

# Streamflow and Groundwater Conditions in Massachusetts

## Massachusetts Drought Task Force Meeting

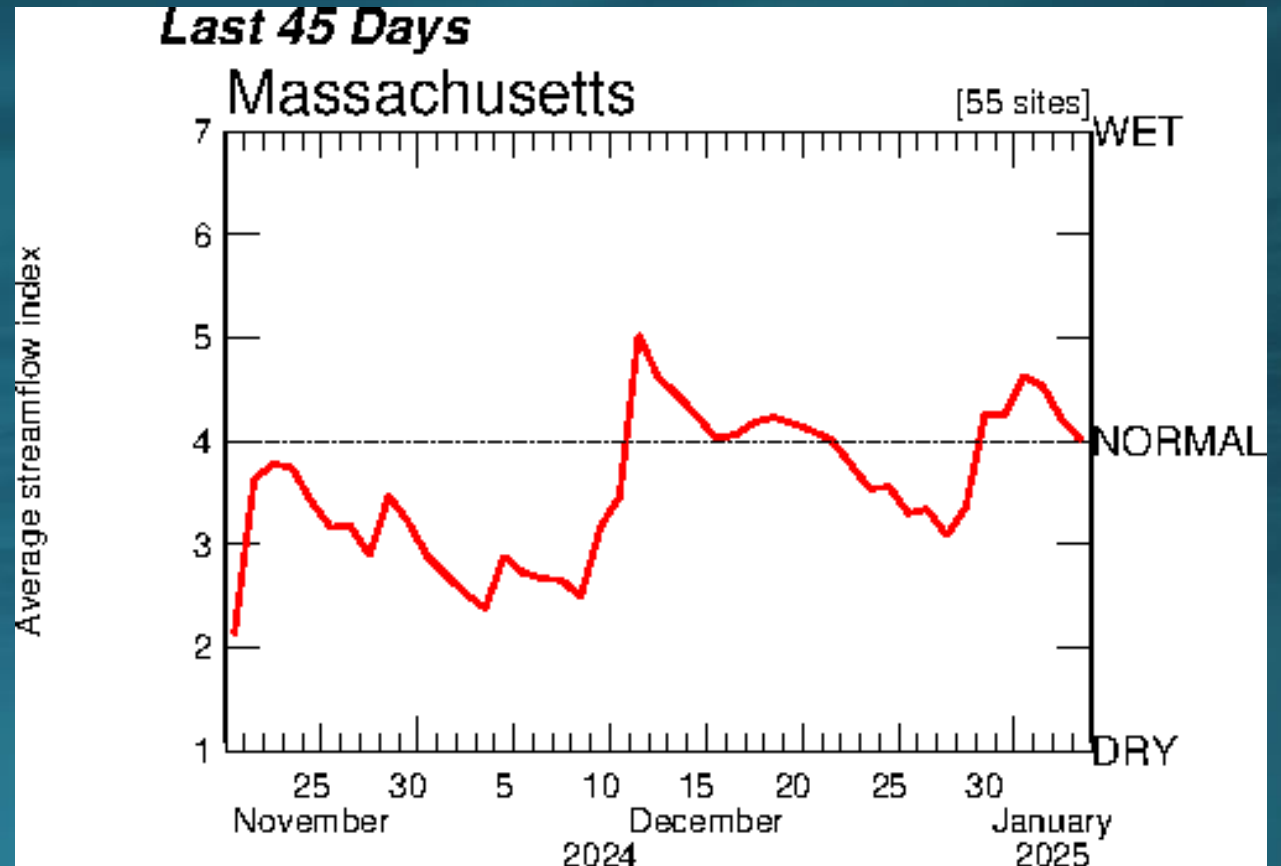
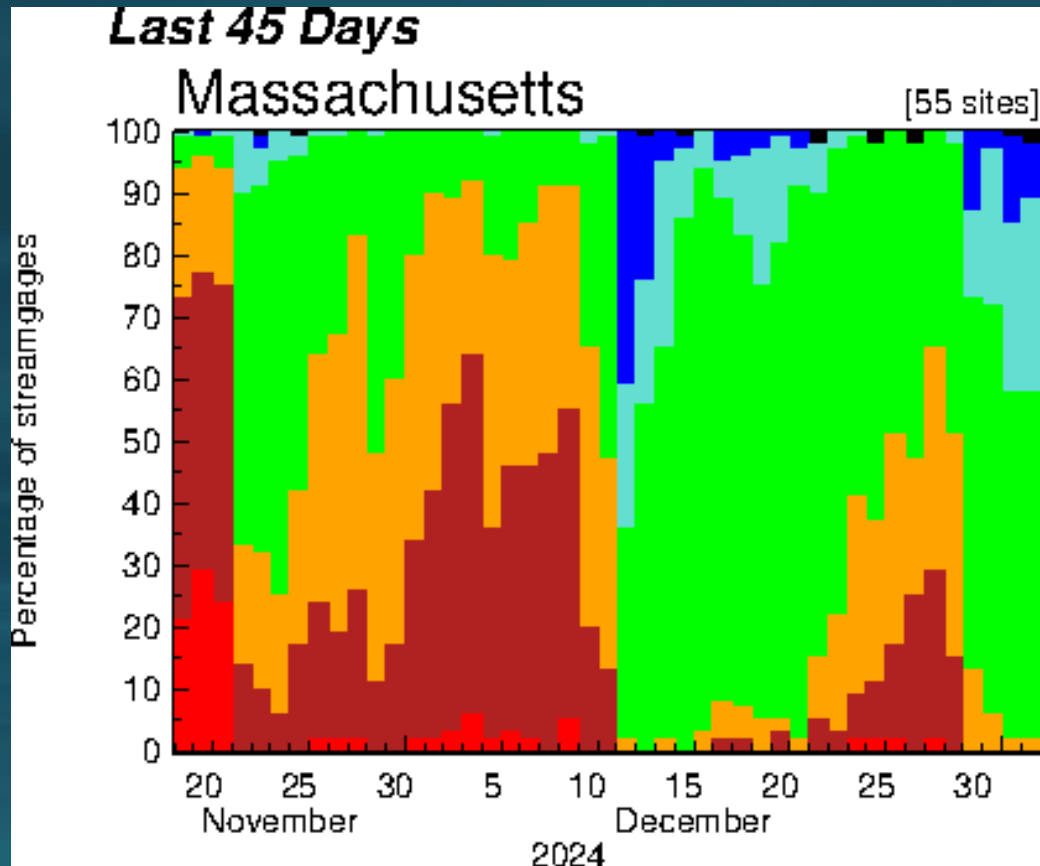
January 7, 2025

