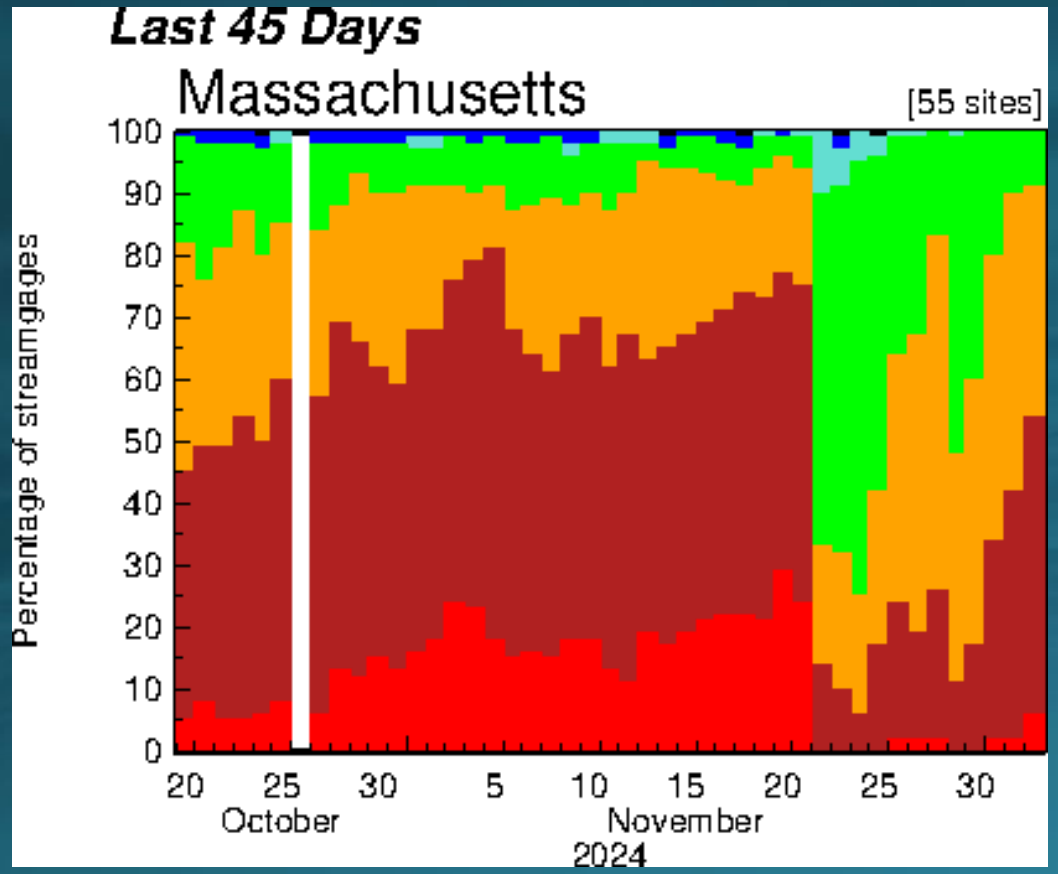
Streamflow and Groundwater Conditions in Massachusetts

