45 days



**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			

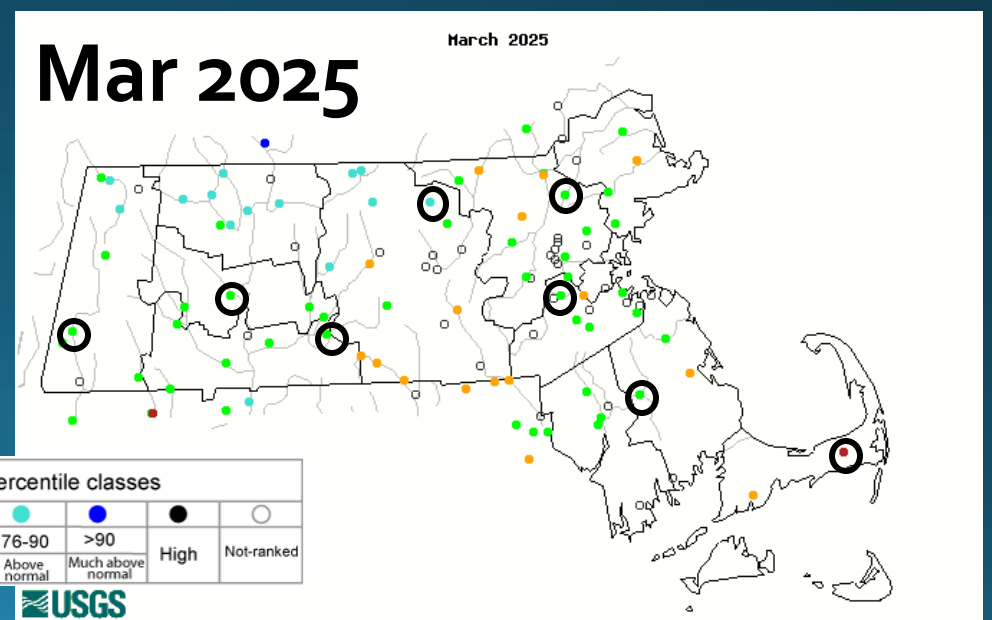
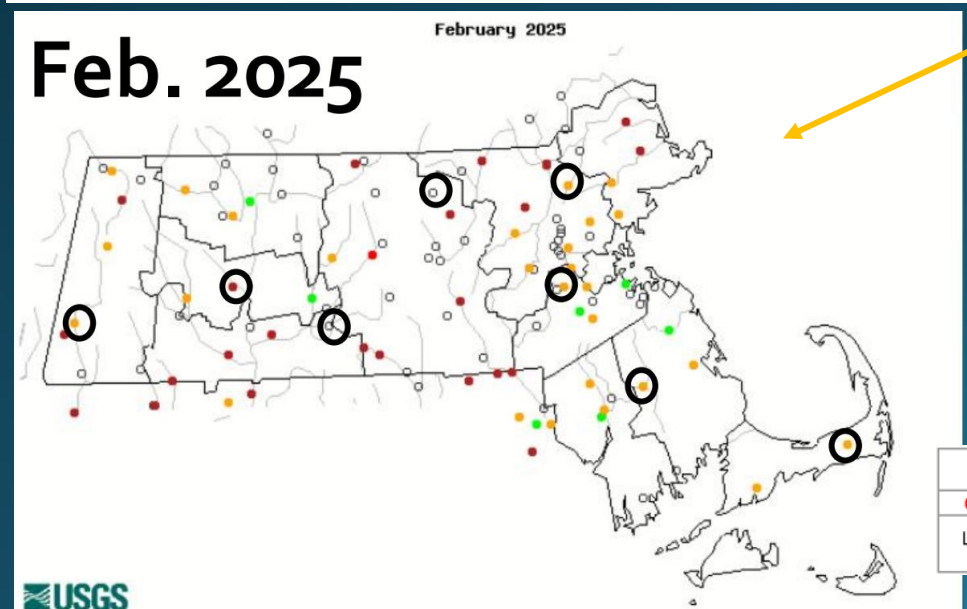