U.S. Geological Survey  
New England Water Science Center

Brian Loving



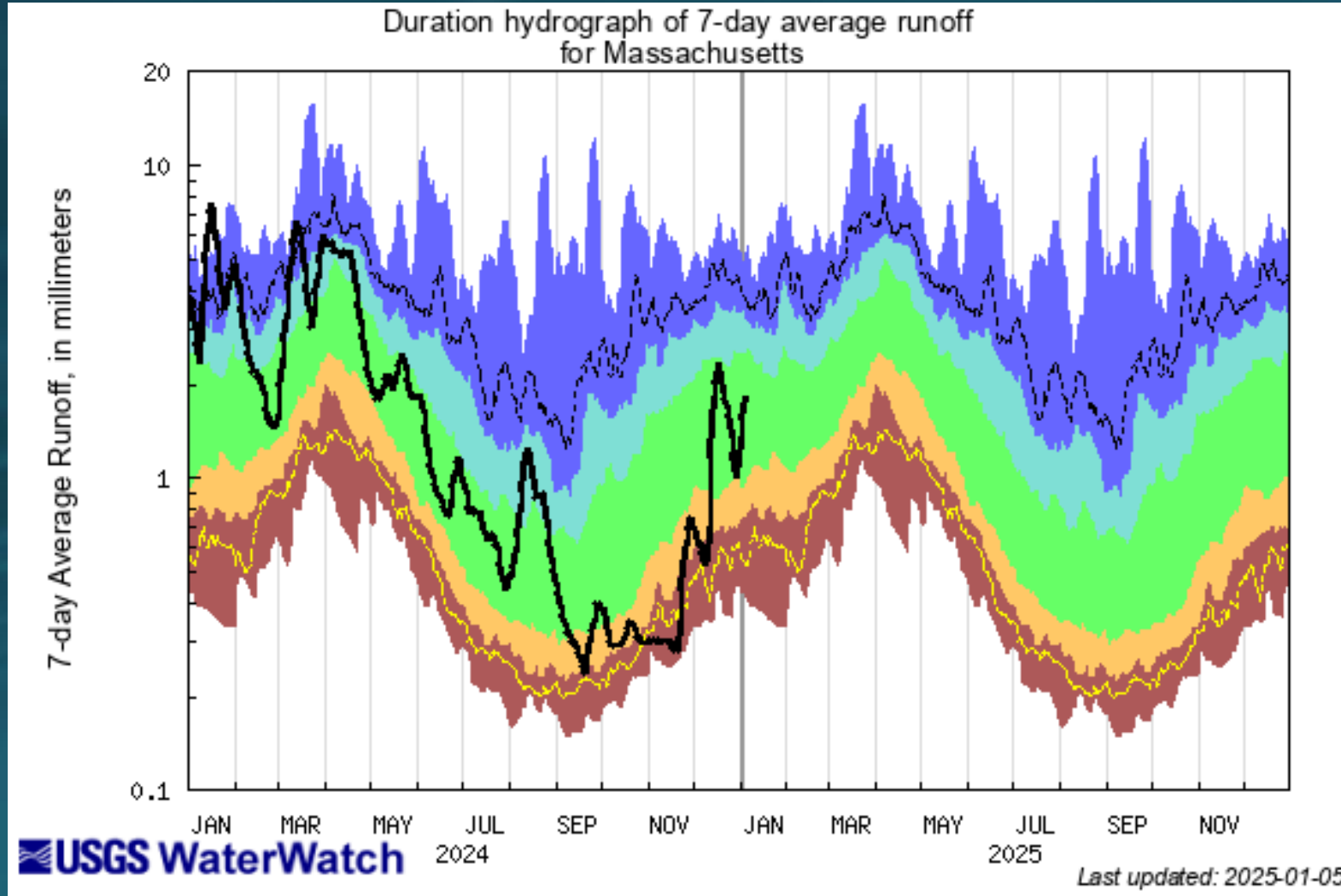
# Streamflow Conditions – last 45 days



**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			

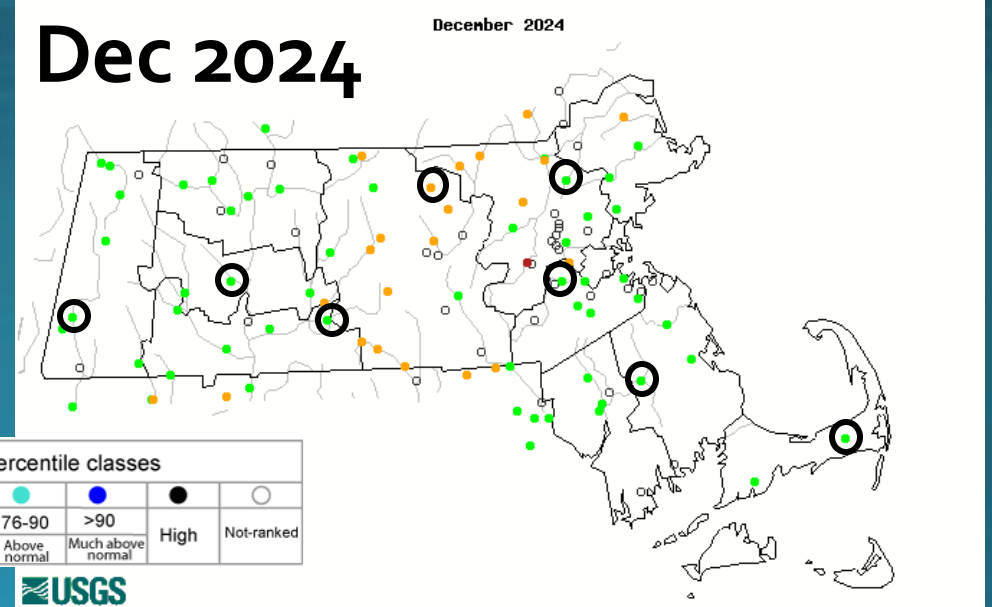
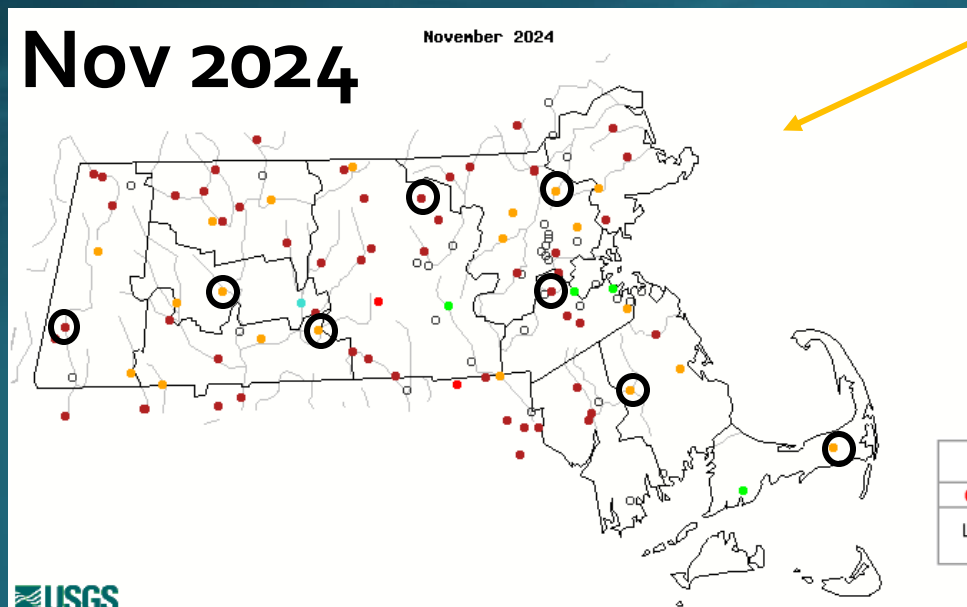
