

# Streamflow and Groundwater Conditions in Massachusetts

Massachusetts Drought Task Force Meeting  
July 6, 2023

U.S. Geological Survey  
New England Water Science Center  
Gardner Bent, Jason Pollender, and Chris Bruet

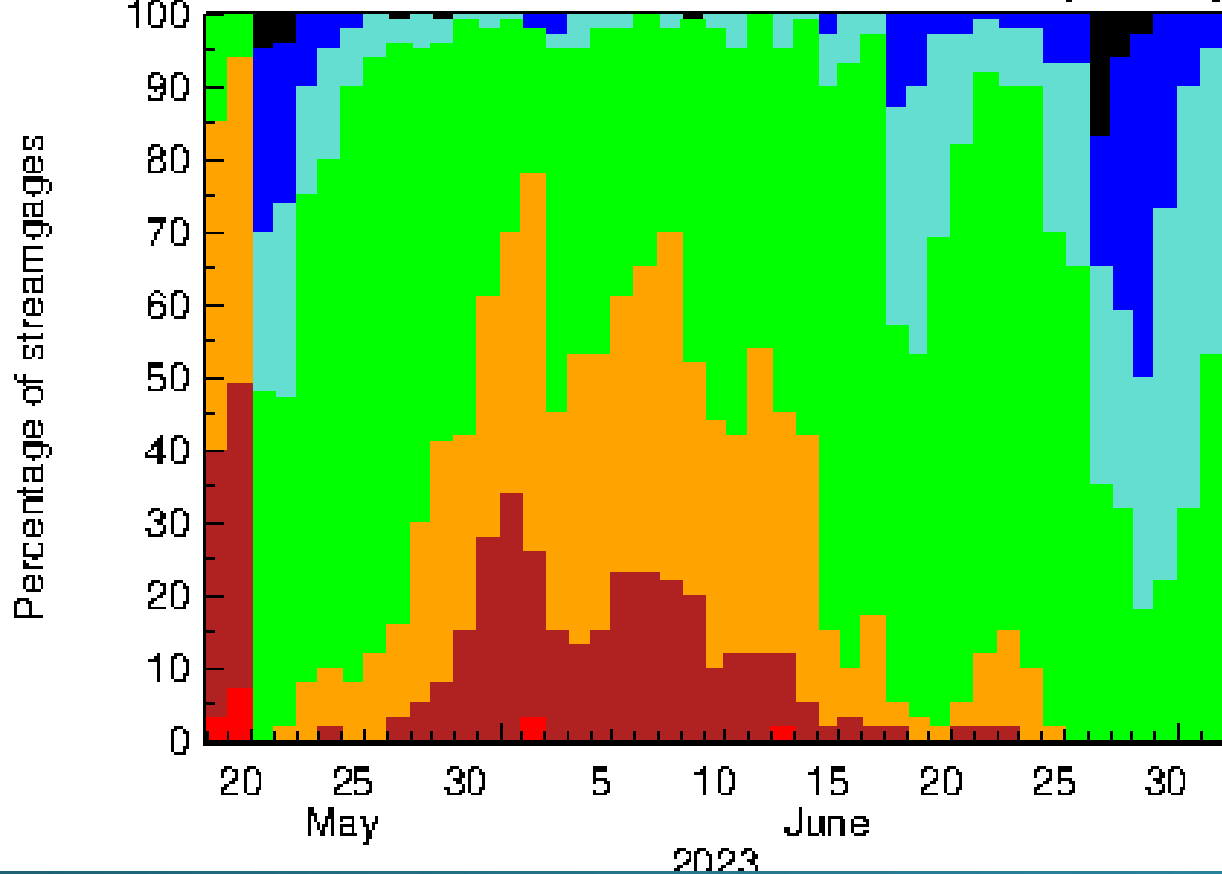


# Streamflow Conditions – last 45 days

**Last 45 Days**

**Massachusetts**

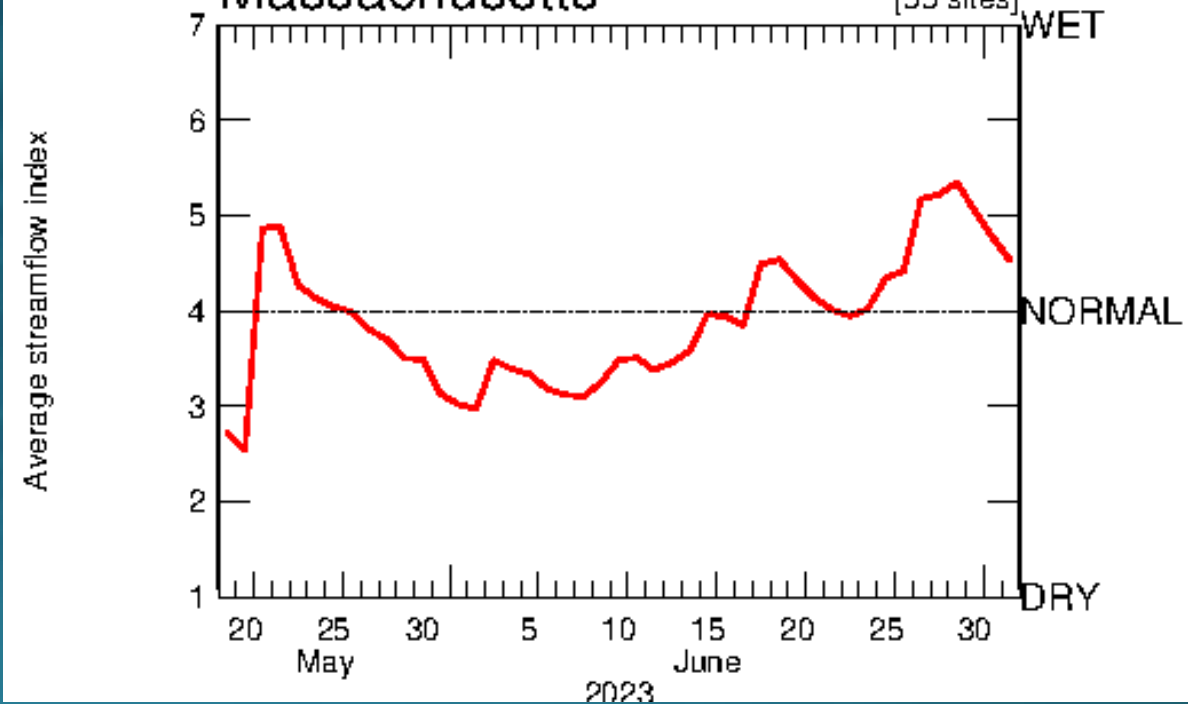
[55 sites]



**Last 45 Days**

**Massachusetts**

[55 sites]