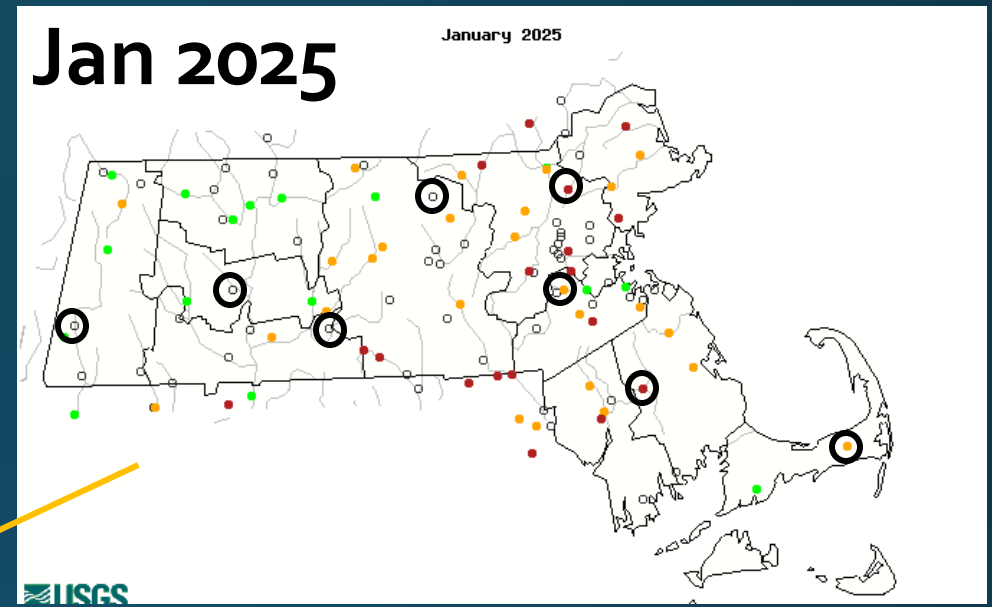
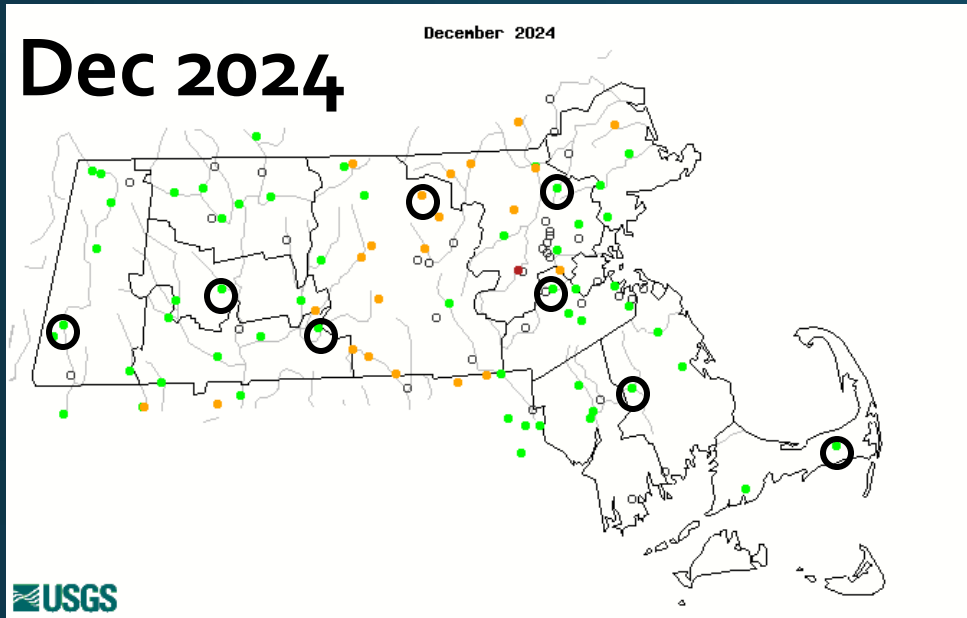
# Streamflow Conditions 7-Day Moving Average