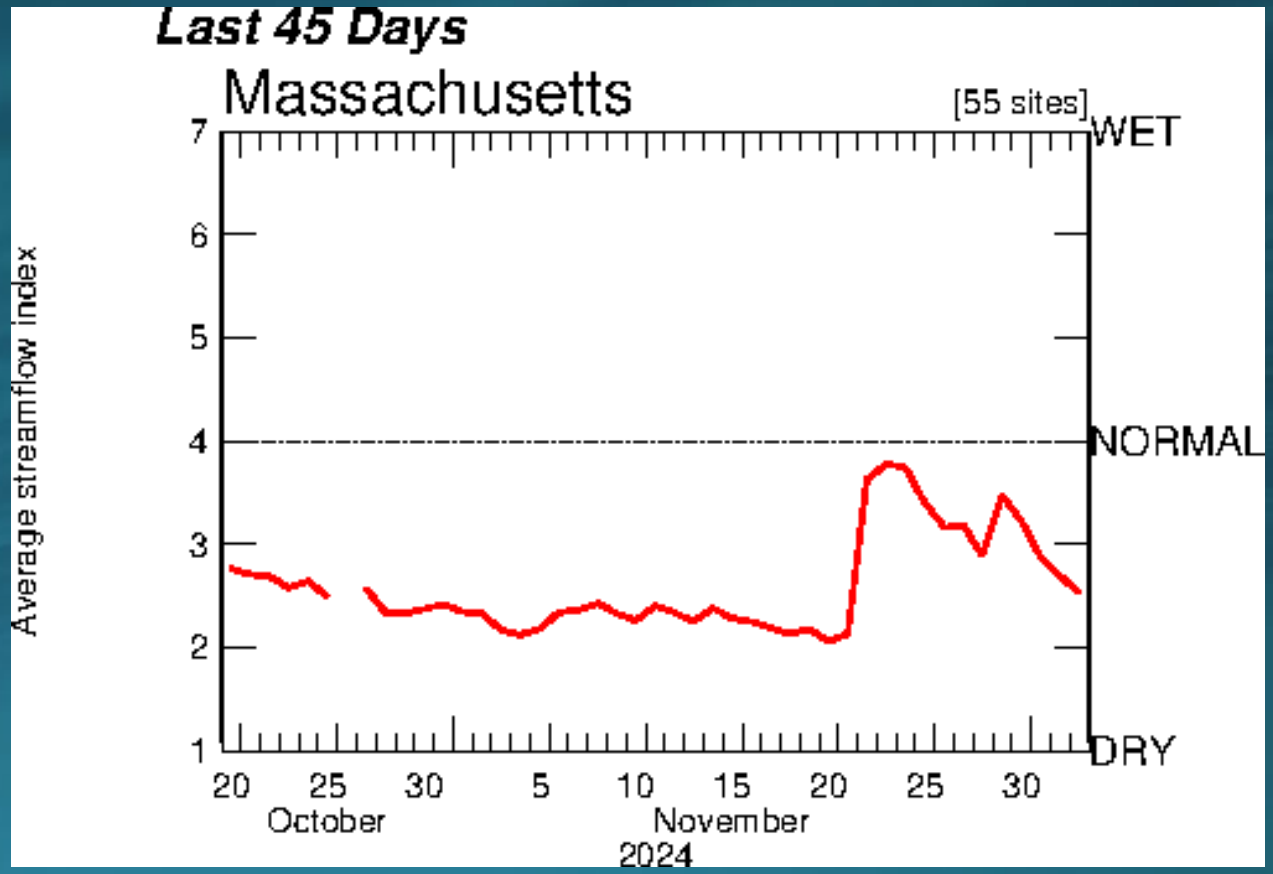
Massachusetts Drought Task Force Meeting