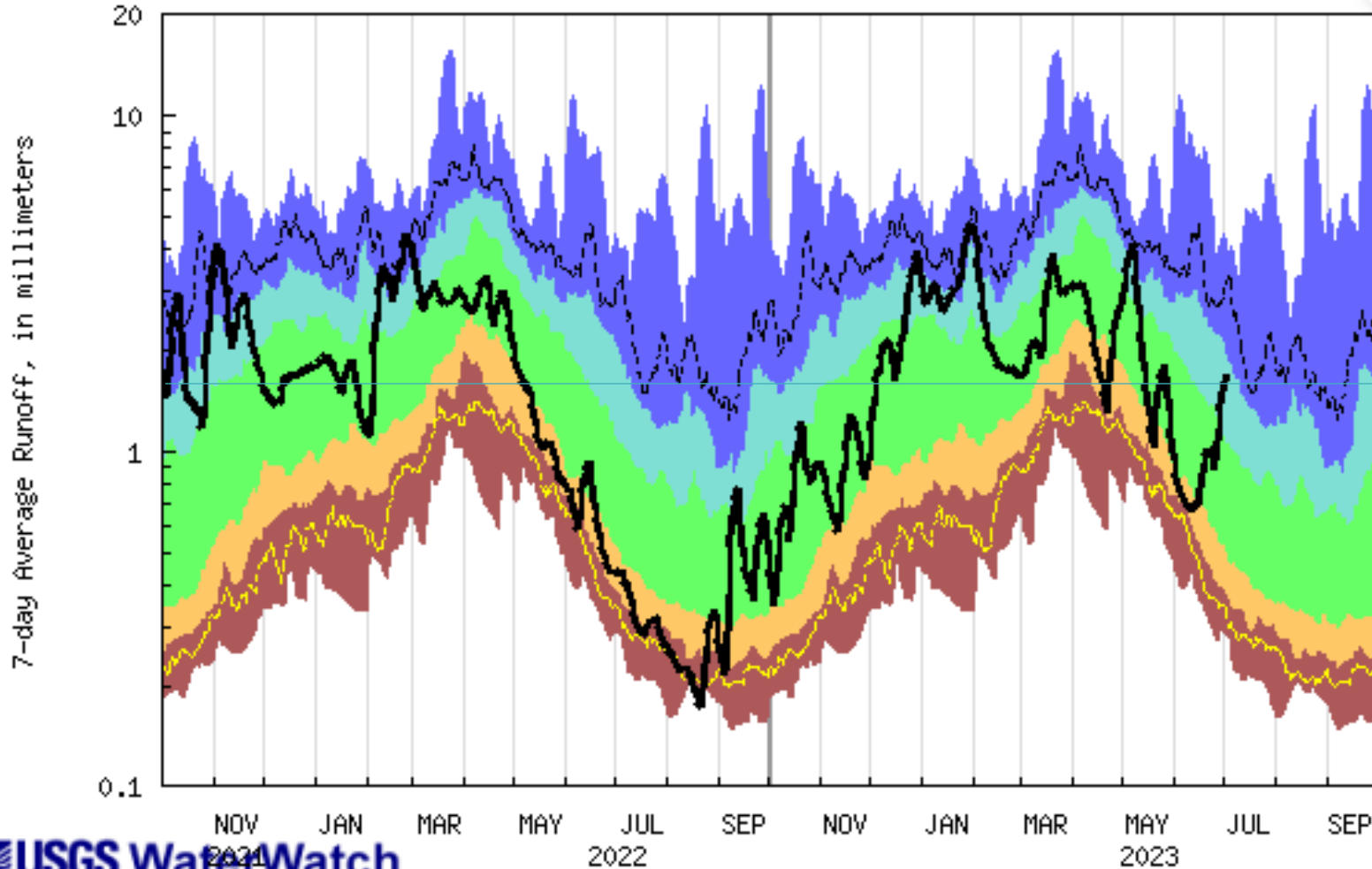


Explanation - Percentile classes

Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

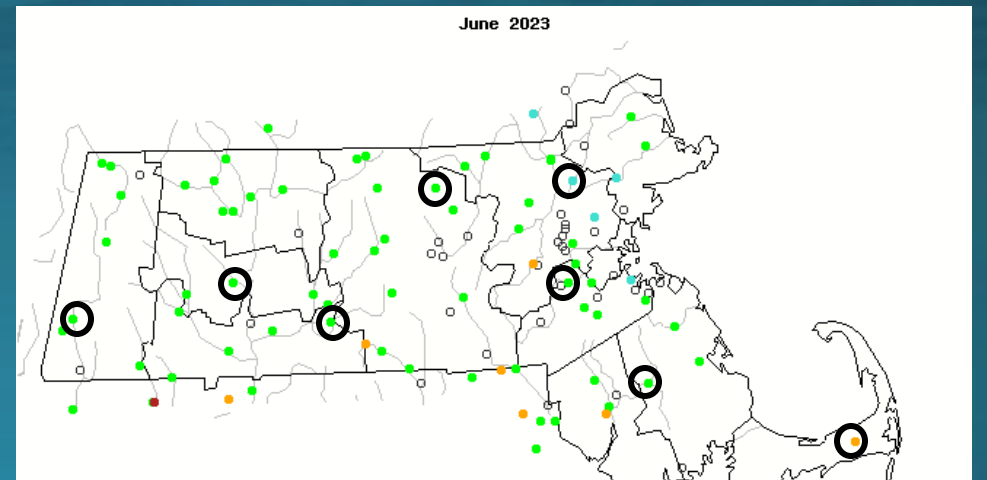
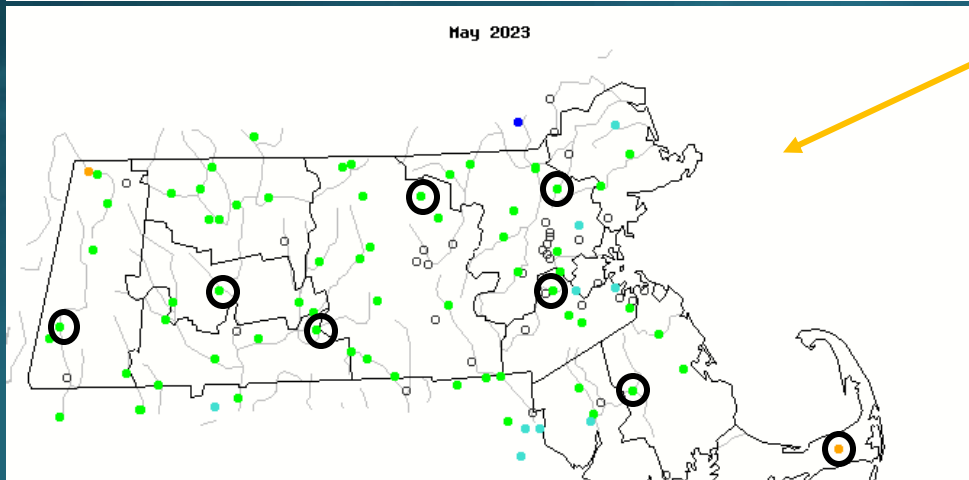
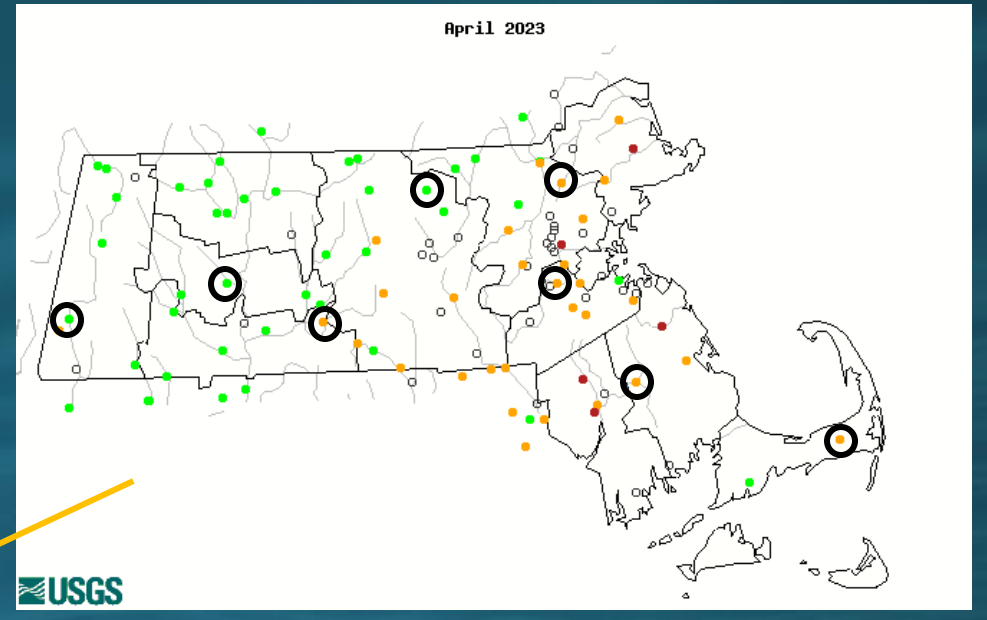
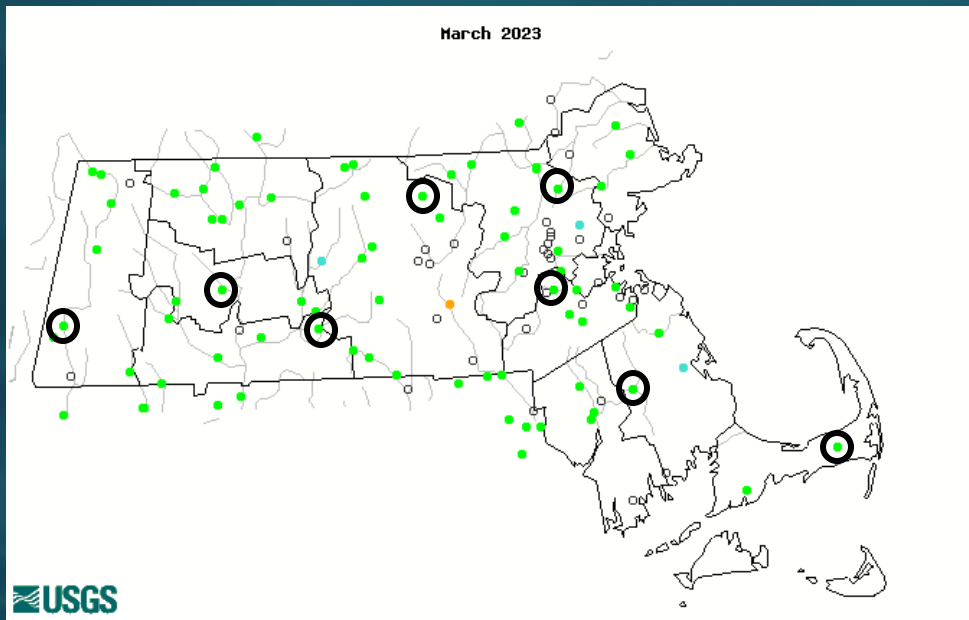
# Streamflow Conditions 7-Day Moving Average

Duration hydrograph of 7-day average runoff for Massachusetts



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

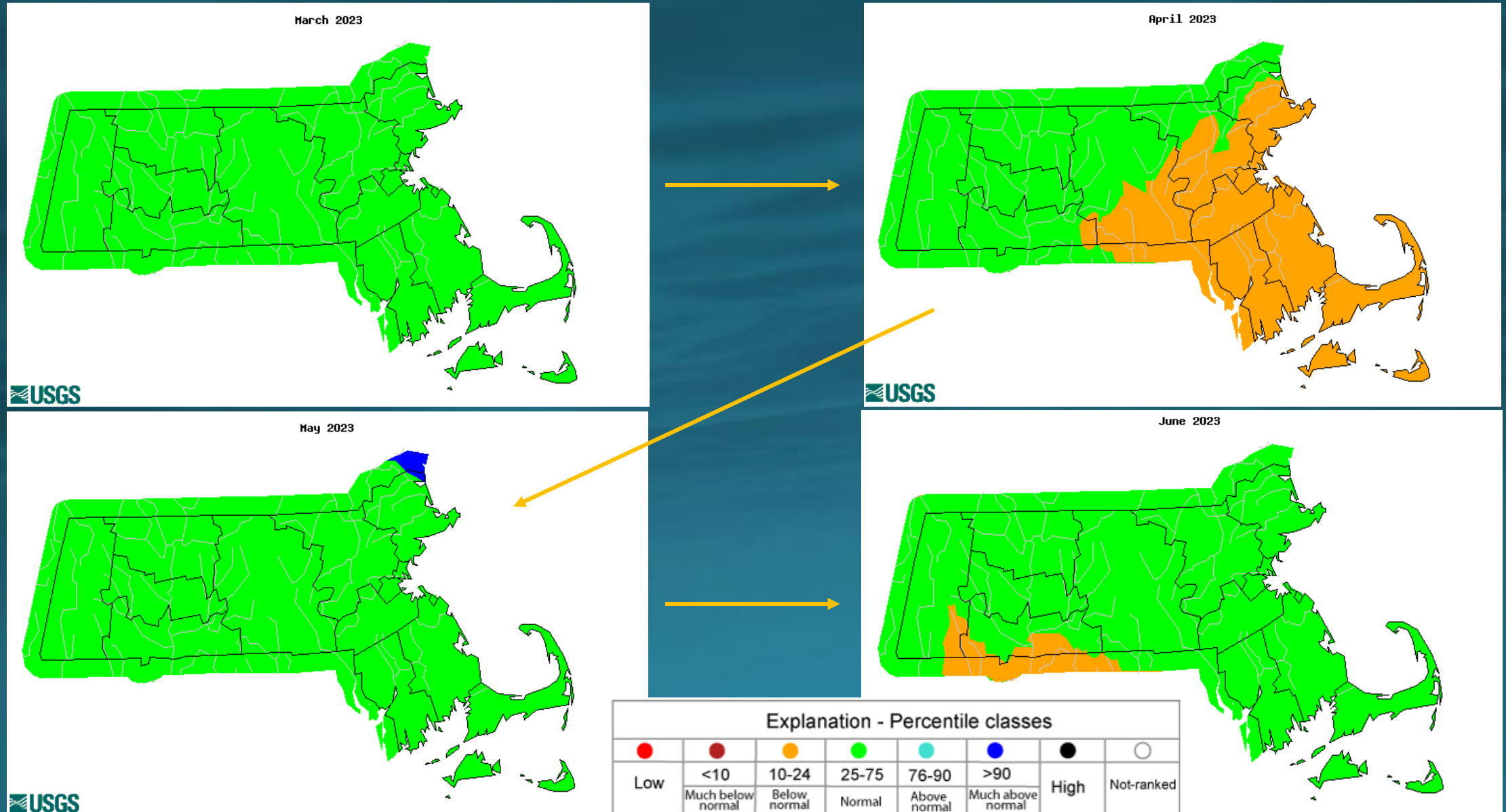
# Streamflow Conditions – Monthly Average



