
Streamflow and Groundwater Conditions in Massachusetts

Richard Verdi
U.S. Geological Survey
New England Water Science Center
Massachusetts – Rhode Island Office

Streamflow Conditions During June 2016

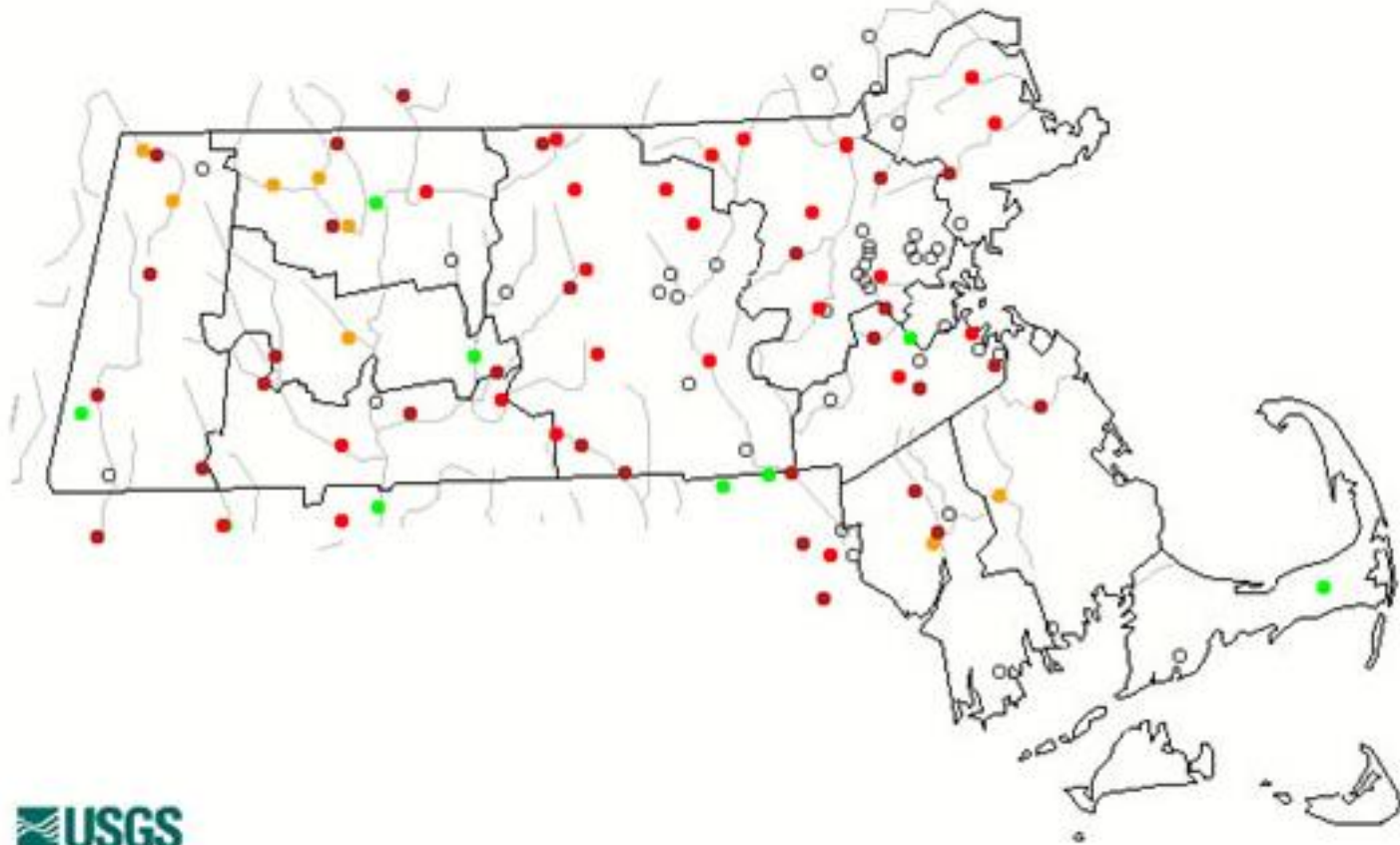
June 2016



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Streamflow Conditions During July 2016