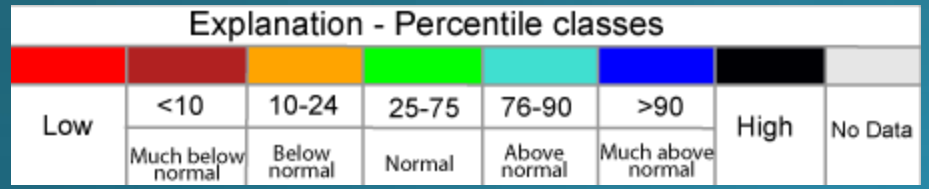
December 5, 2024

U.S. Geological Survey
New England Water Science Center
Brian Loving

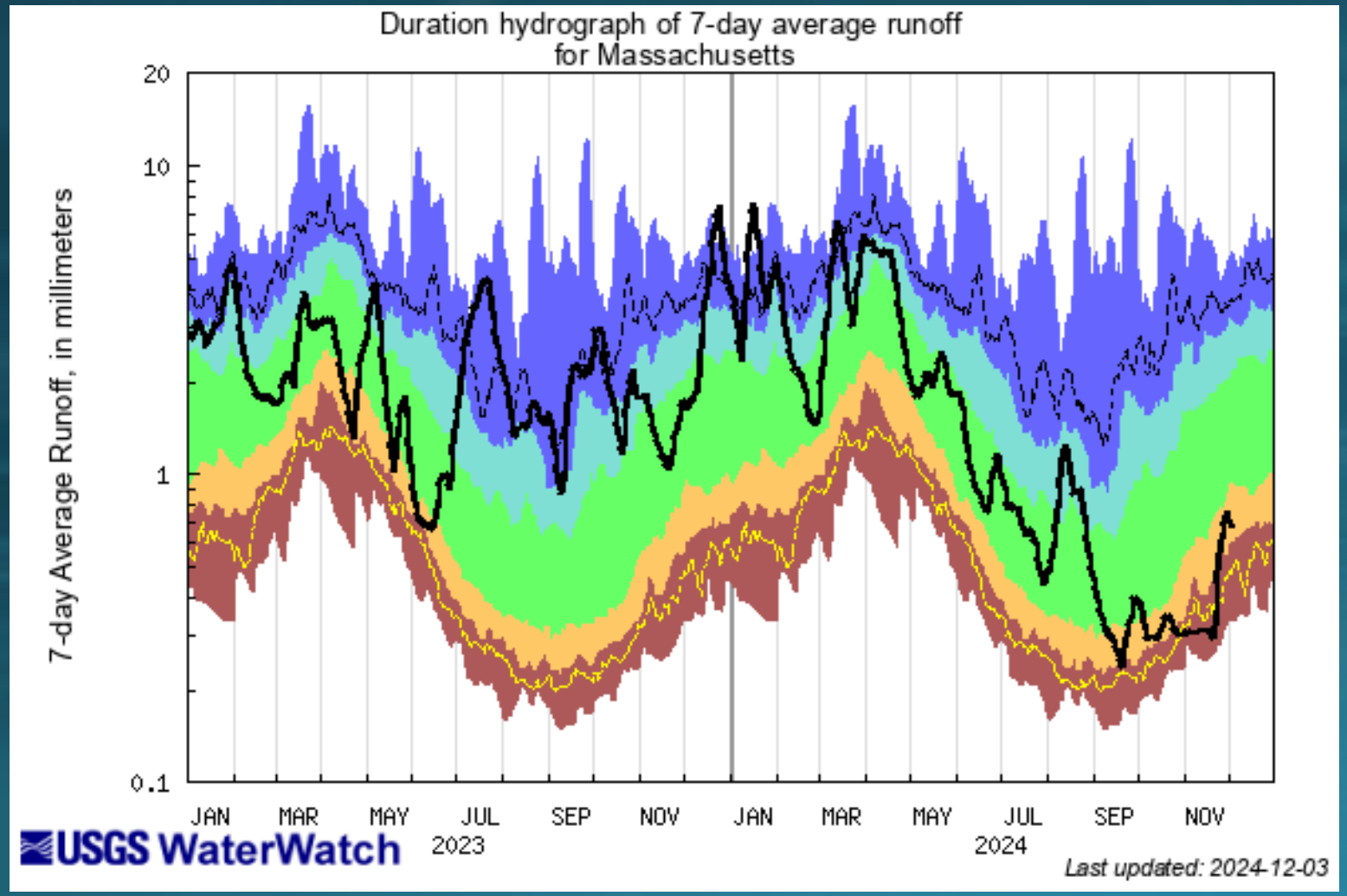