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		

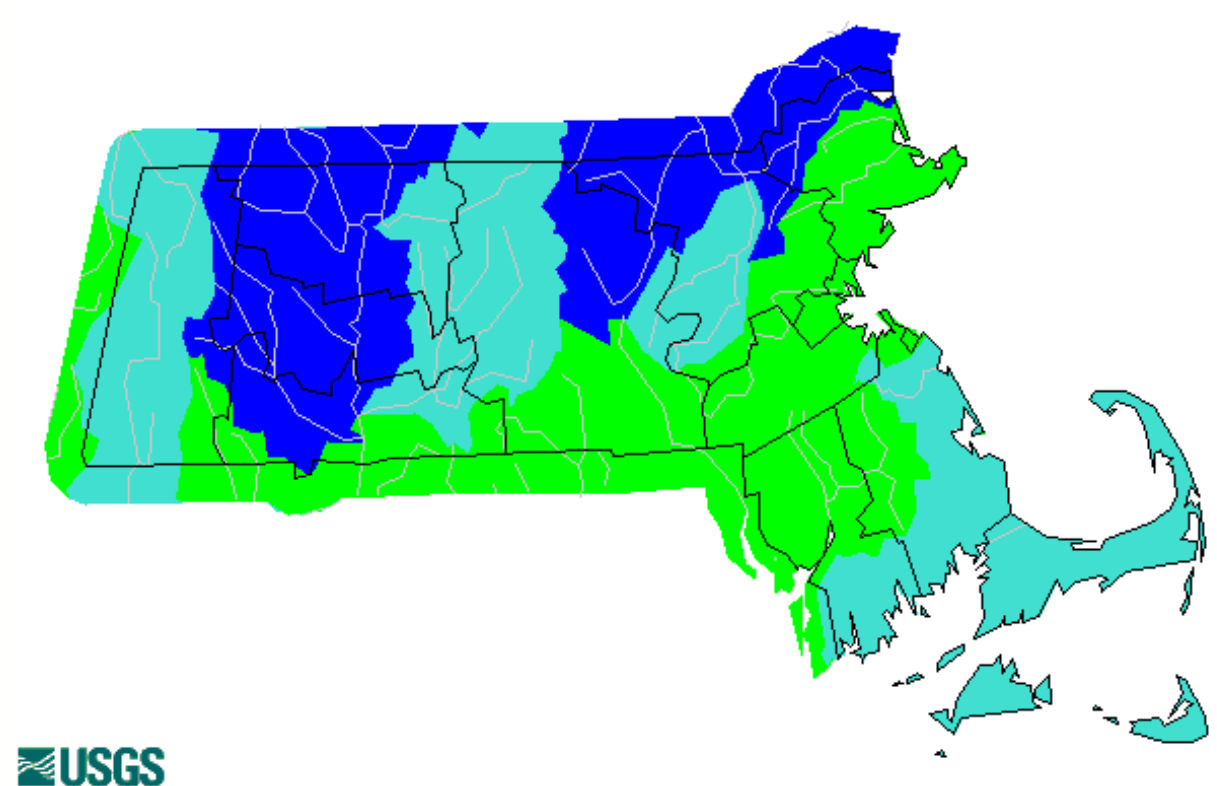
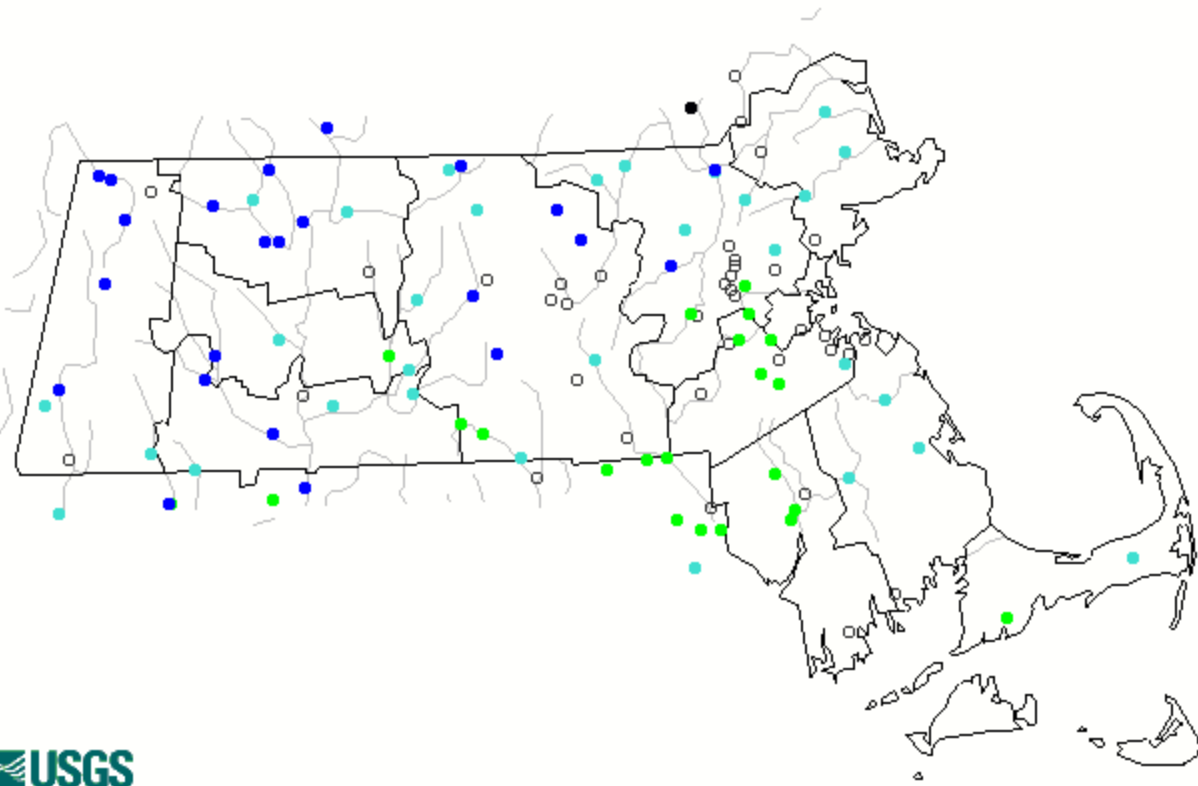
# Streamflow Conditions – Monthly Average



# Streamflow Conditions 7-Day Average

Sunday, July 02, 2023

Sunday, July 02, 2023



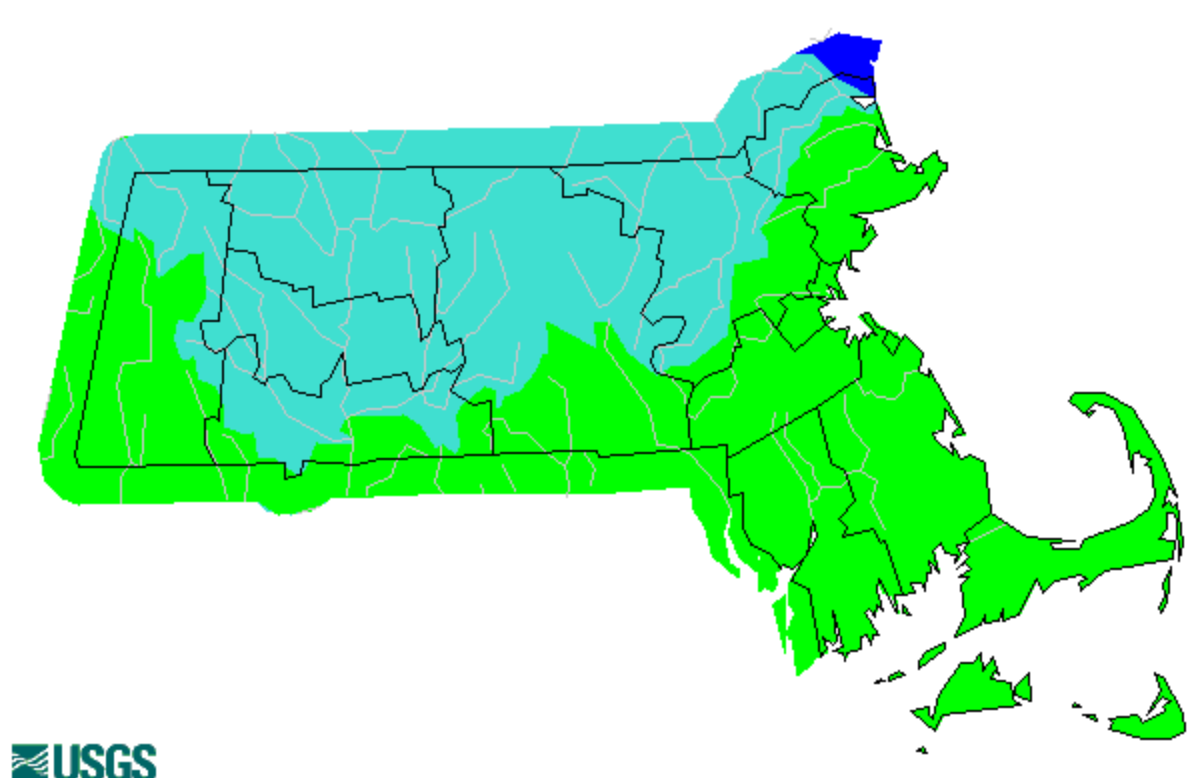
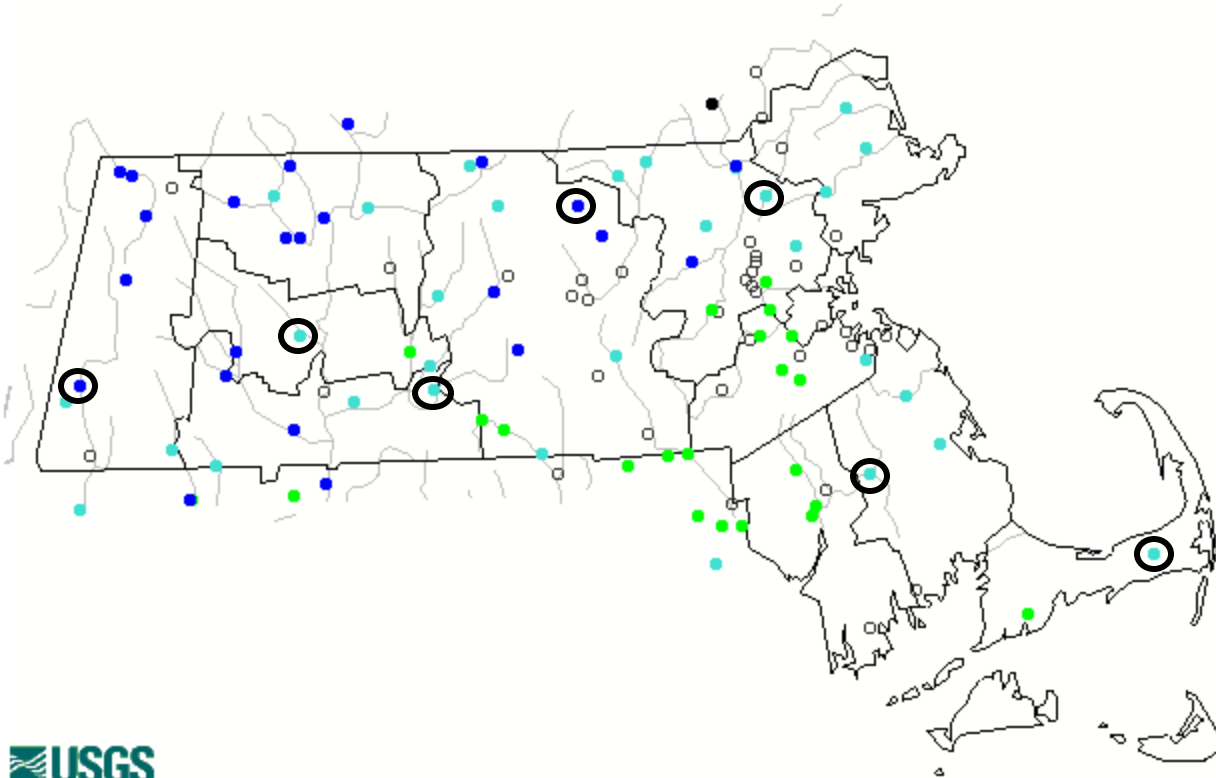
Explanation - Percentile classes