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			

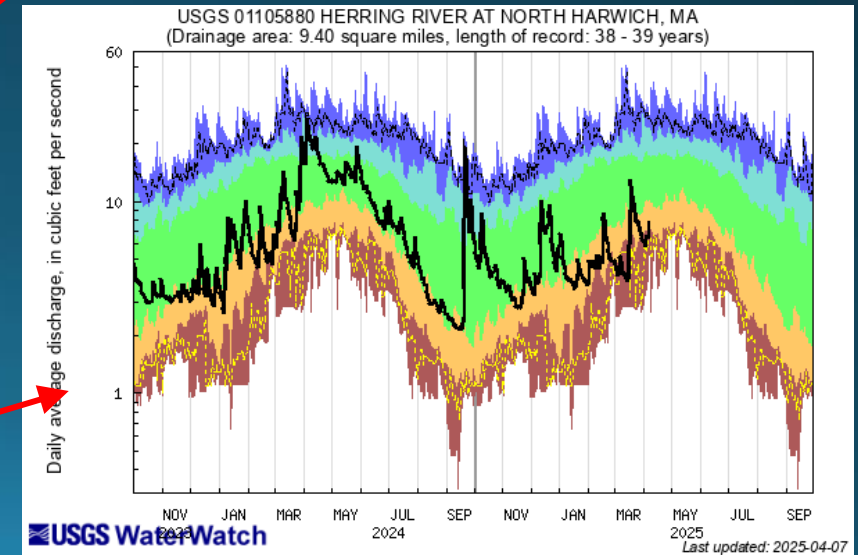
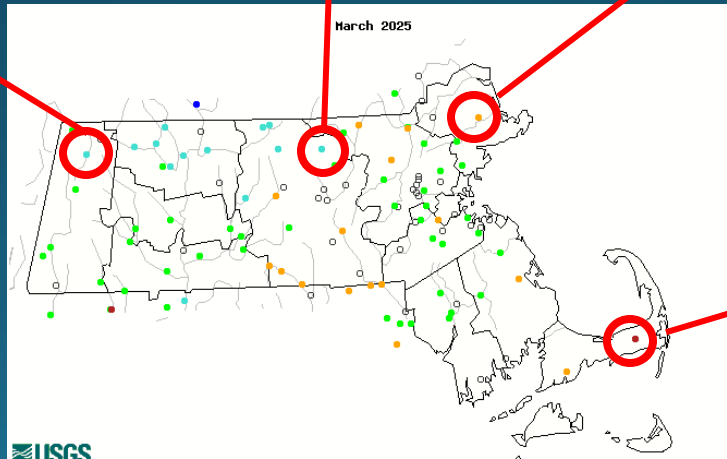
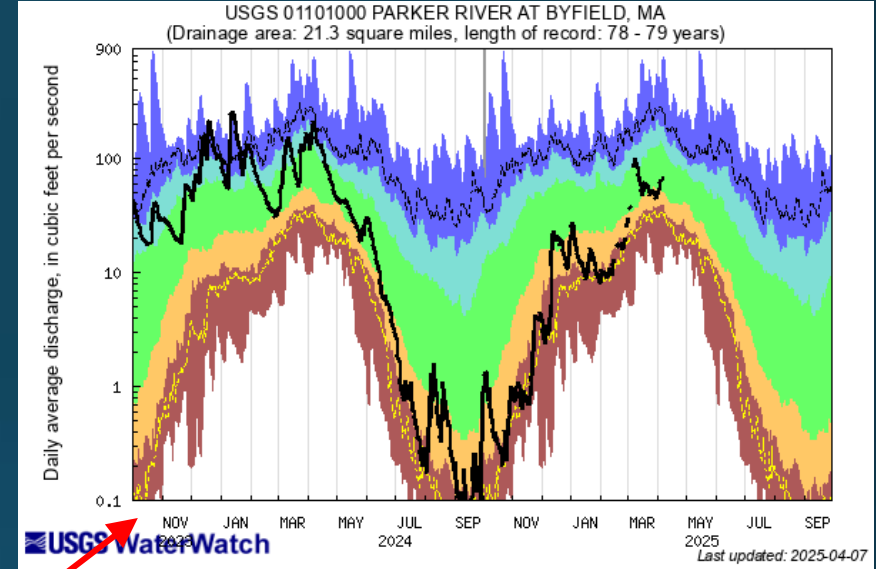
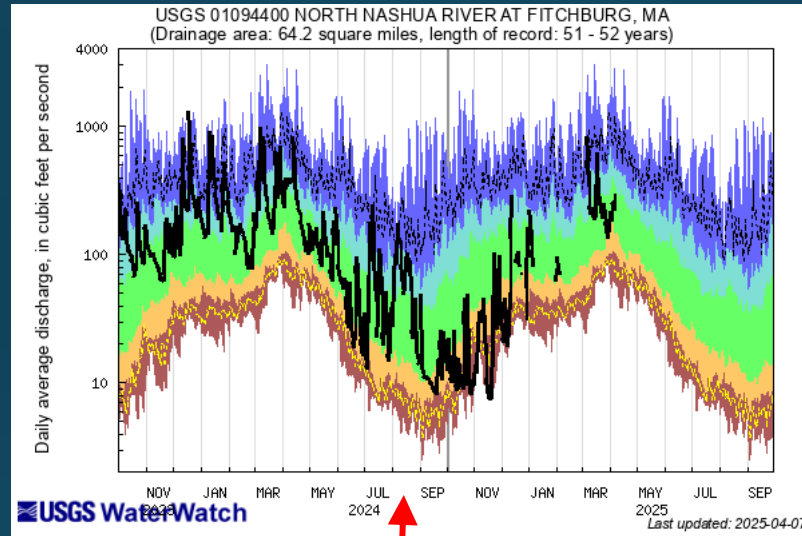
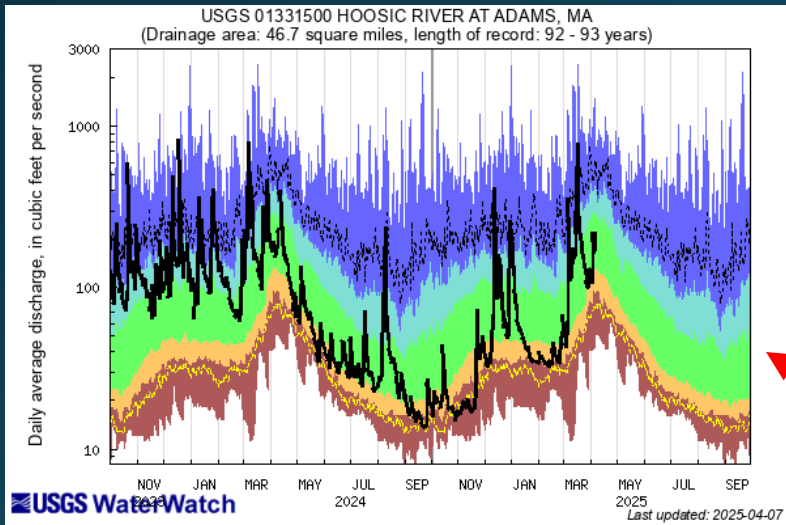
# Streamflow Conditions – Monthly Average



Explanation - Percentile classes

	<span style="color: red;">●</span>	<span style="color: orange;">●</span>	<span style="color: green;">●</span>	<span style="color: cyan;">●</span>	<span style="color: blue;">●</span>	<span style="color: black;">●</span>	<span style="color: gray;">○</span>
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