Streamflow Conditions – last 45 days

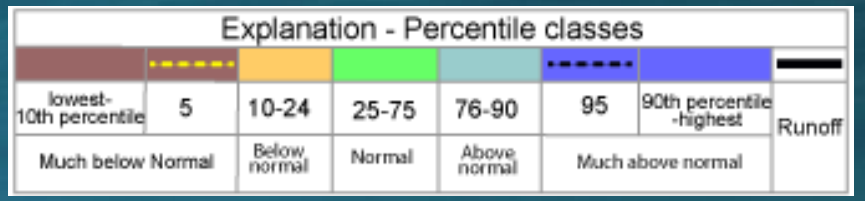






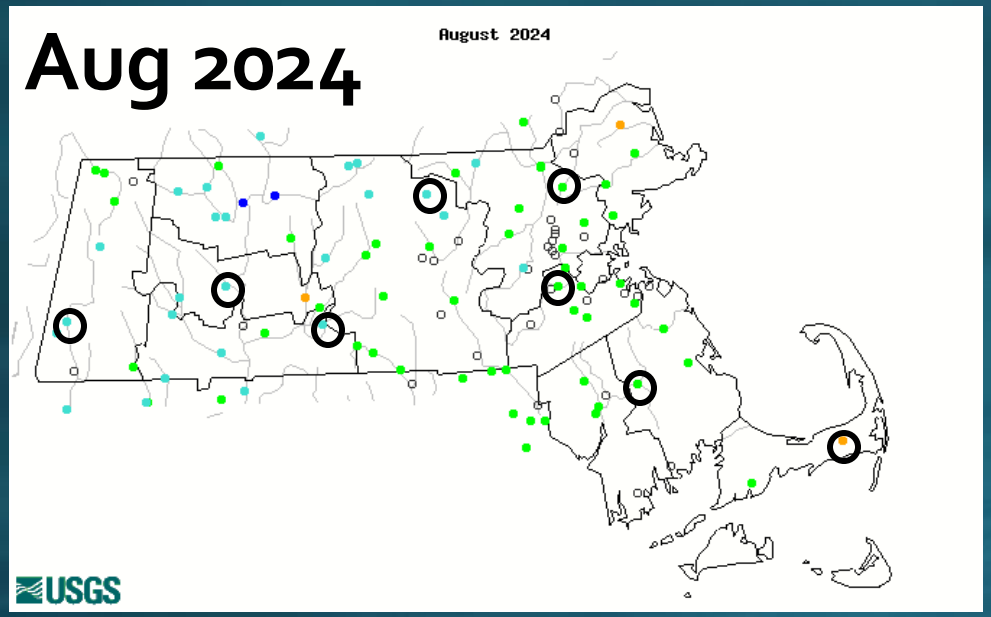
Streamflow Conditions 7-Day Moving Average