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

# Streamflow Conditions 14-Day Average

Sunday, July 02, 2023

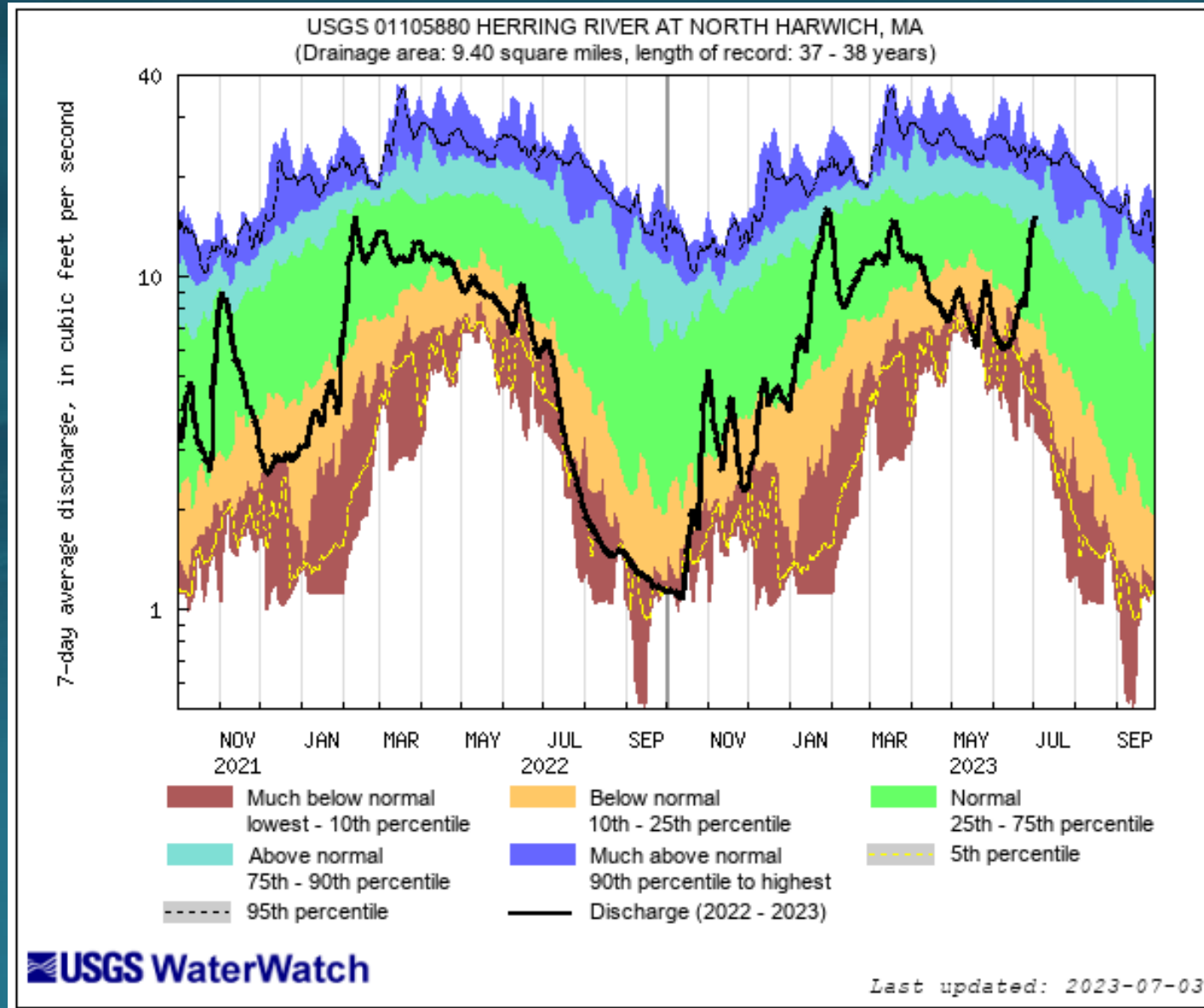
Sunday, July 02, 2023



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		



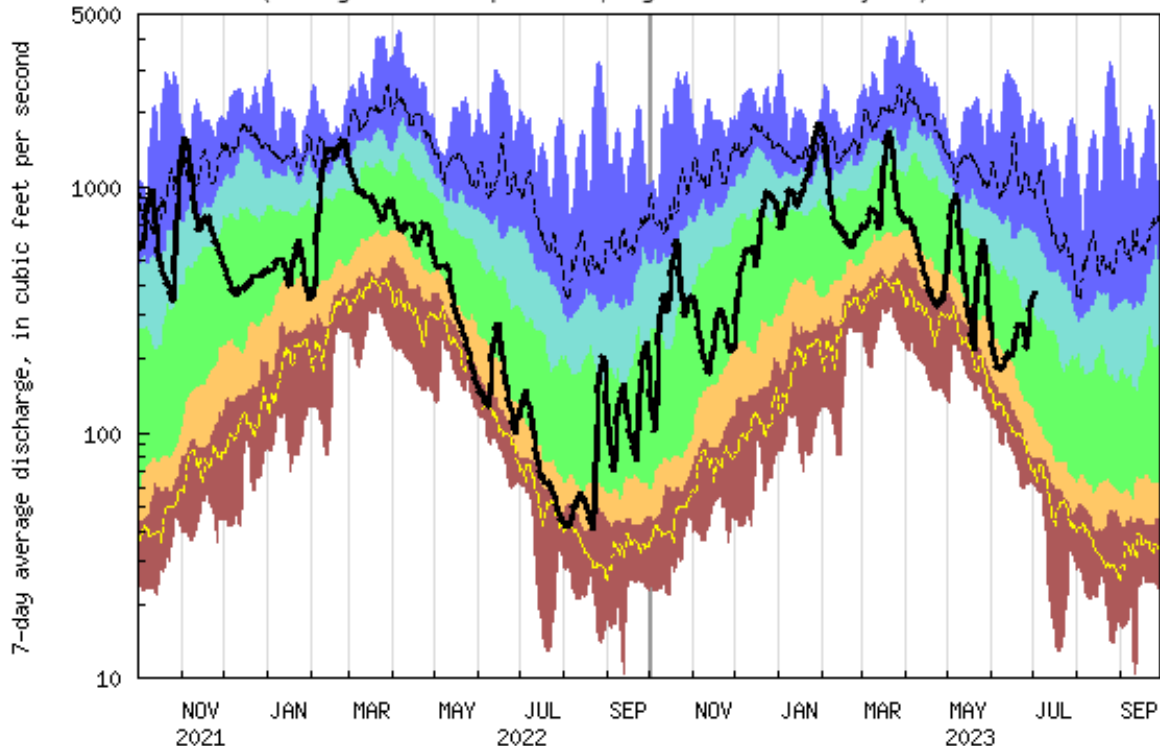
# Cape Cod Region 7-Day Average



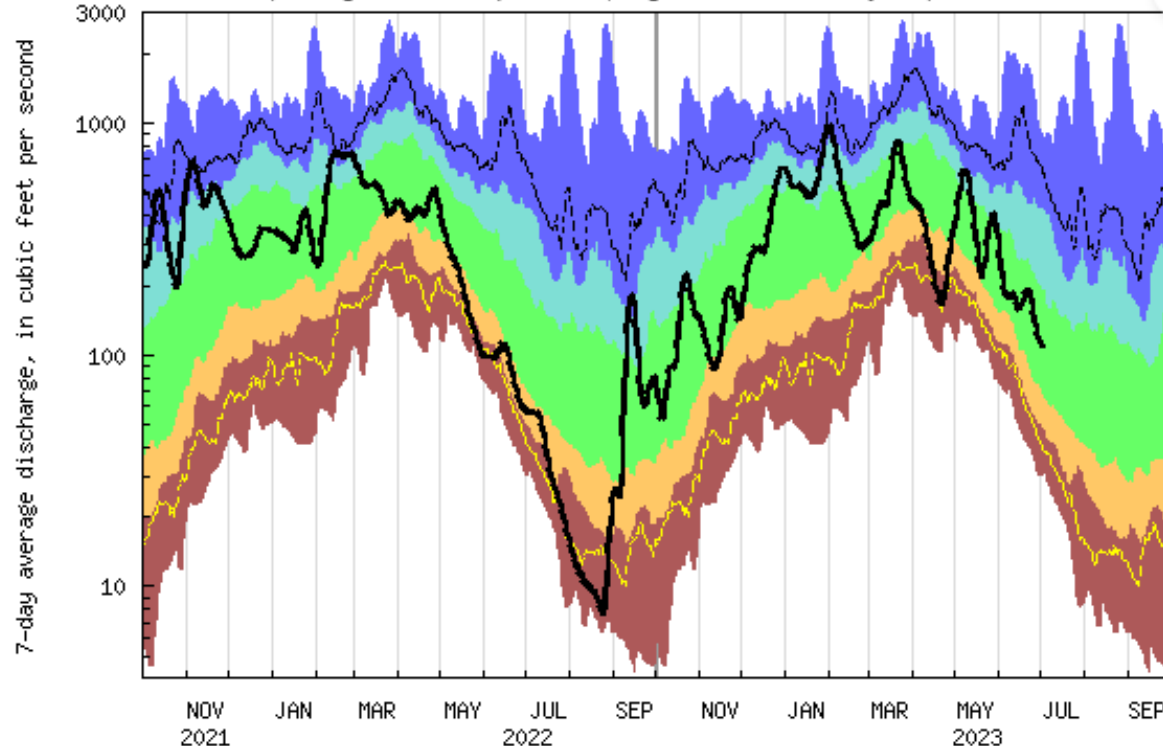


# Southeastern Region 7-Day Average

USGS 01108000 TAUNTON RIVER NEAR BRIDGEWATER, MA  
(Drainage area: 261 square miles, length of record: 75 - 77 years)



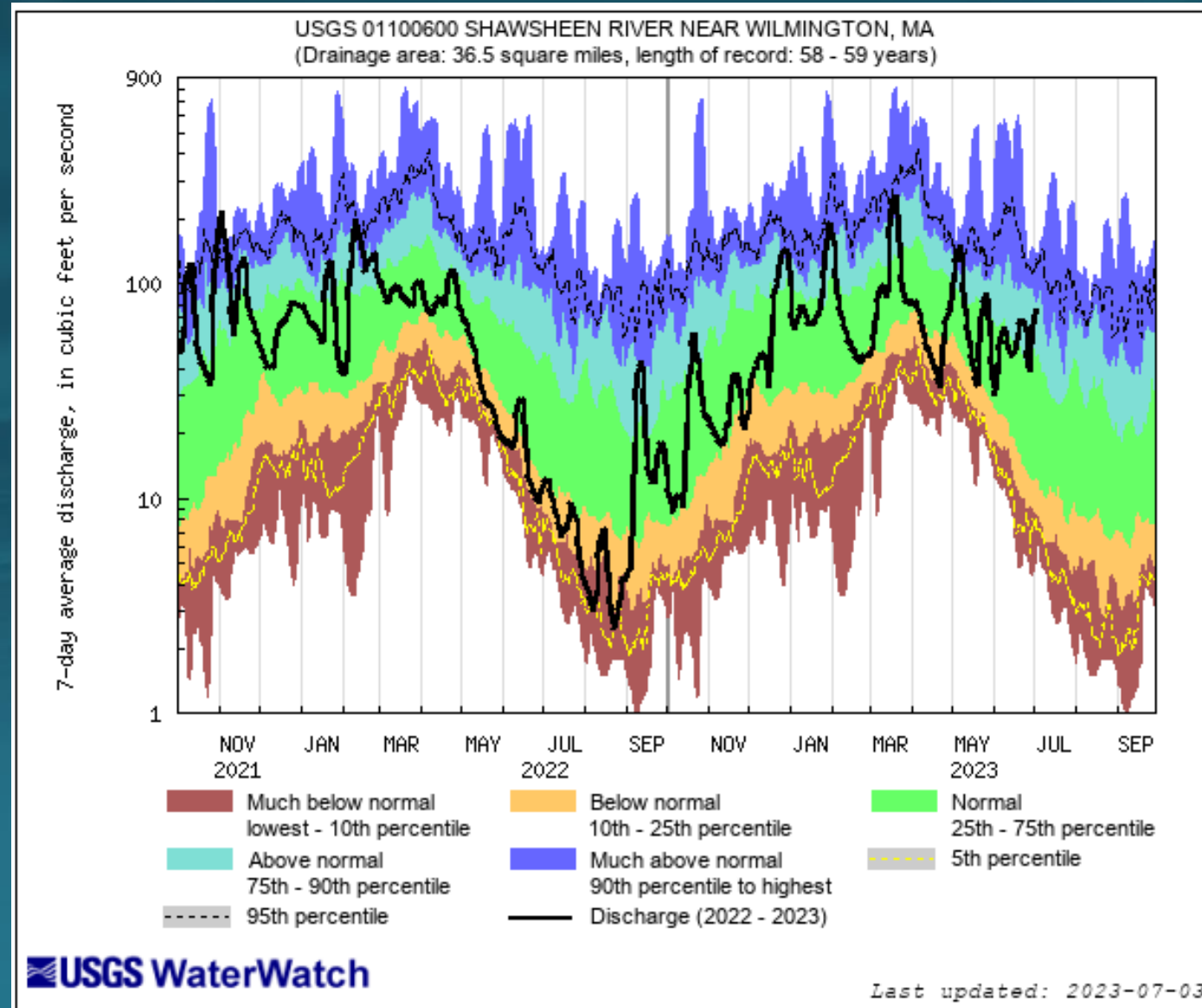
USGS 01103500 CHARLES RIVER AT DOVER, MA  
(Drainage area: 183 square miles, length of record: 85 - 86 years)



Explanation - Percentile classes

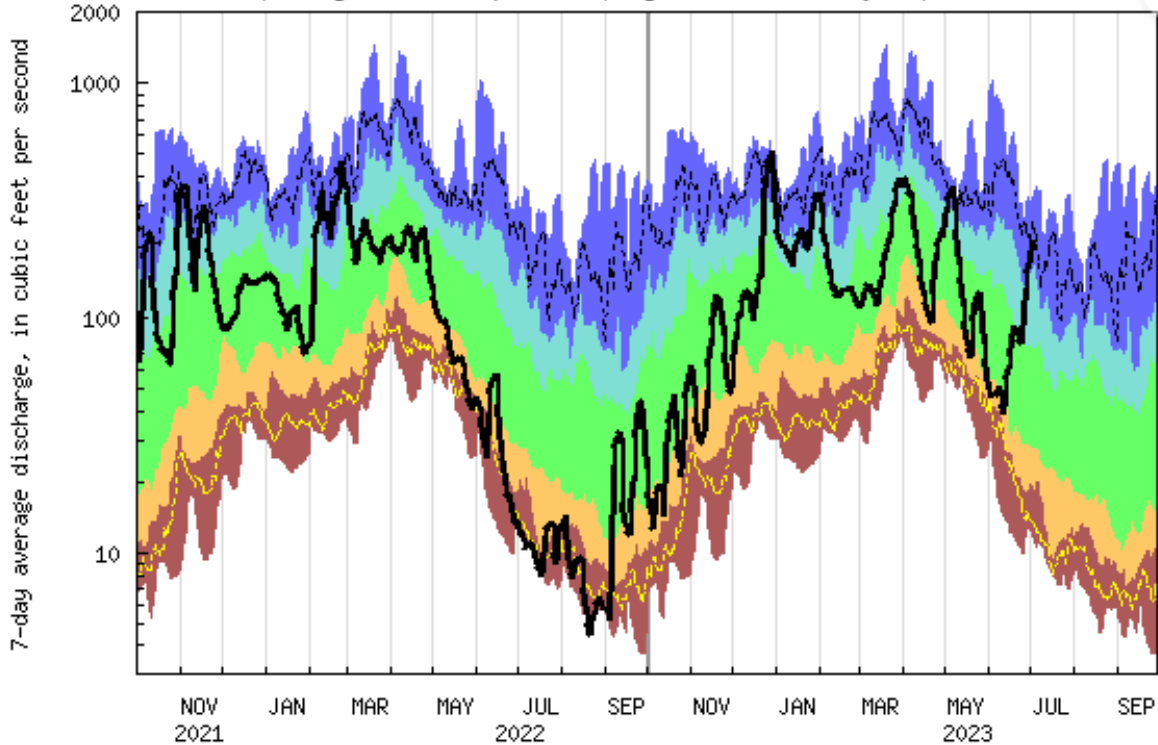
								Flow
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest		
Much below Normal		Below normal	Normal	Above normal	Much above normal			