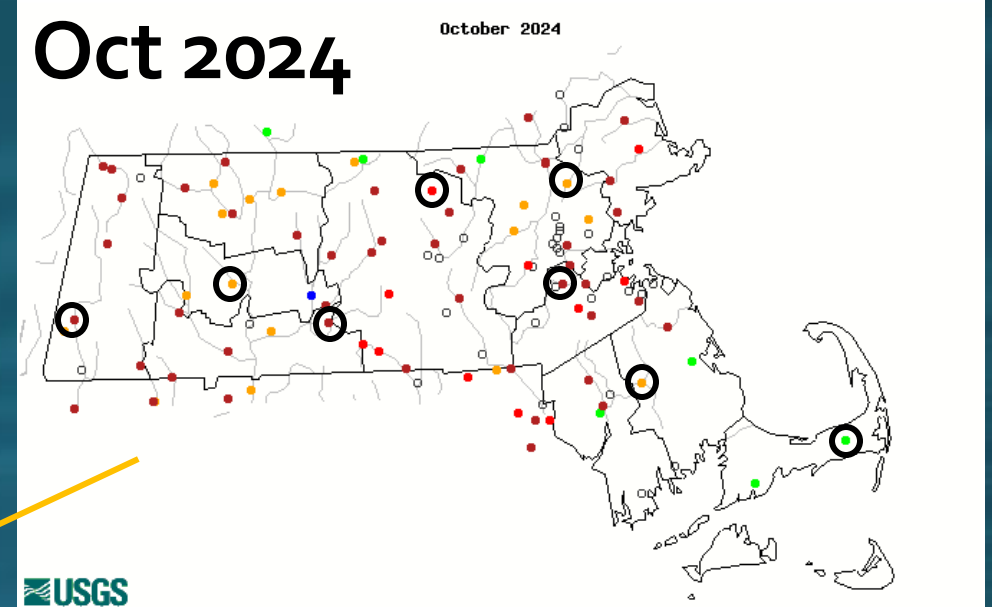
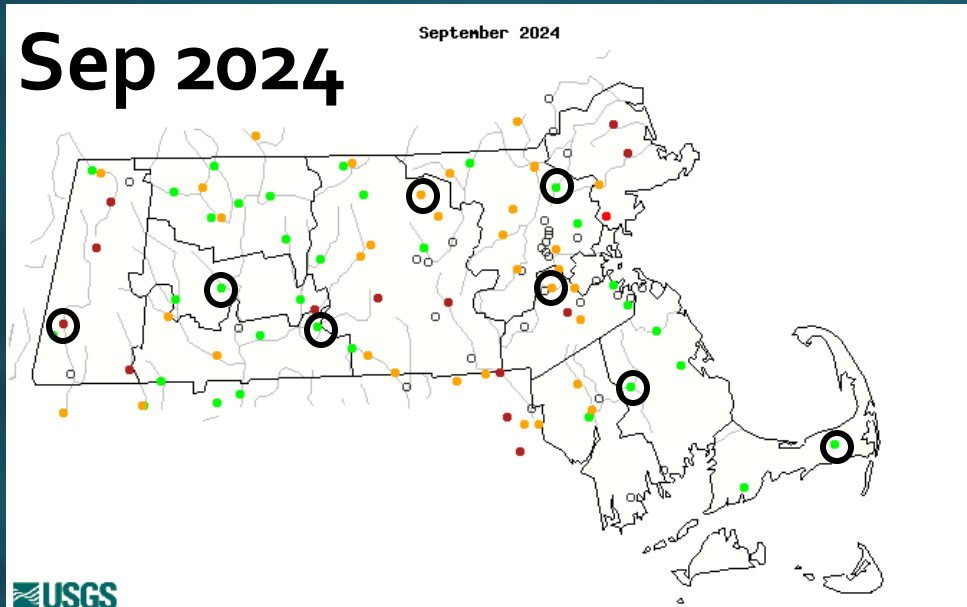
# Streamflow Conditions 7-Day Moving Average