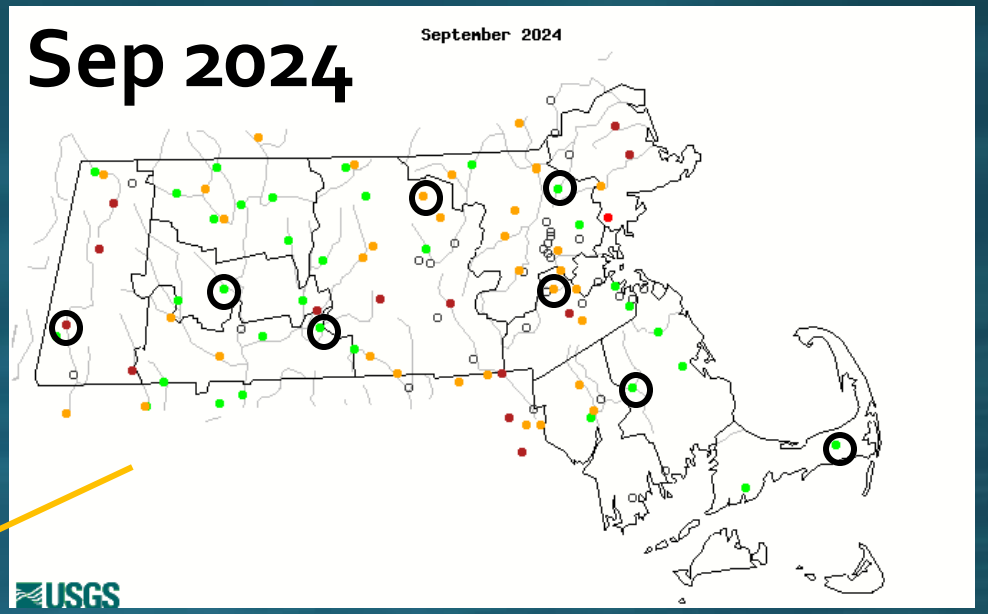


Streamflow Conditions – Monthly Average

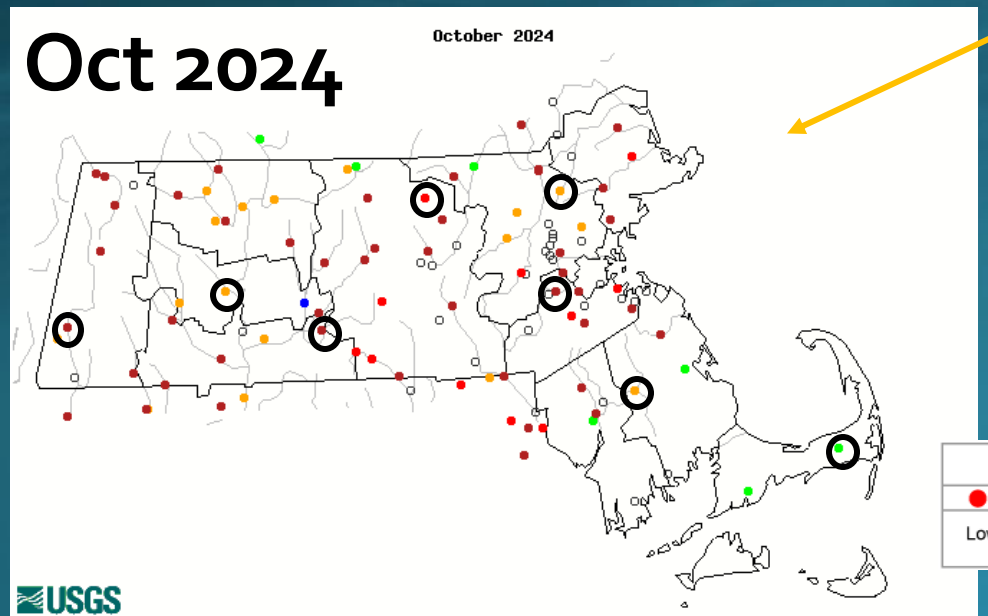
Aug 2024



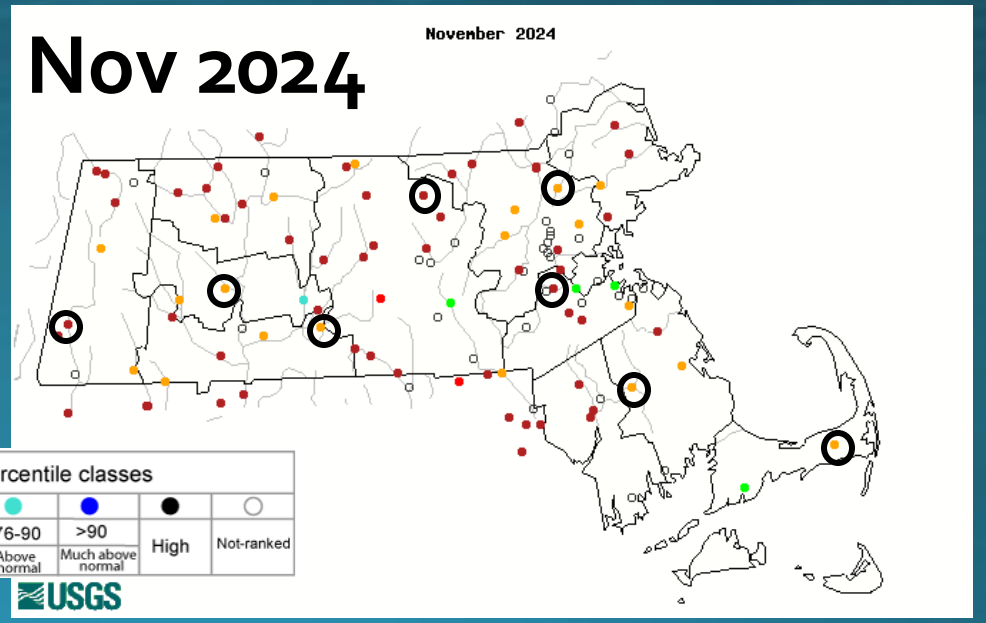
Sep 2024



Oct 2024



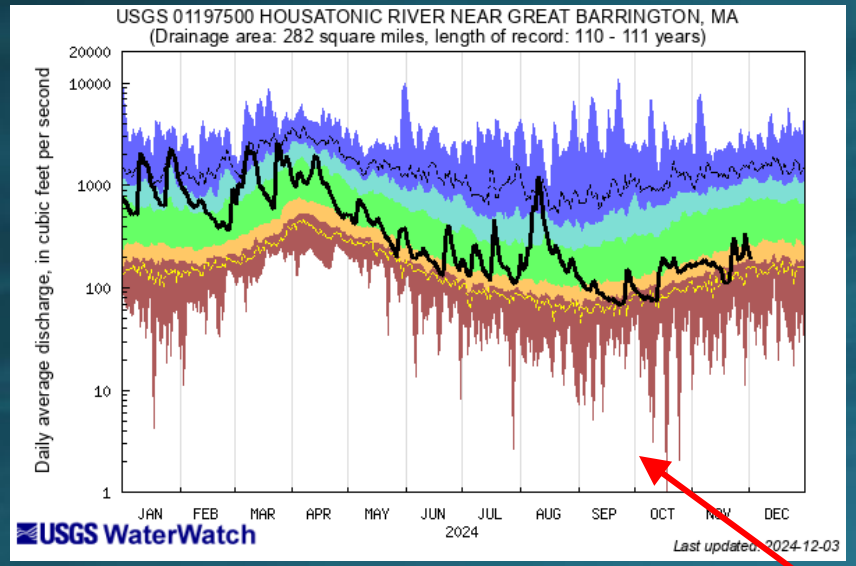