July 2016

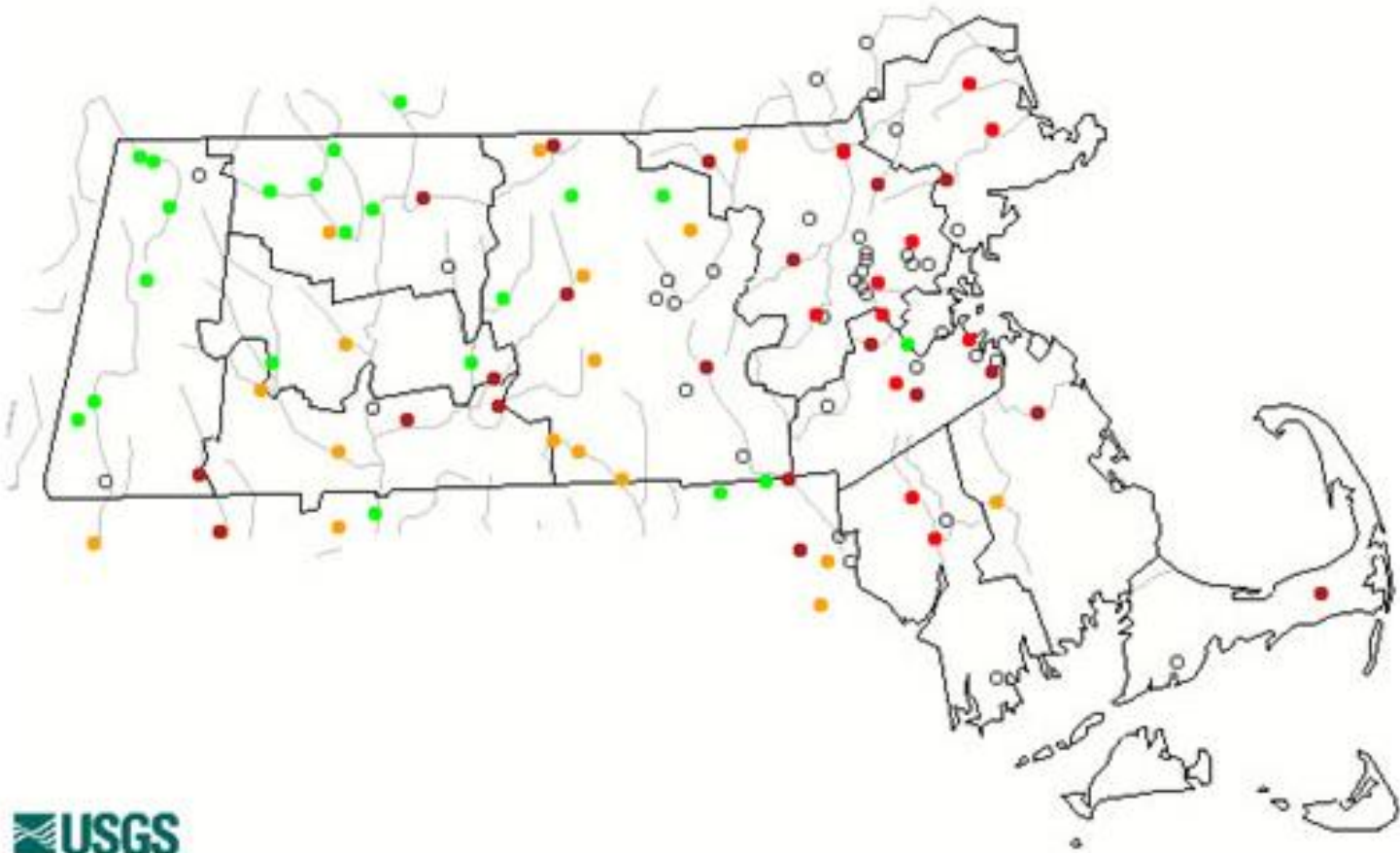


Explanation - Percentile classes


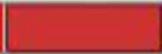




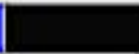
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Streamflow Conditions During August 2016