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		

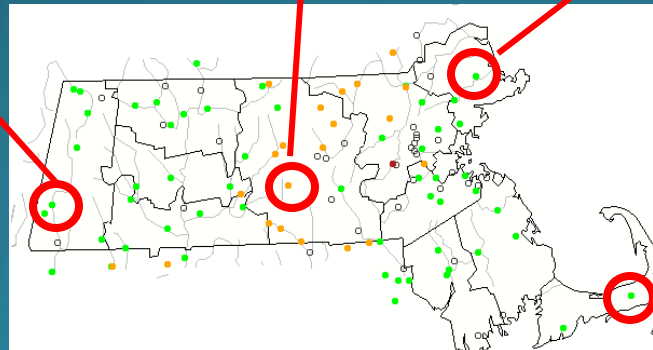
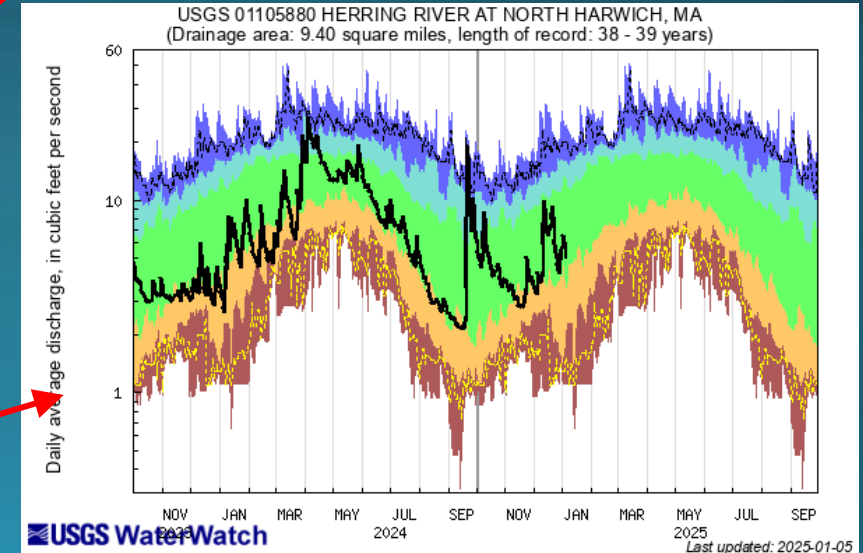