# Northeast Region 7-Day Average

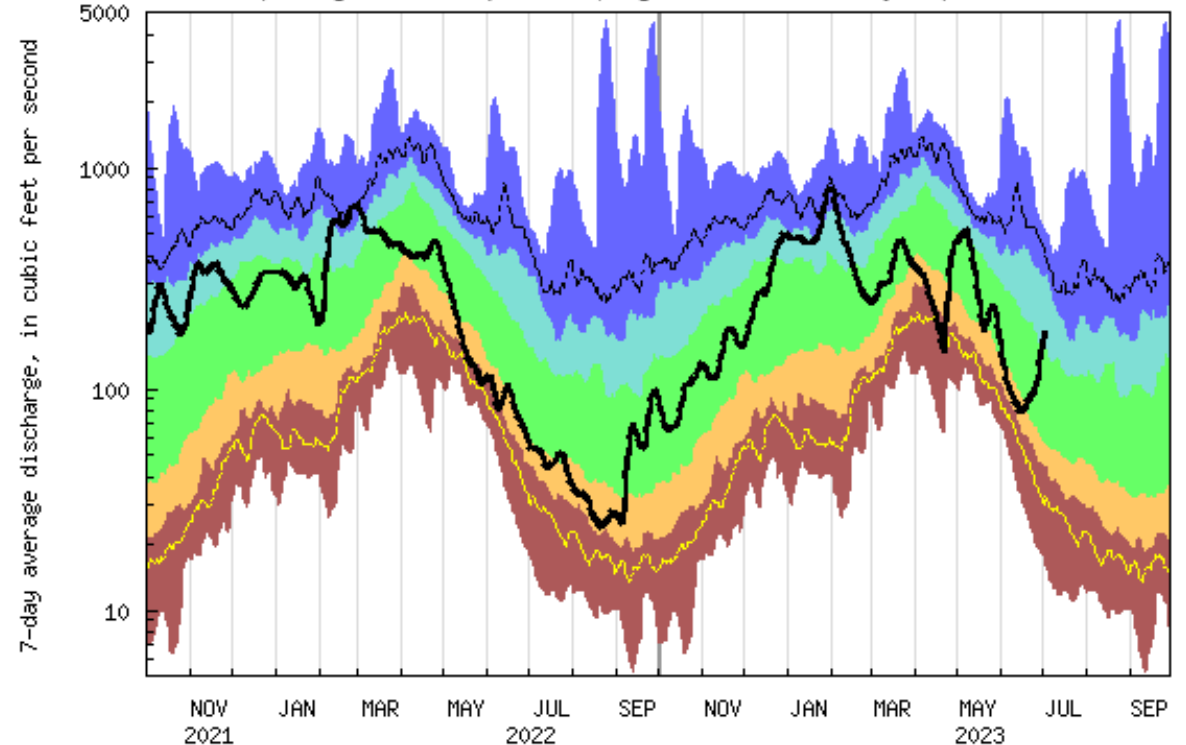


# Central Region 7-Day Average









USGS 01094400 NORTH NASHUA RIVER AT FITCHBURG, MA  
(Drainage area: 64.2 square miles, length of record: 50 - 50 years)



USGS 01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA  
(Drainage area: 150 square miles, length of record: 109 - 110 years)

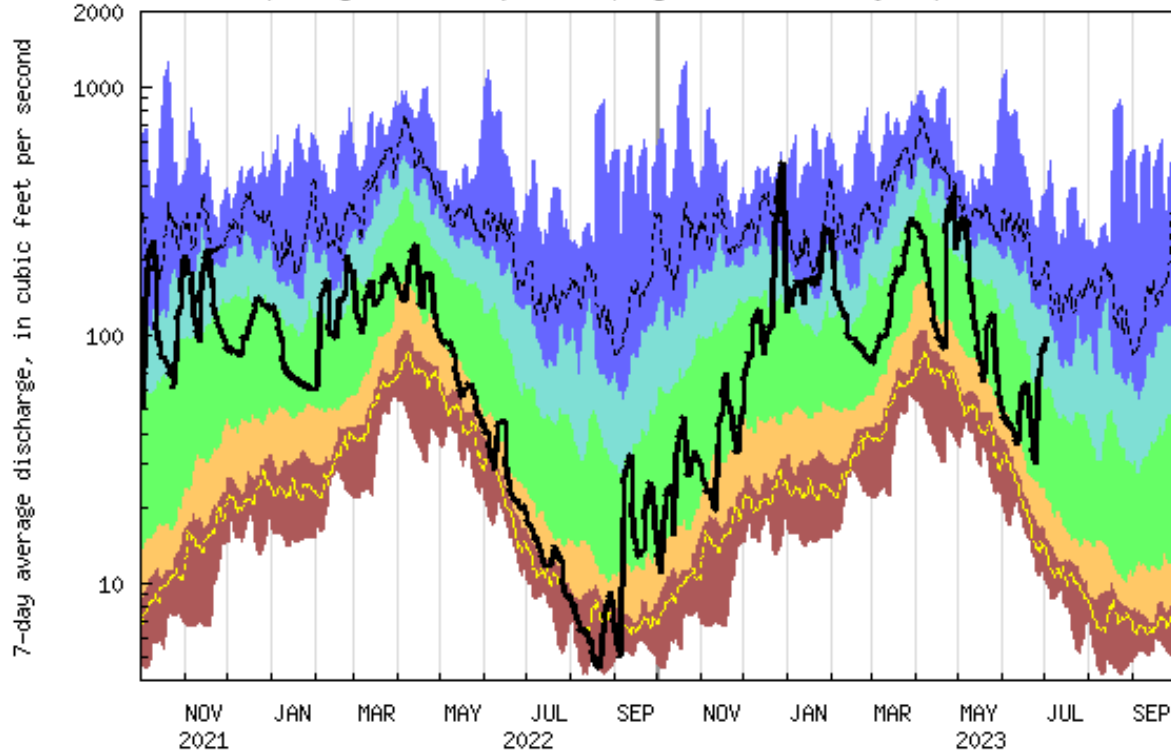


## Explanation - Percentile classes

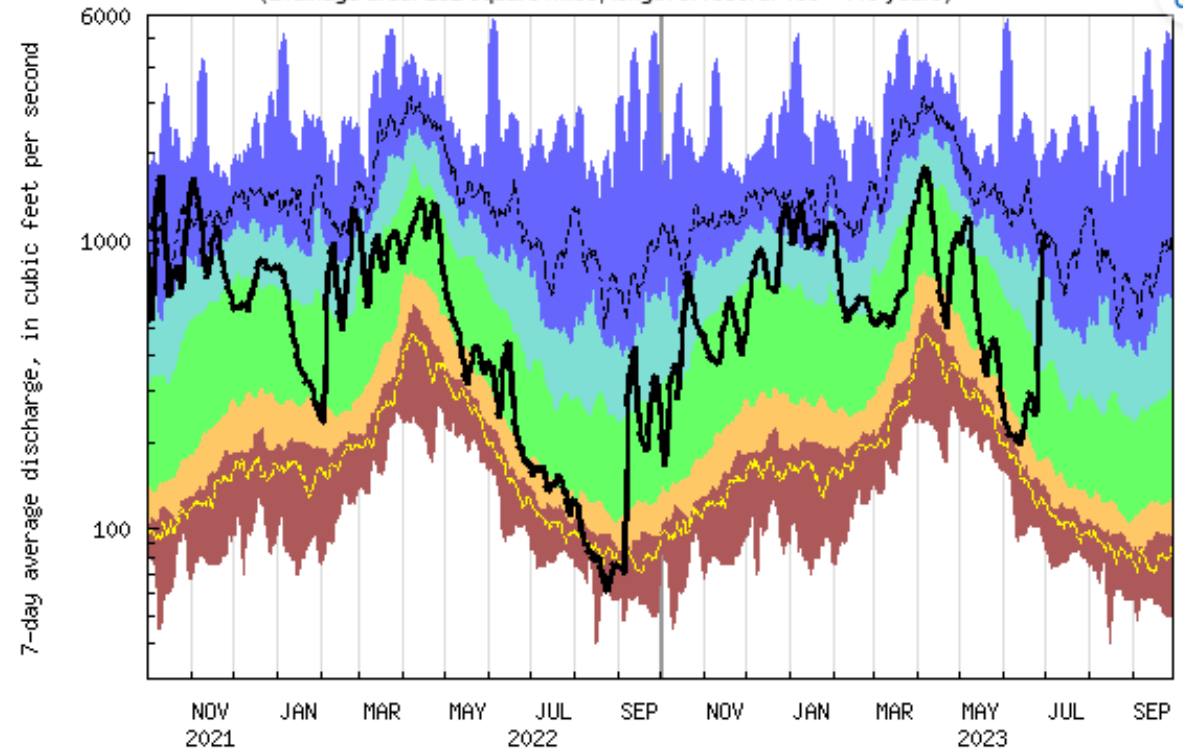
							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Runoff
Much below Normal		Below normal	Normal	Above normal		Much above normal	

# Connecticut Valley and Western Regions

USGS 01171500 MILL RIVER AT NORTHAMPTON, MA  
(Drainage area: 52.6 square miles, length of record: 83 - 84 years)



USGS 01197500 HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA  
(Drainage area: 282 square miles, length of record: 109 - 110 years)