Nov 2024

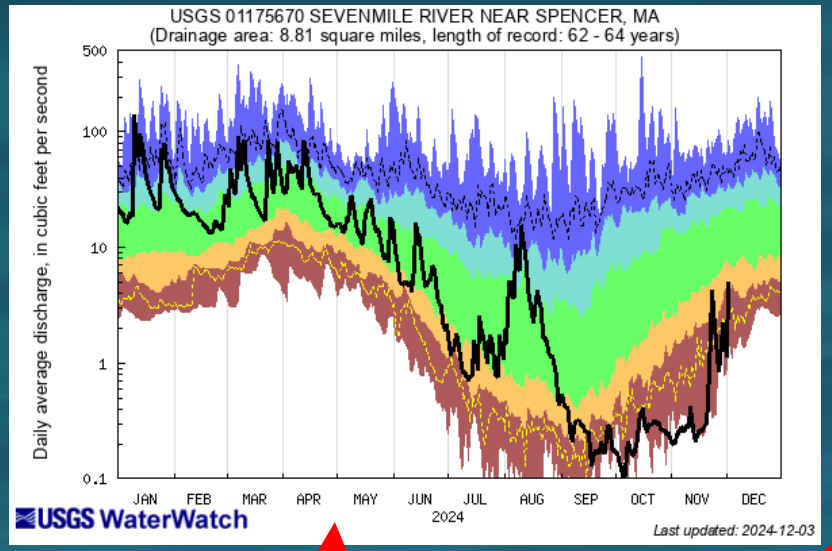


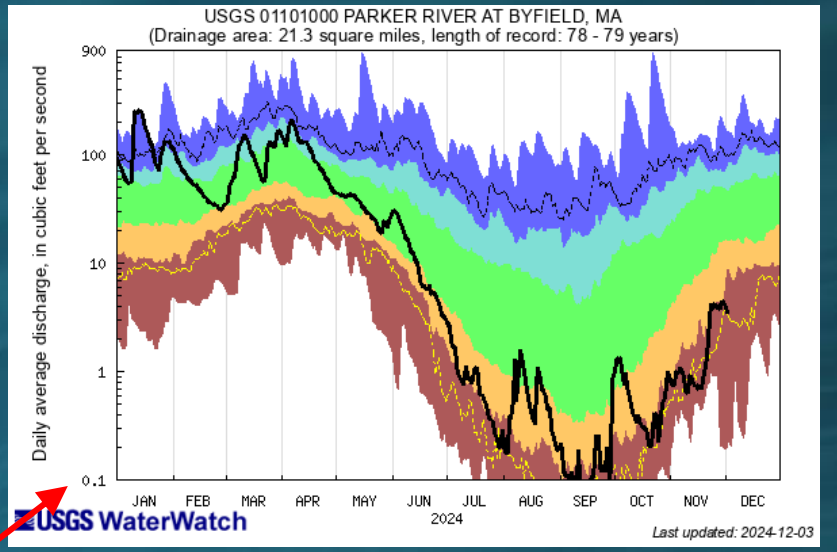
Explanation - Percentile classes

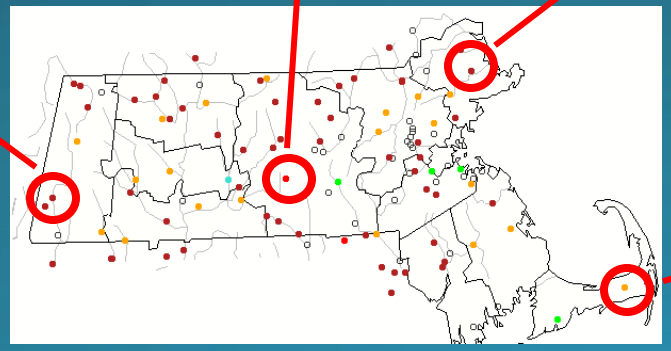
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