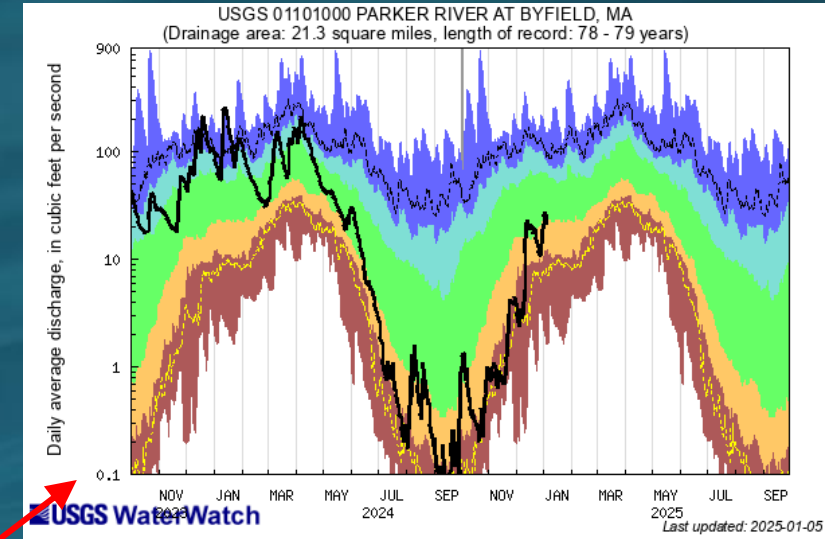
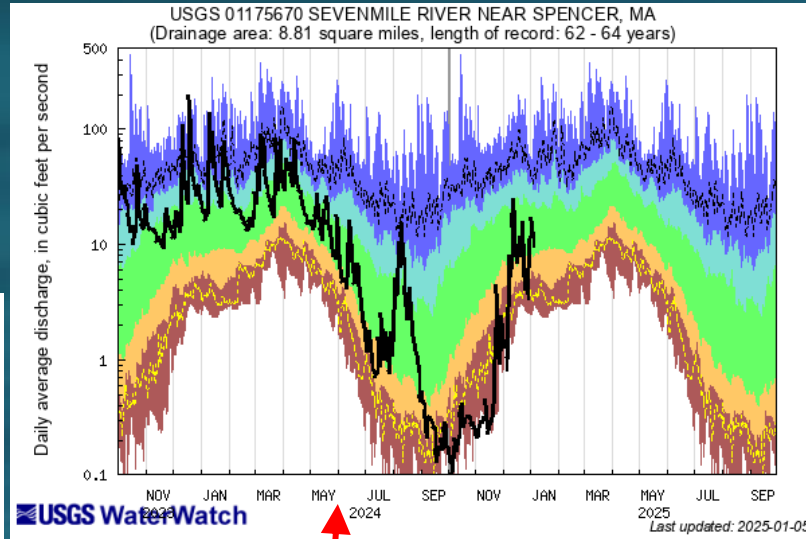
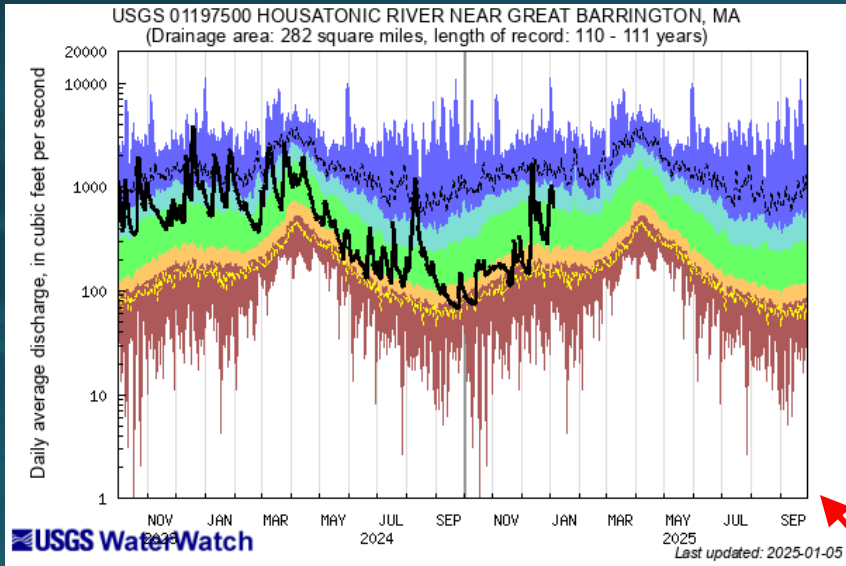
# Streamflow Conditions – Monthly Average