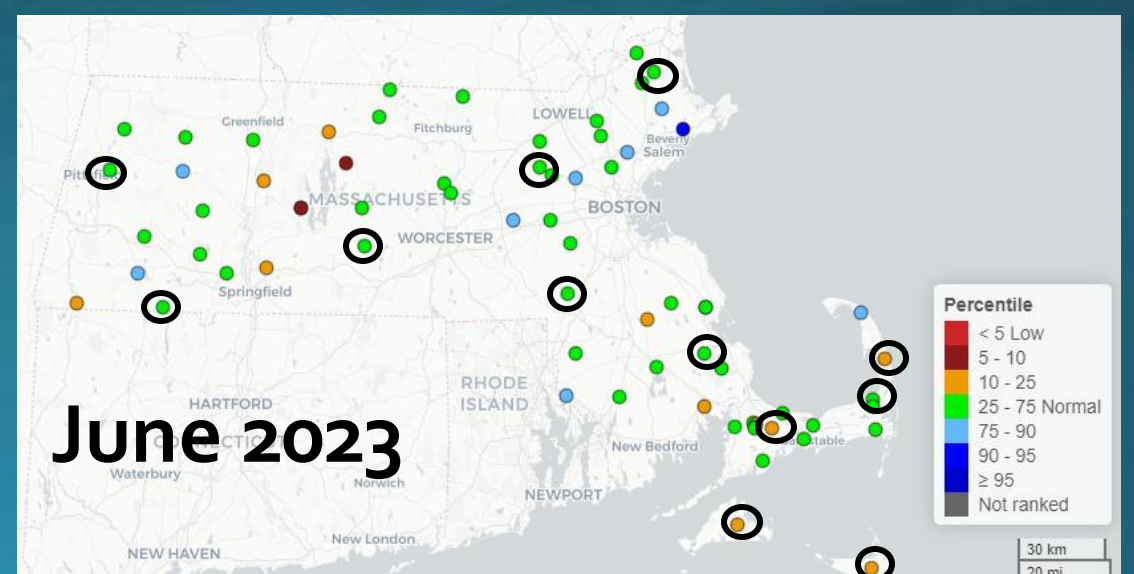
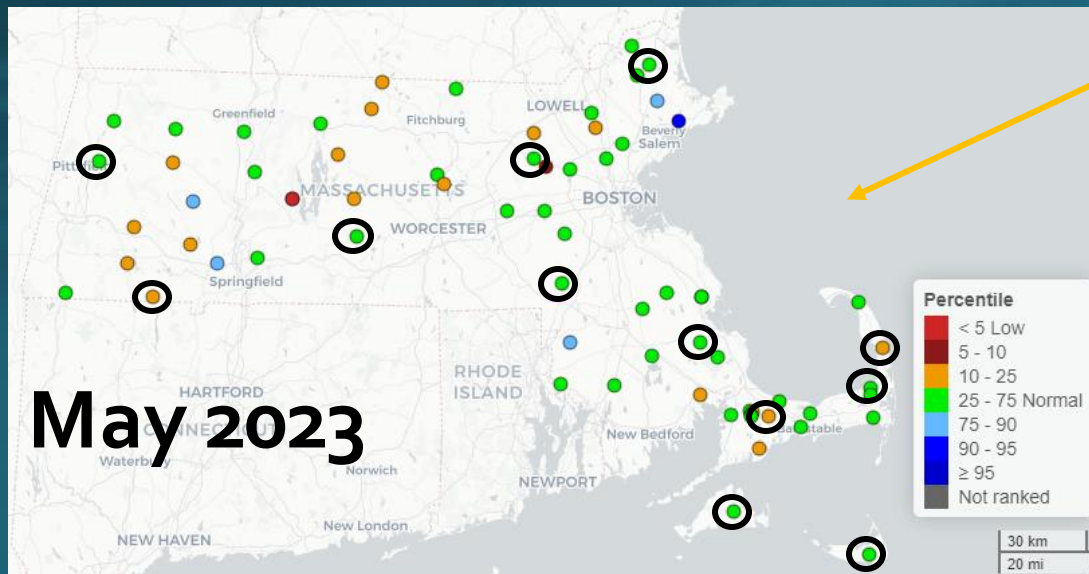


Explanation - Percentile classes

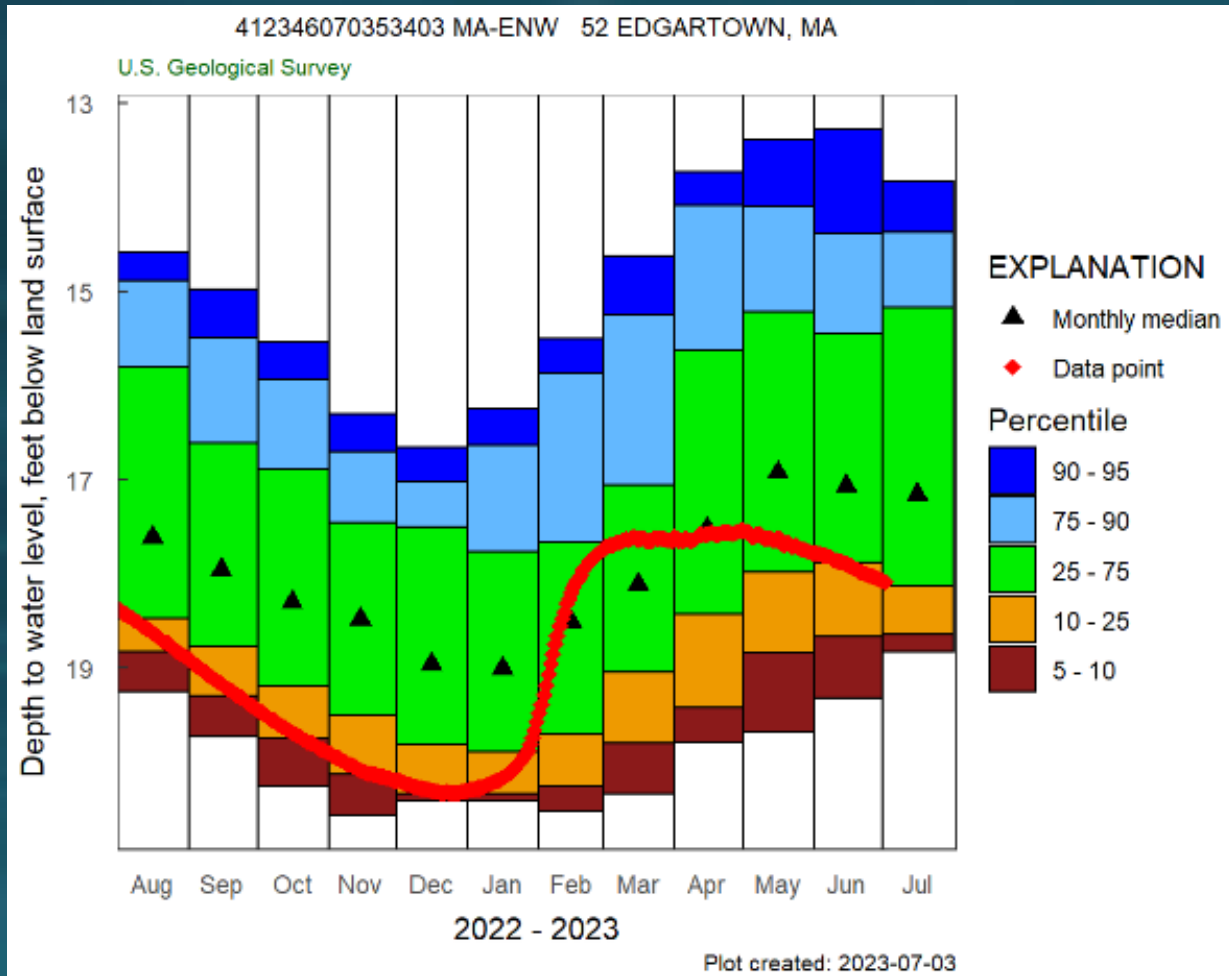
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest	Runoff
Much below Normal		Below normal	Normal	Above normal	Much above normal		