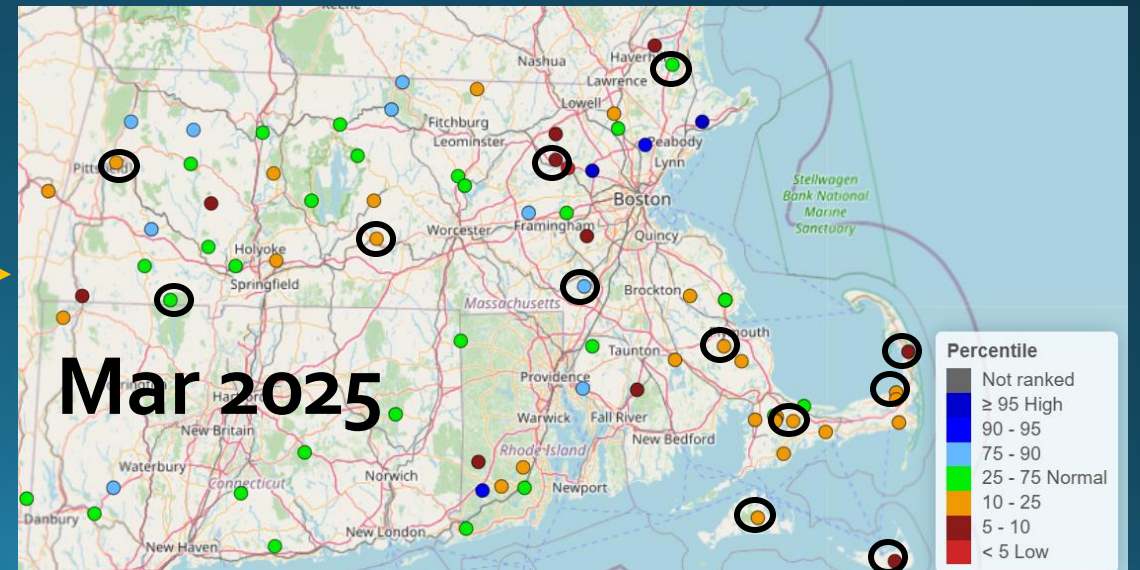
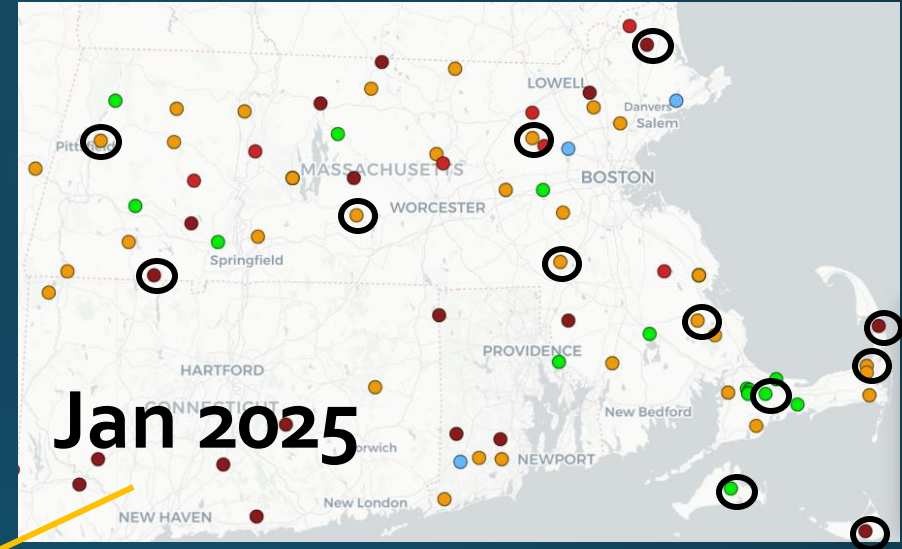