Explanation - Percentile classes

<span style="color: red;">●</span>	<span style="color: 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		

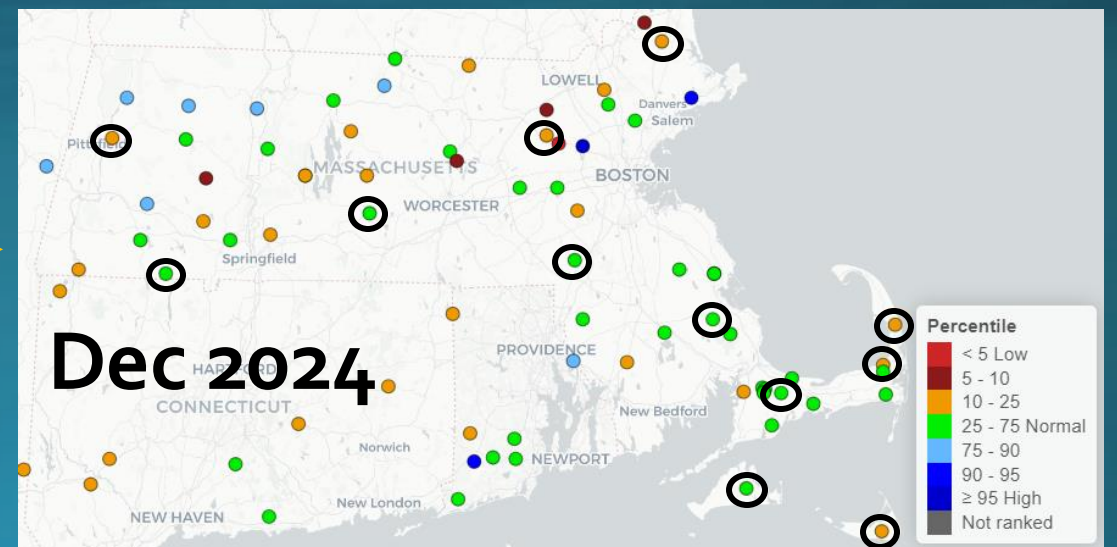
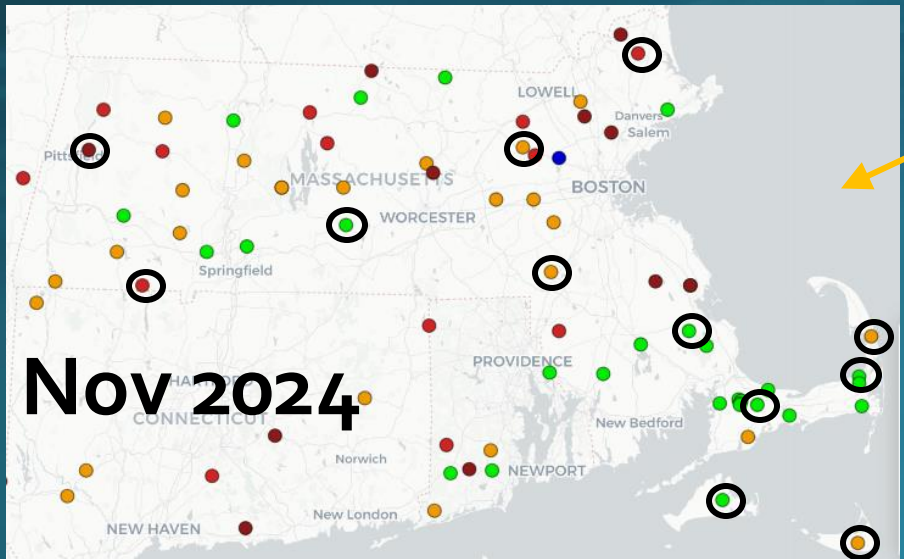
# SW Conditions 7-Day Average



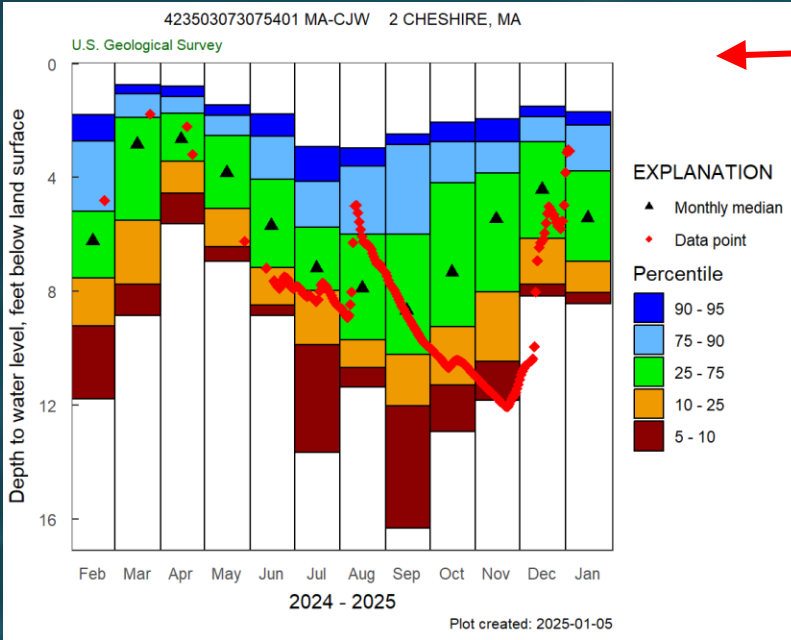
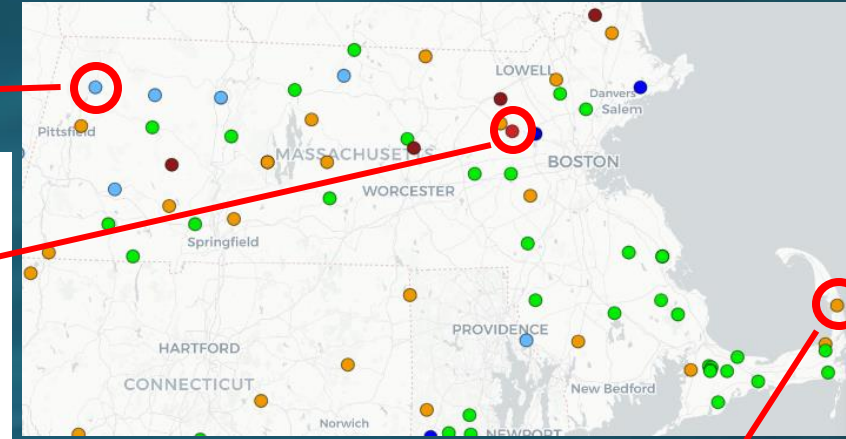
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal	Runoff	