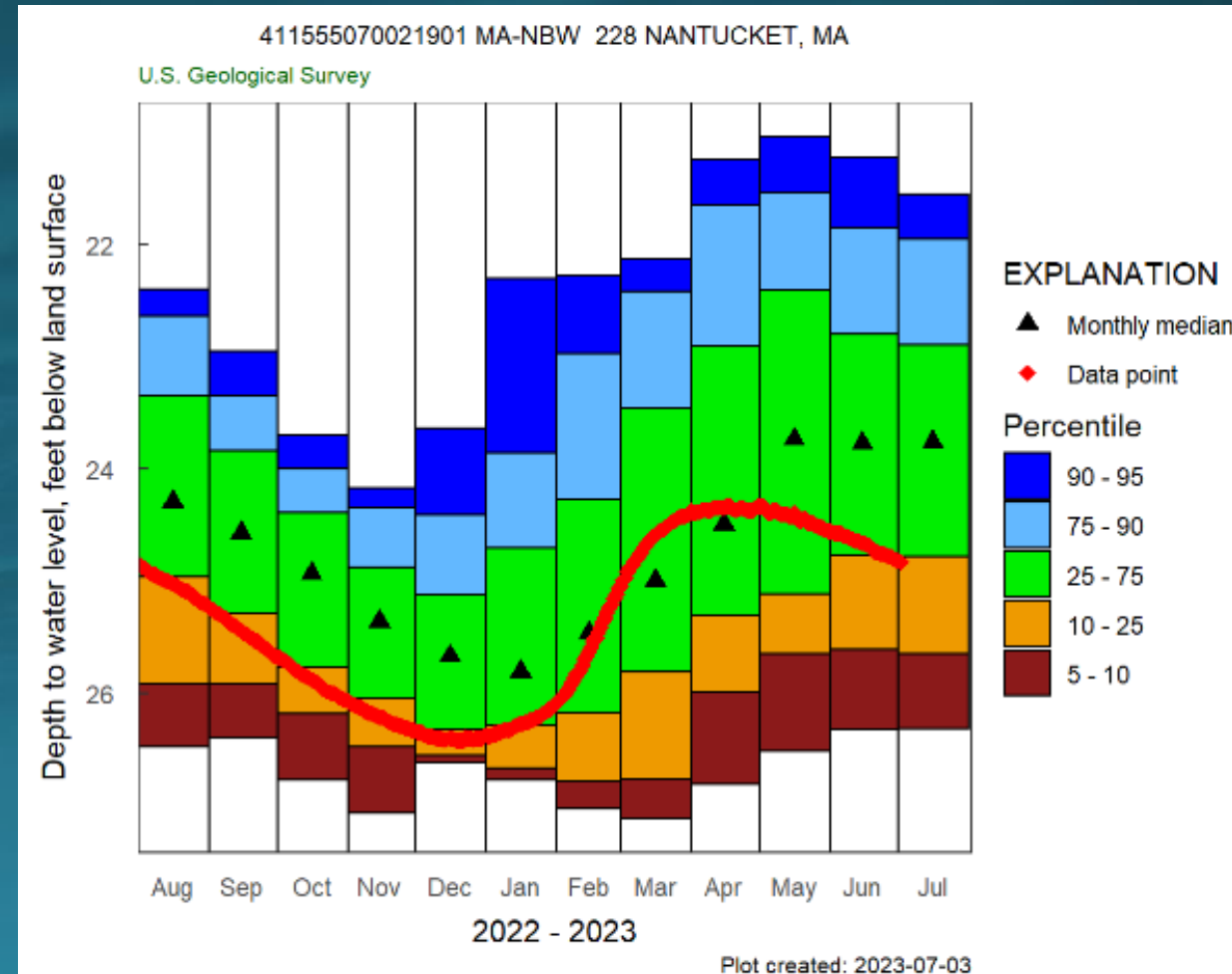
# Groundwater Conditions



# Islands Region

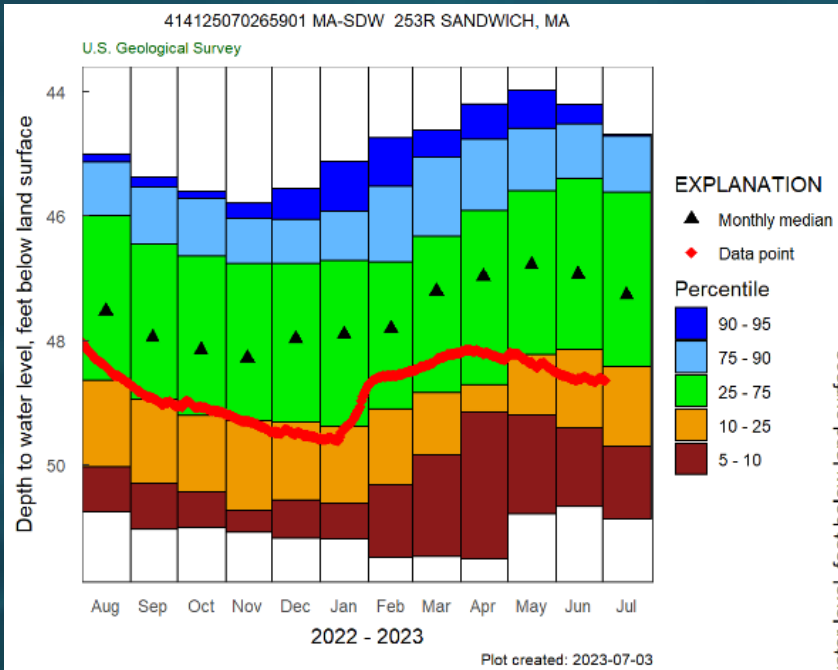


Period of Record: 47 yrs; continuous 4 yrs

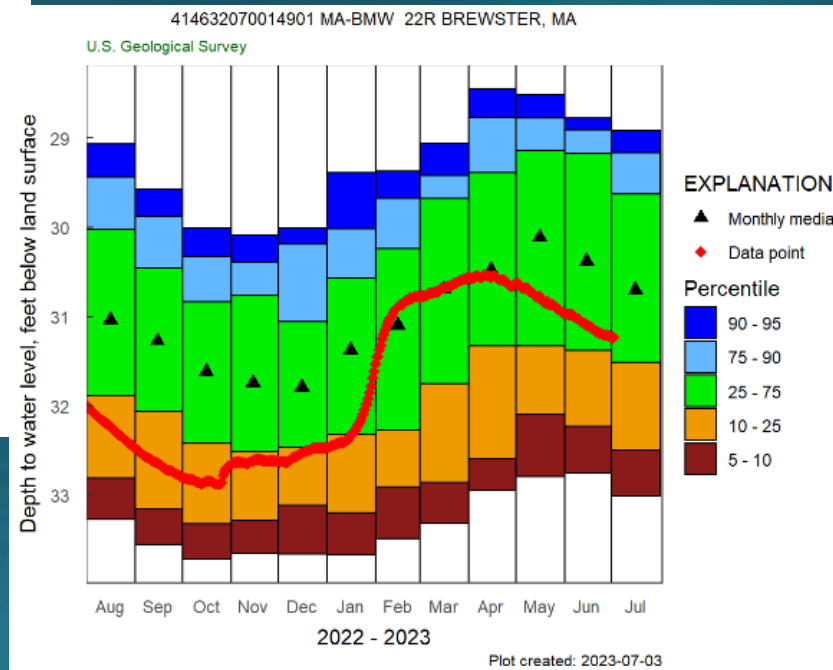


Period of Record: 47 yrs; continuous 1 yr

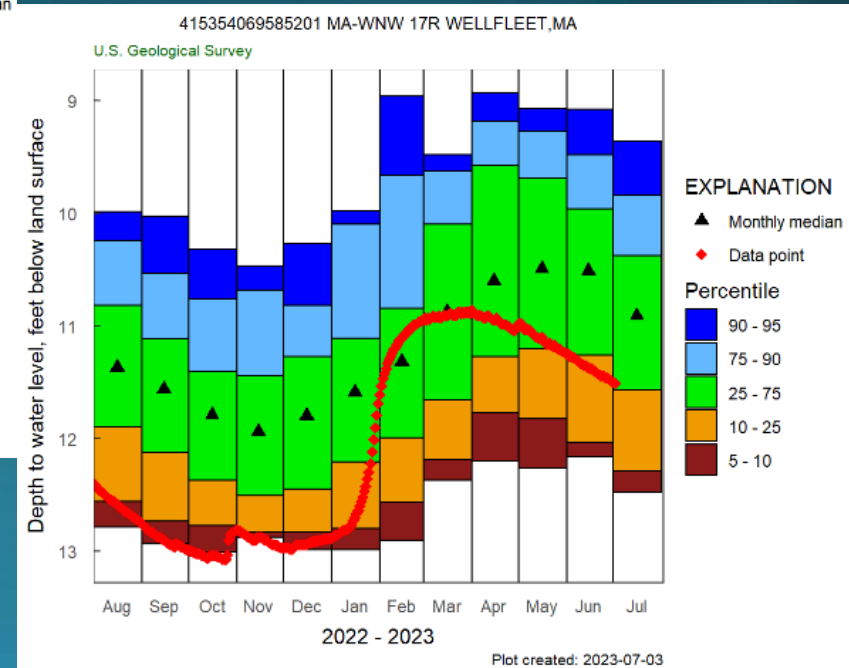
# Cape Cod Region



Period of Record: 61 yrs;  
continuous 11 yrs



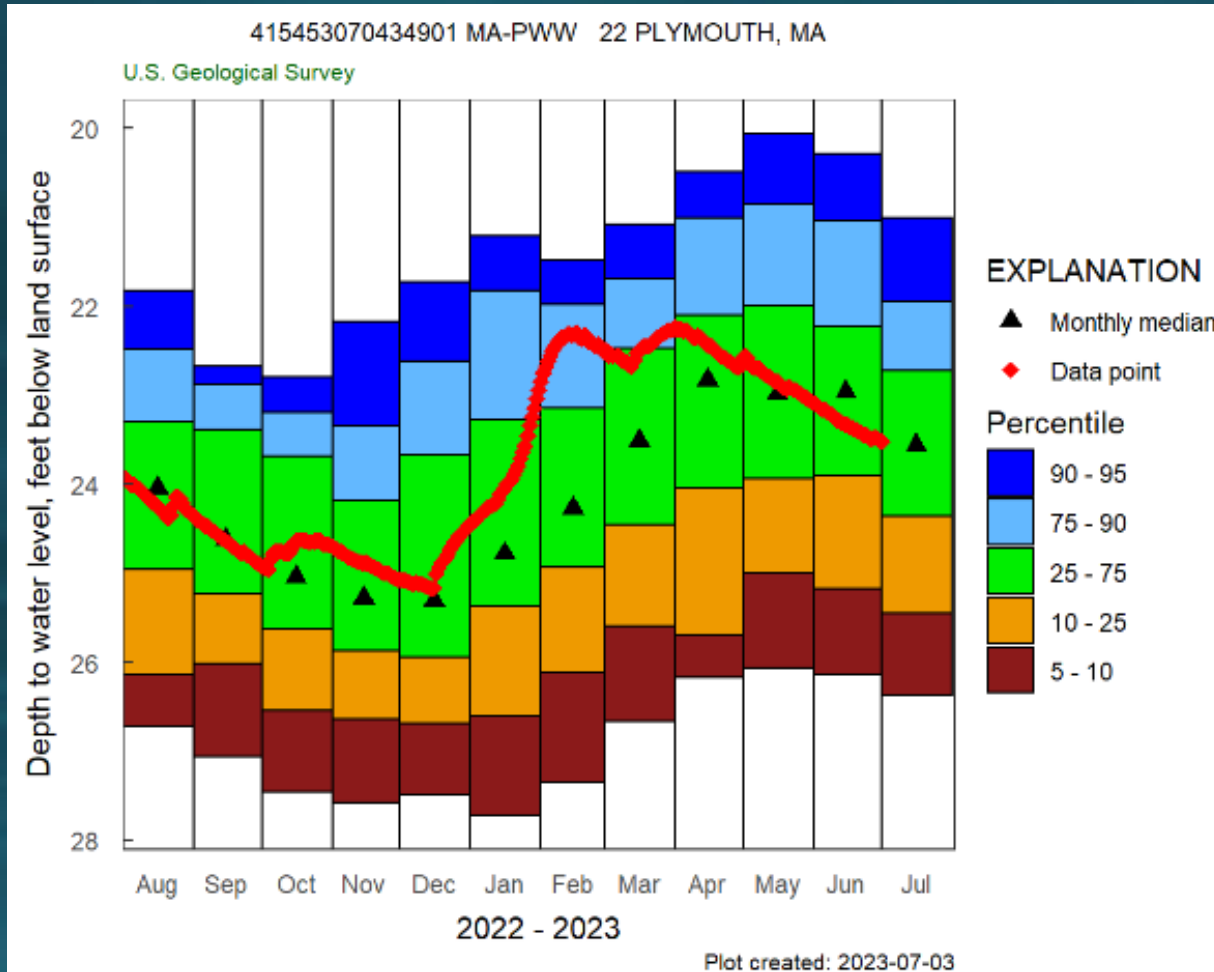
Period of Record: 61 yrs;  
continuous 22 yrs