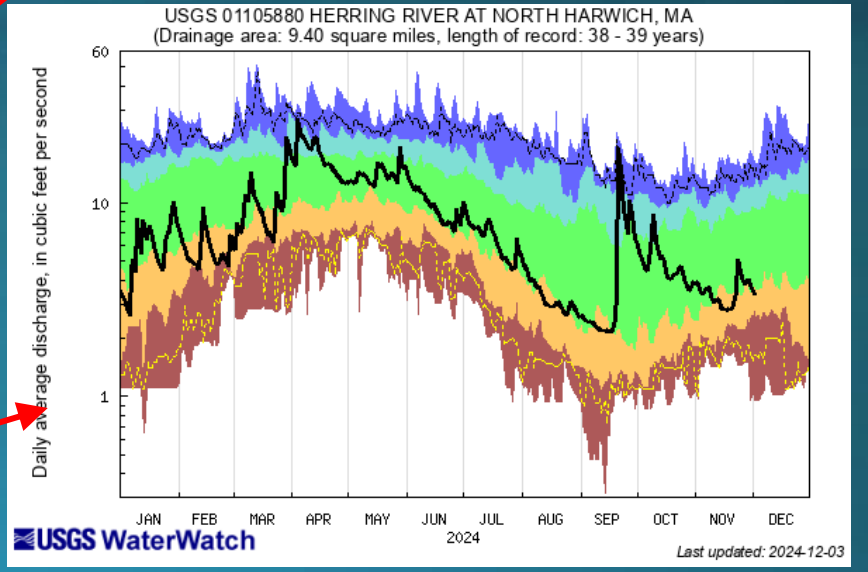
SW Conditions 7-Day Average





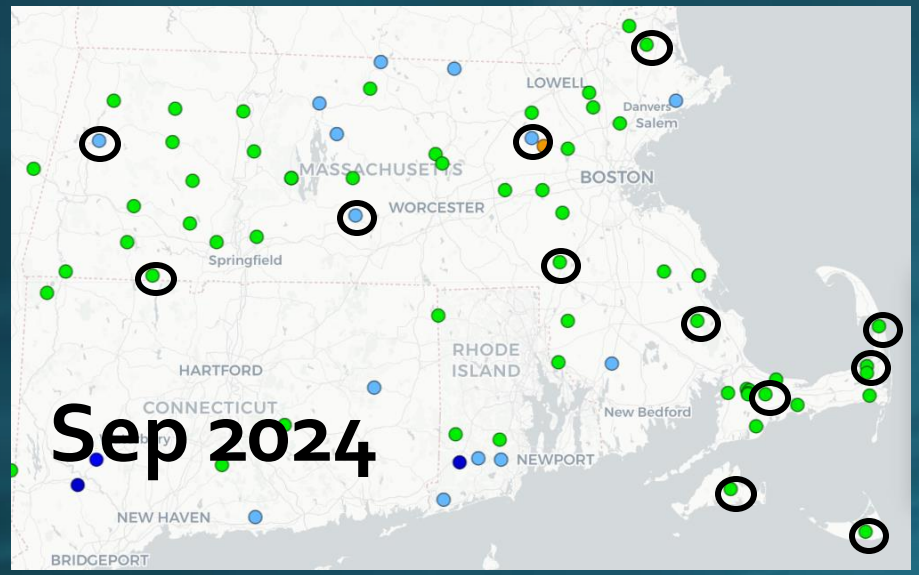


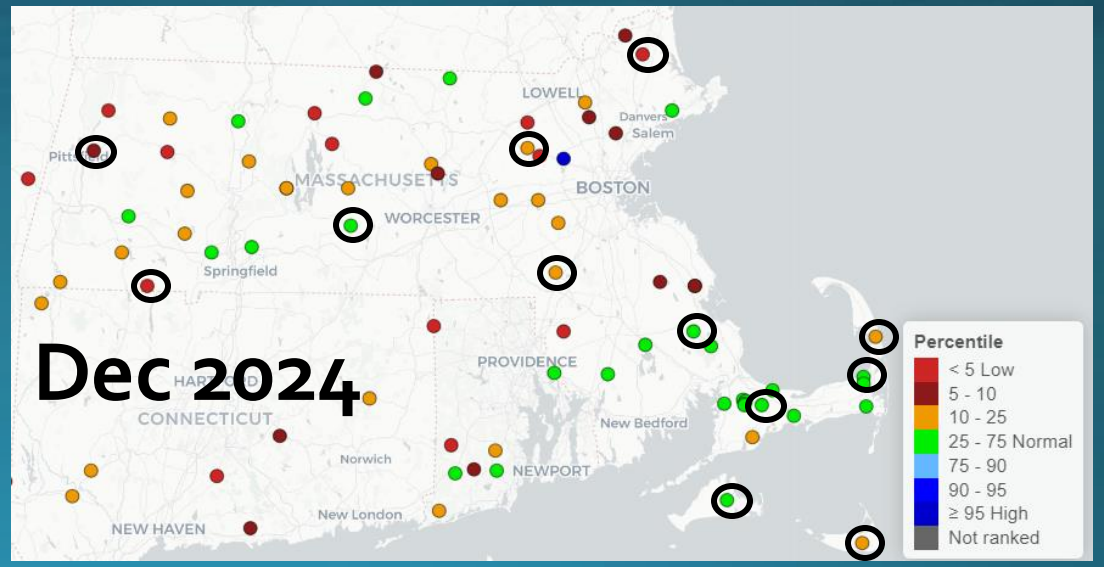




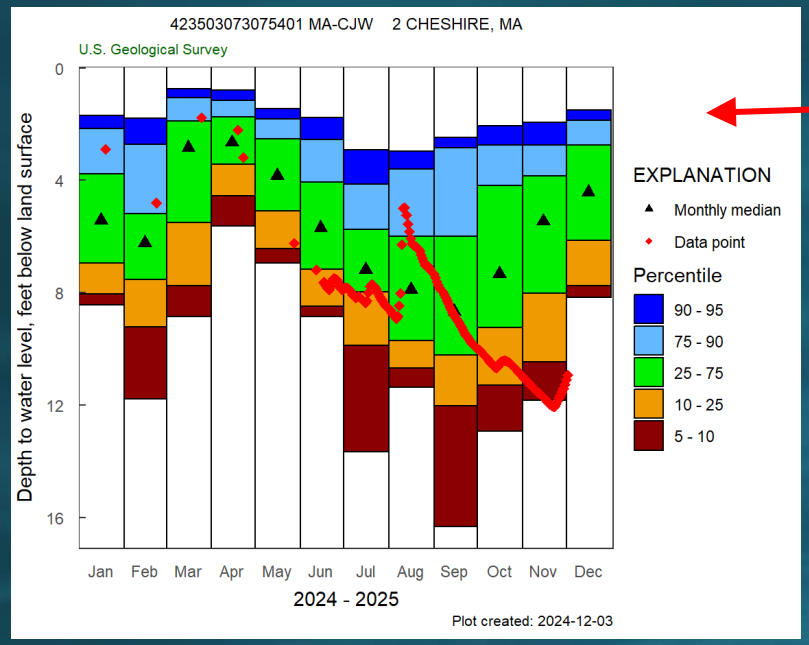
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Runoff
Much below Normal		Below normal	Normal	Above normal	Much above normal		