Explanation - Percentile classes

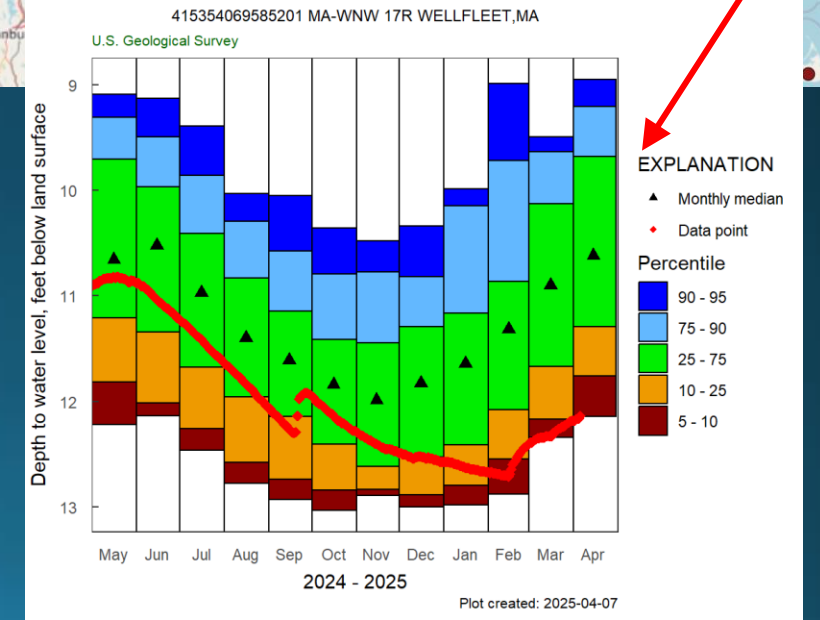
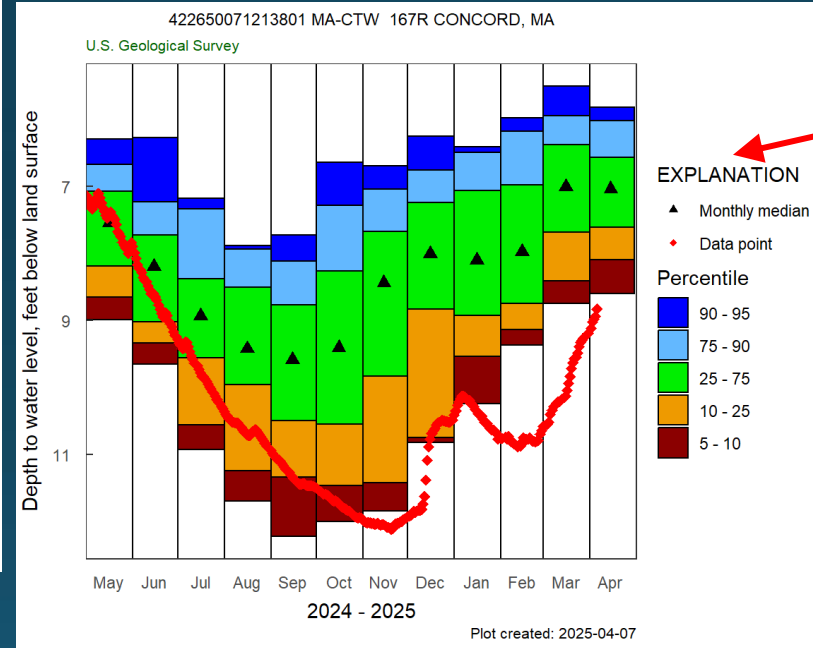
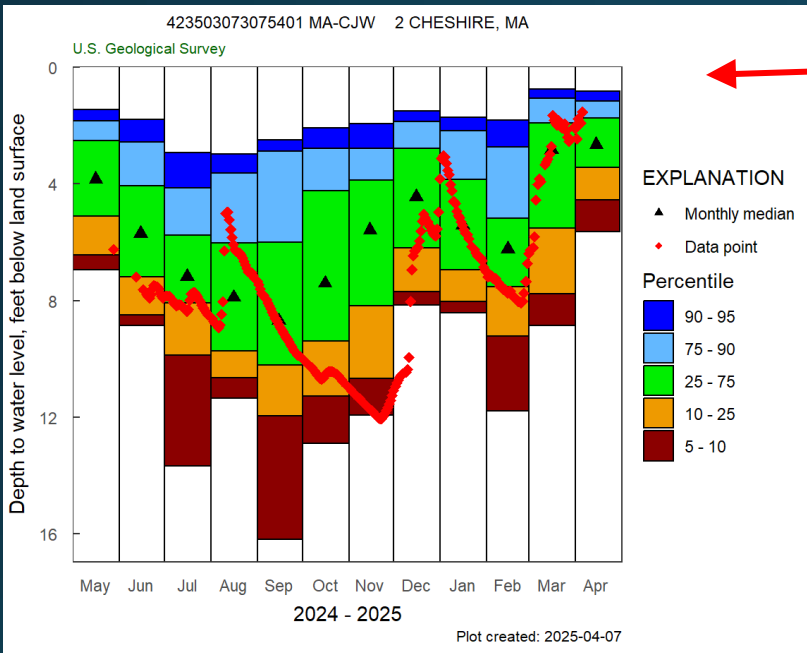
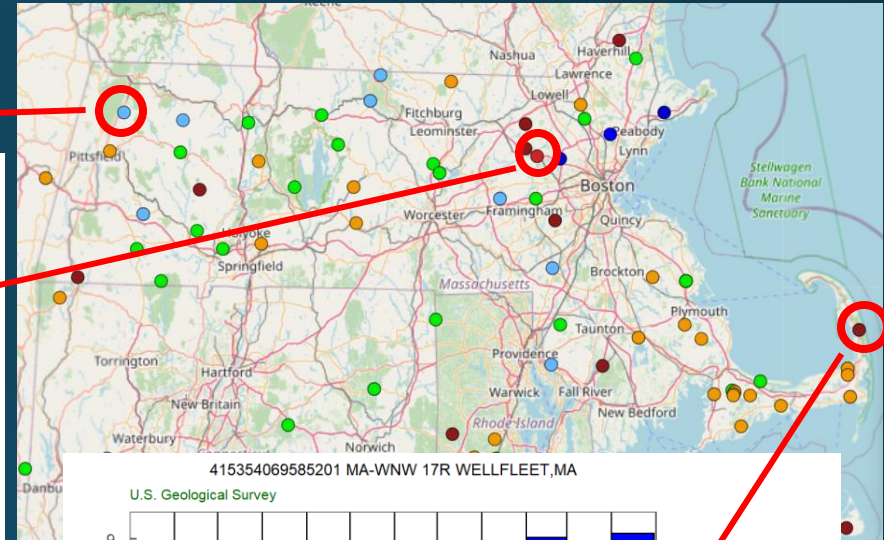
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest	Runoff
Much below Normal	Below normal	Normal	Above normal	Much above normal			



# Groundwater Conditions –End of Month



# Groundwater Conditions – Specific Wells



Period of Record: 70 yrs; Cont. 0.6 yrs

Period of Record: 58 yrs; Cont. 2 yrs

Period of Record: 62 yrs; Cont. 6 yrs



# Summary of Conditions

- Rainfall and snowmelt events in March generally improved streamflow conditions compared to February. “Base-flow” conditions (streamflow when there isn’t runoff) were still below normal at most sites, but improved during March relative to daily normal flows. Flows still below normal on the Cape and at several streams downstream of filling reservoirs.
- Groundwater-level conditions in March varied greatly from site to site, but were generally normal to above normal in the western half of Massachusetts and normal to below normal in the eastern half. They also generally improved from February in the west and deteriorated in the east.