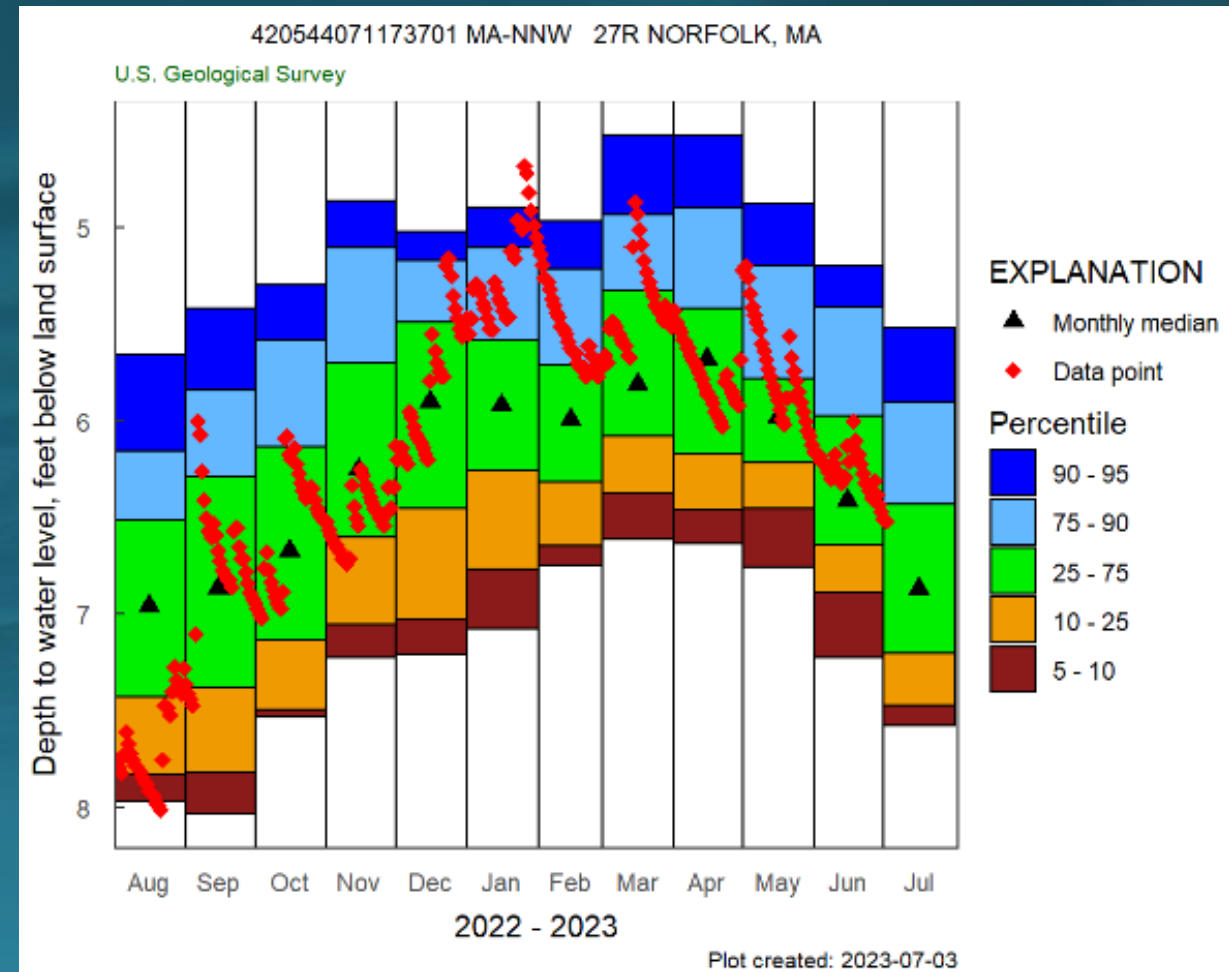
Period of Record: 61 yrs; cont. 11 yrs



# Southeast Region

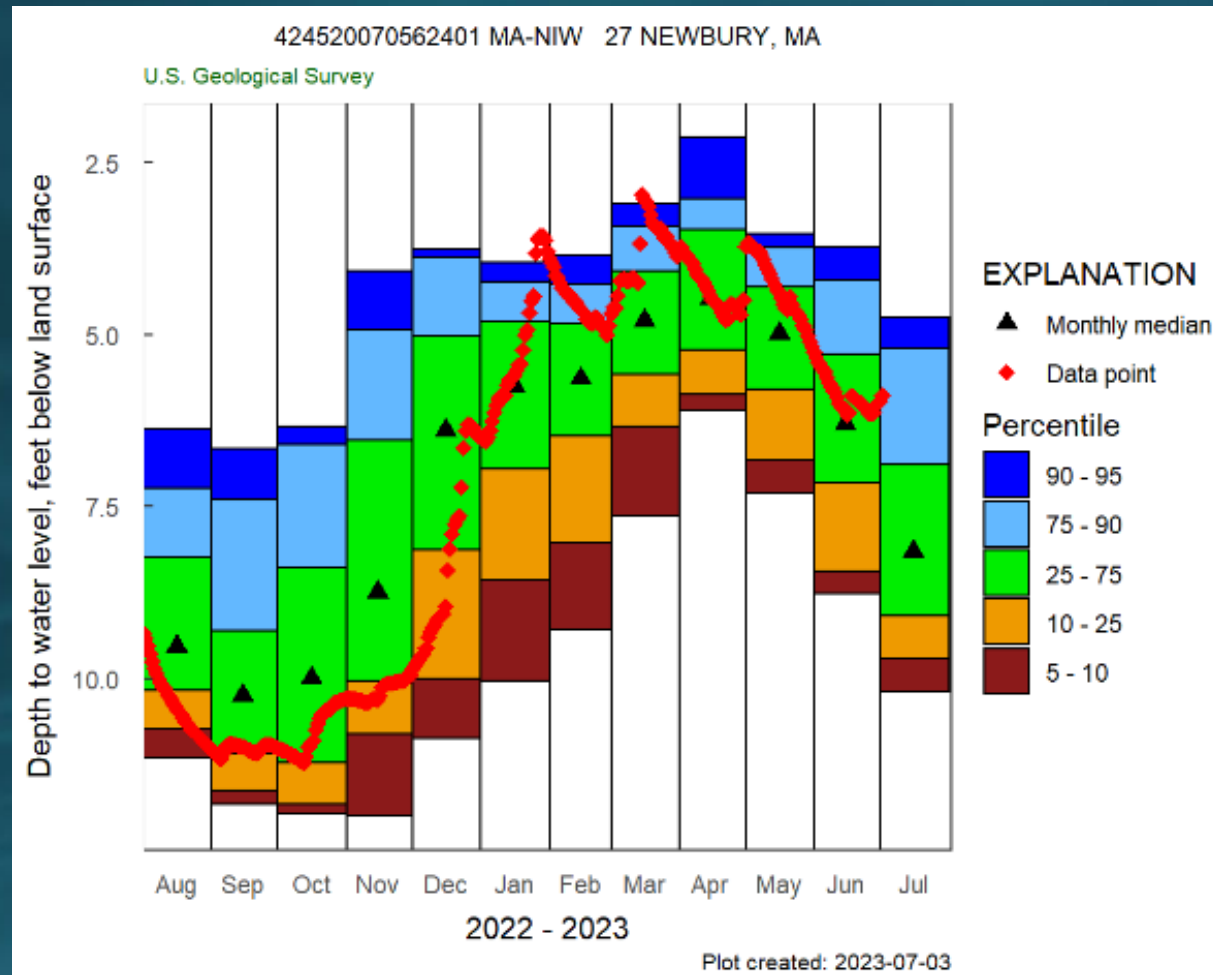


Period of Record: 67 yrs; continuous 9 yrs

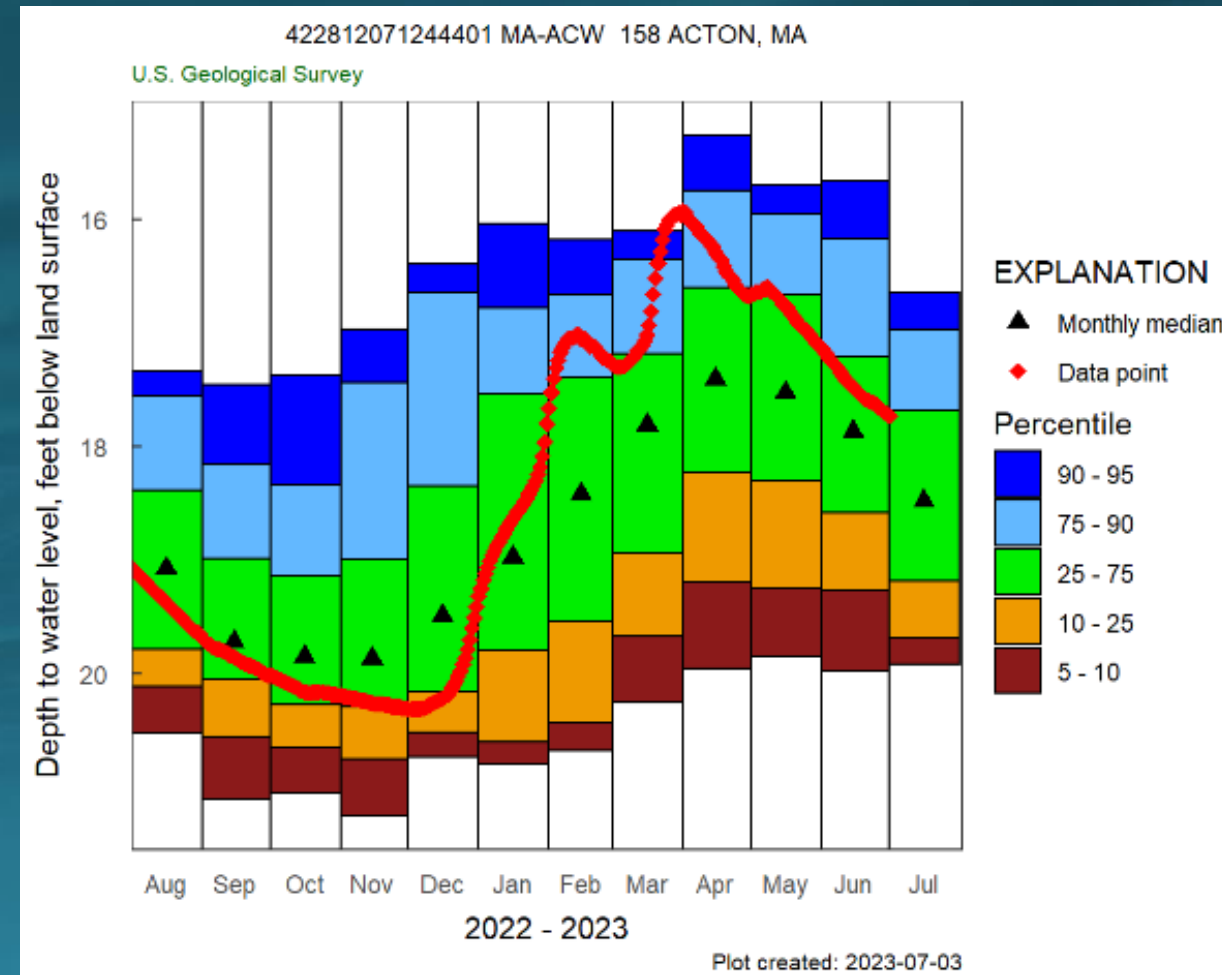


Period of Record: 59 yrs; continuous 22 yrs

# Northeast Region

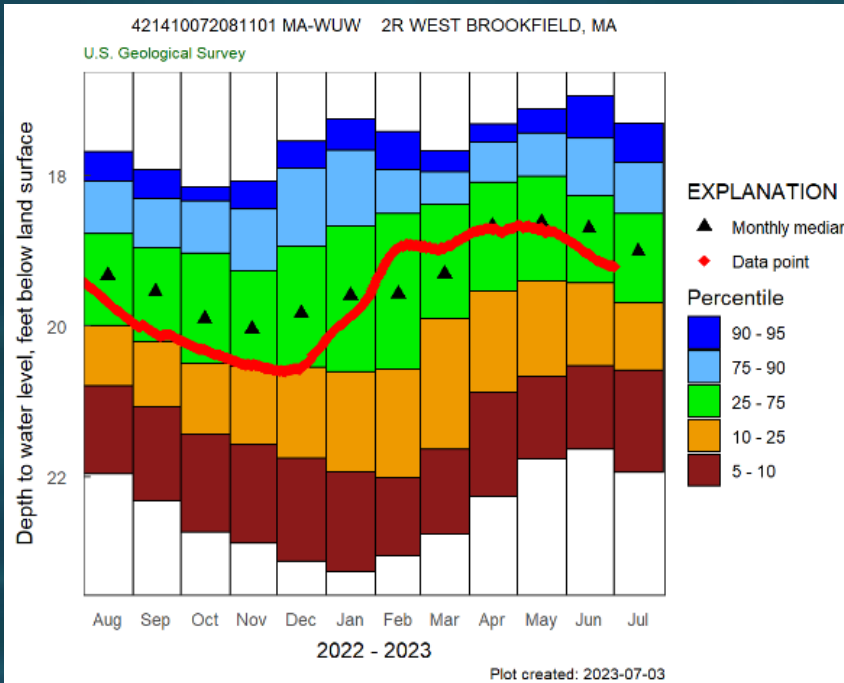


Period of Record: 58 yrs; continuous 39 yrs

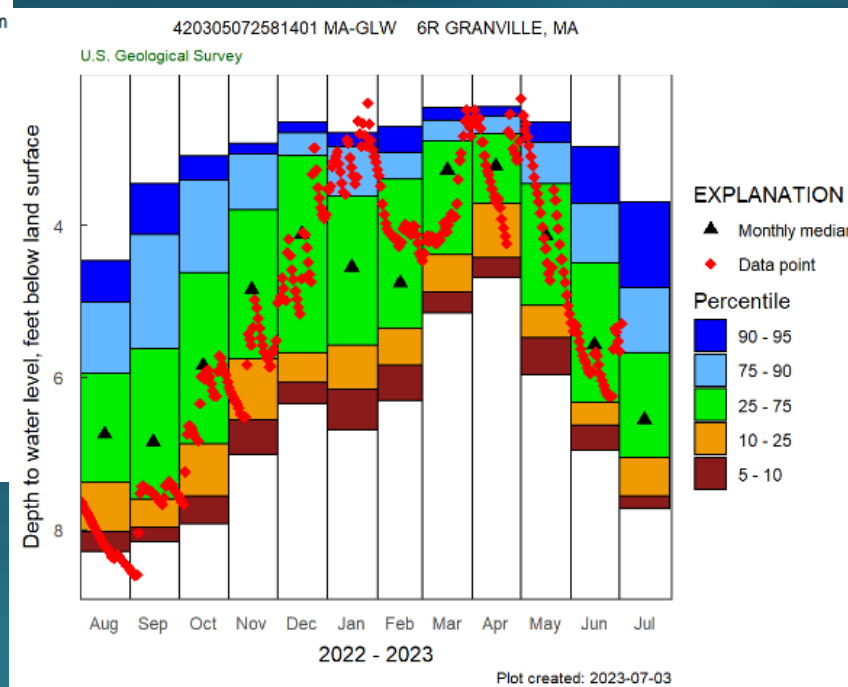


Period of Record: 59 yrs; continuous 23 yrs

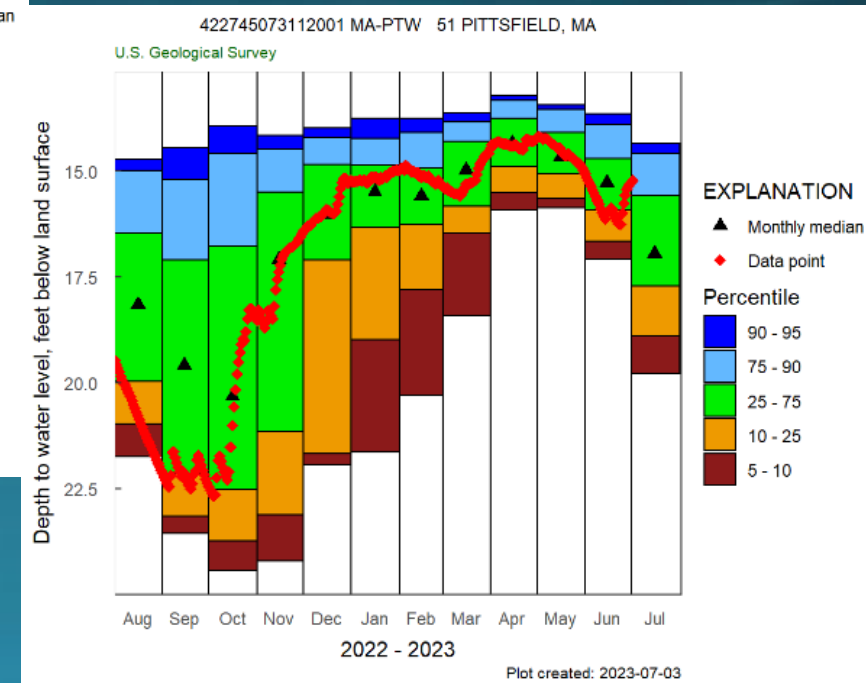
# Central, CT Valley, and Western Regions



Period of Record: 64 yrs;  
continuous 6 yrs



Period of Record: 59 yrs;  
continuous 9 yrs



Period of Record: 60 yrs; Cont. 39 yrs