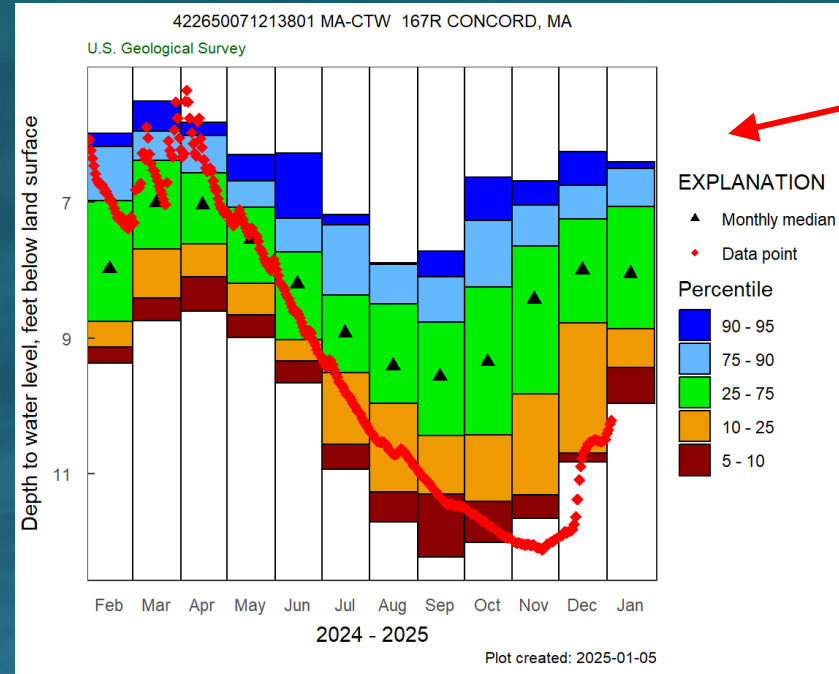
# Groundwater Conditions – End of Month



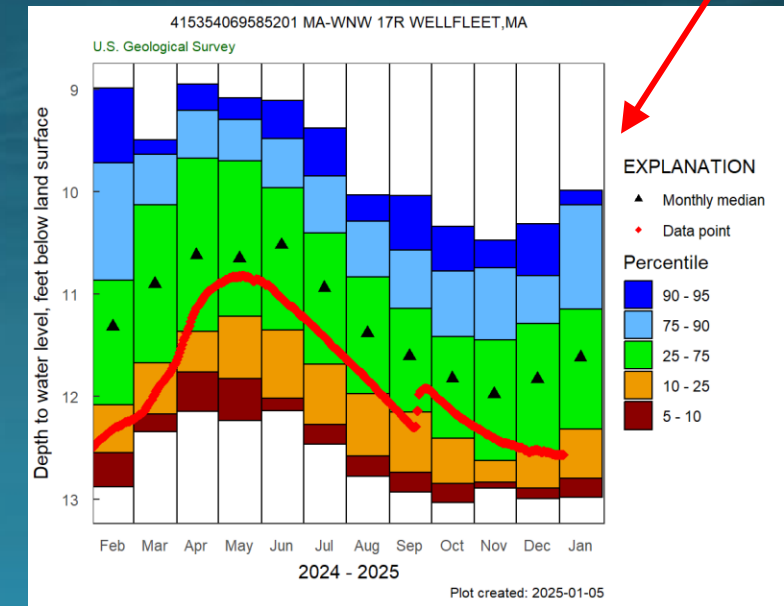
# Groundwater Conditions – Specific Wells



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

- The precipitation events of Dec. 10-11 and 28-31 greatly improved streamflow conditions relative to seasonal norms, and late December conditions were much better than late November across the Commonwealth. Streamflow at most stations was normal by the end of December, except for a few stations in the Central and Northeast Regions that were below normal (10-25<sup>th</sup> percentiles).
- Groundwater-level conditions also improved from November to December in all drought regions except the Cape and Islands, where below normal rainfall caused continued declines in water levels at most wells.