Groundwater Conditions – Beg. of Month

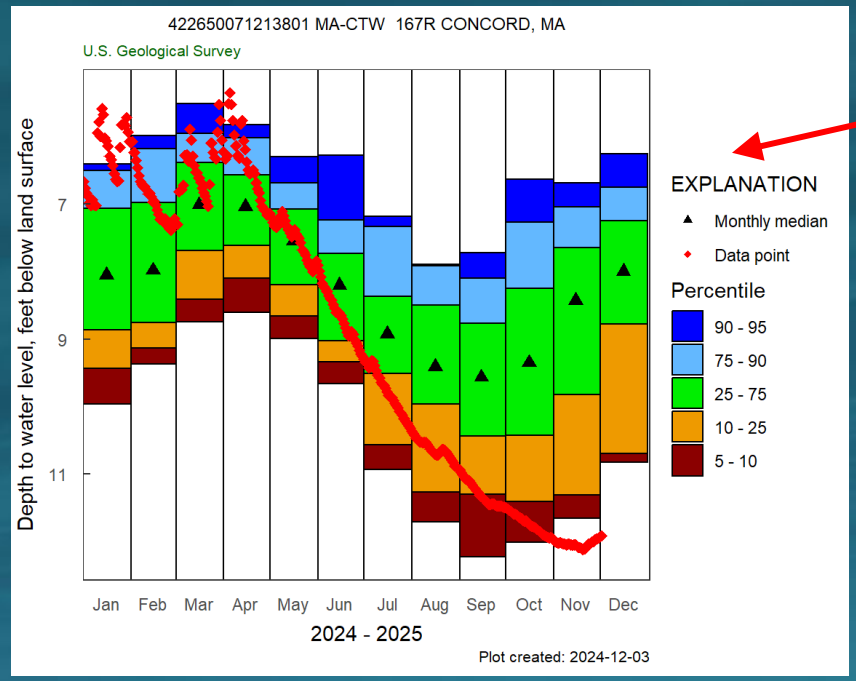




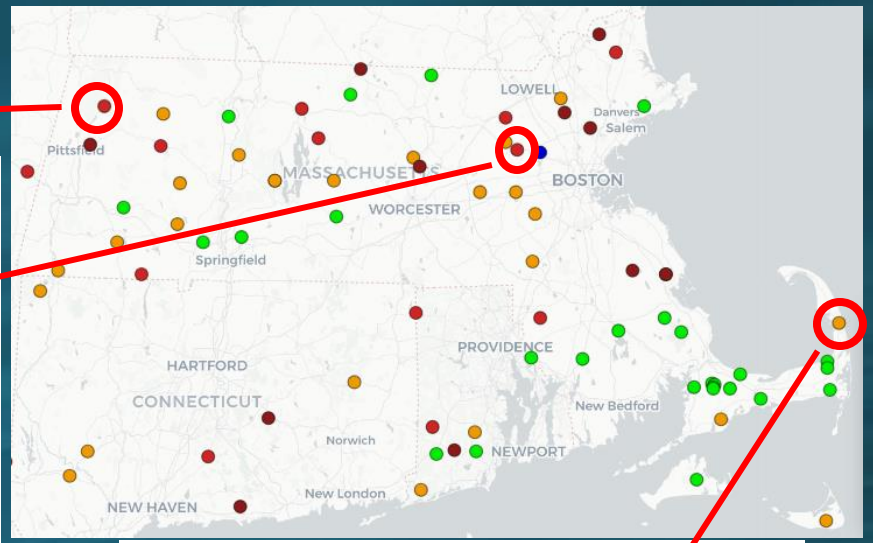
Groundwater Conditions – Specific Wells

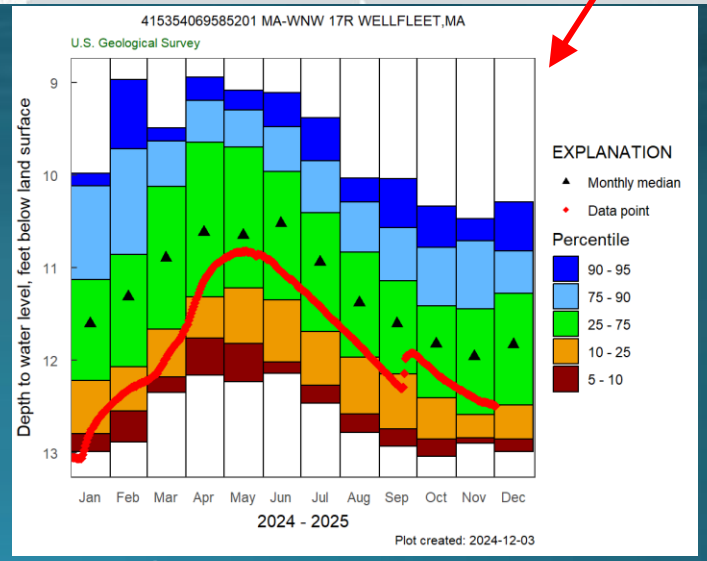


Period of Record: 70 yrs; Cont. 0.6 yrs



Period of Record: 58 yrs; Cont. 2 yrs





Period of Record: 62 yrs; Cont. 6 yrs

Summary of Conditions

- The precipitation event of Nov. 22-23 greatly improved streamflow conditions relative to seasonal norms, and late November conditions were a little better than late October. Still, nearly all USGS streamgages in Massachusetts reported flows below the 25th percentile for November.
- Groundwater levels lag in response to climatic conditions, and generally continue to decline relative to normal seasonal trends. During November, conditions improved very slightly in the Connecticut River and Southeast Regions, but were stable to slightly worse in the other regions.