August 2016

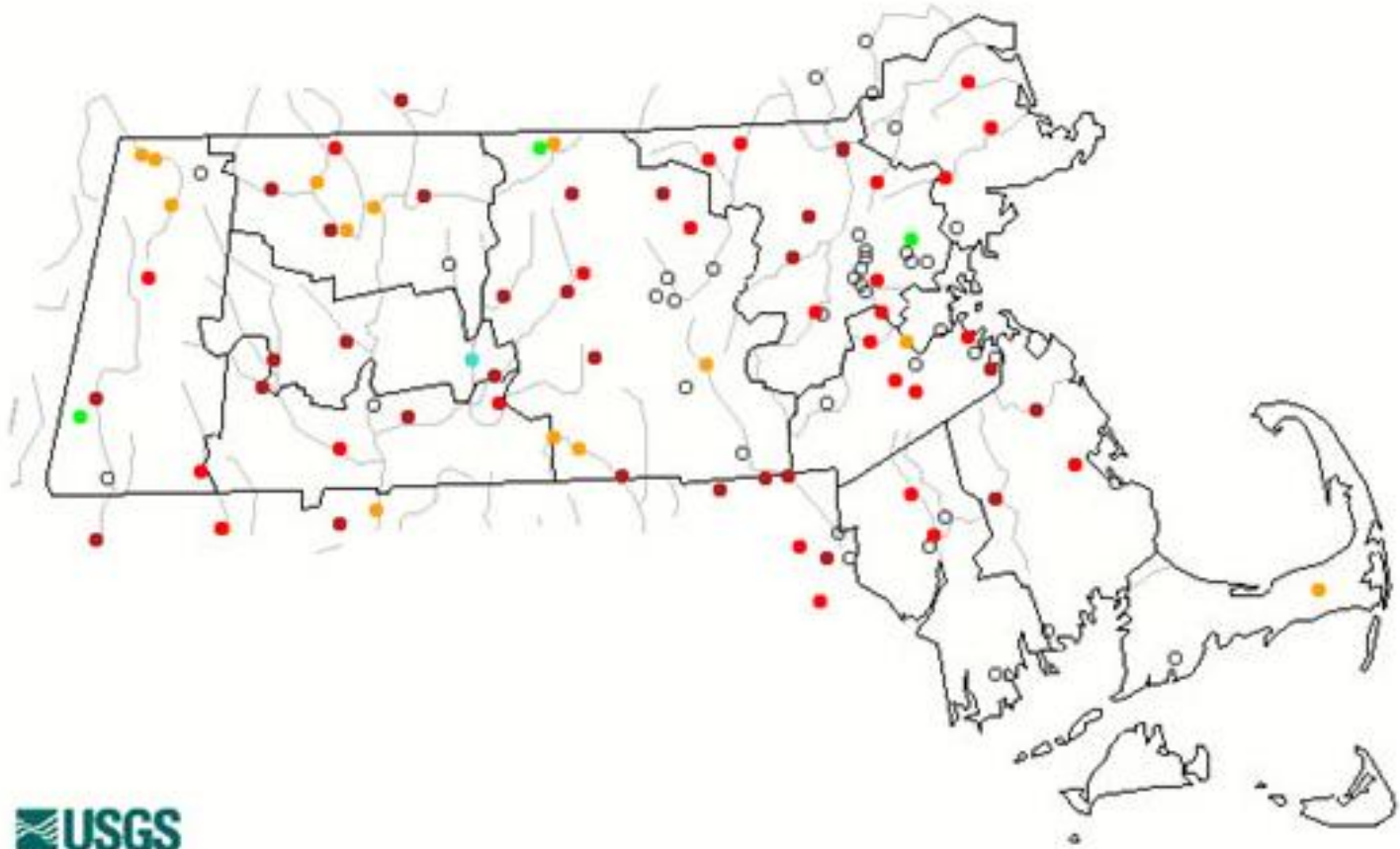


USGS

Explanation - Percentile classes							
							
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Streamflow Conditions During September 2016

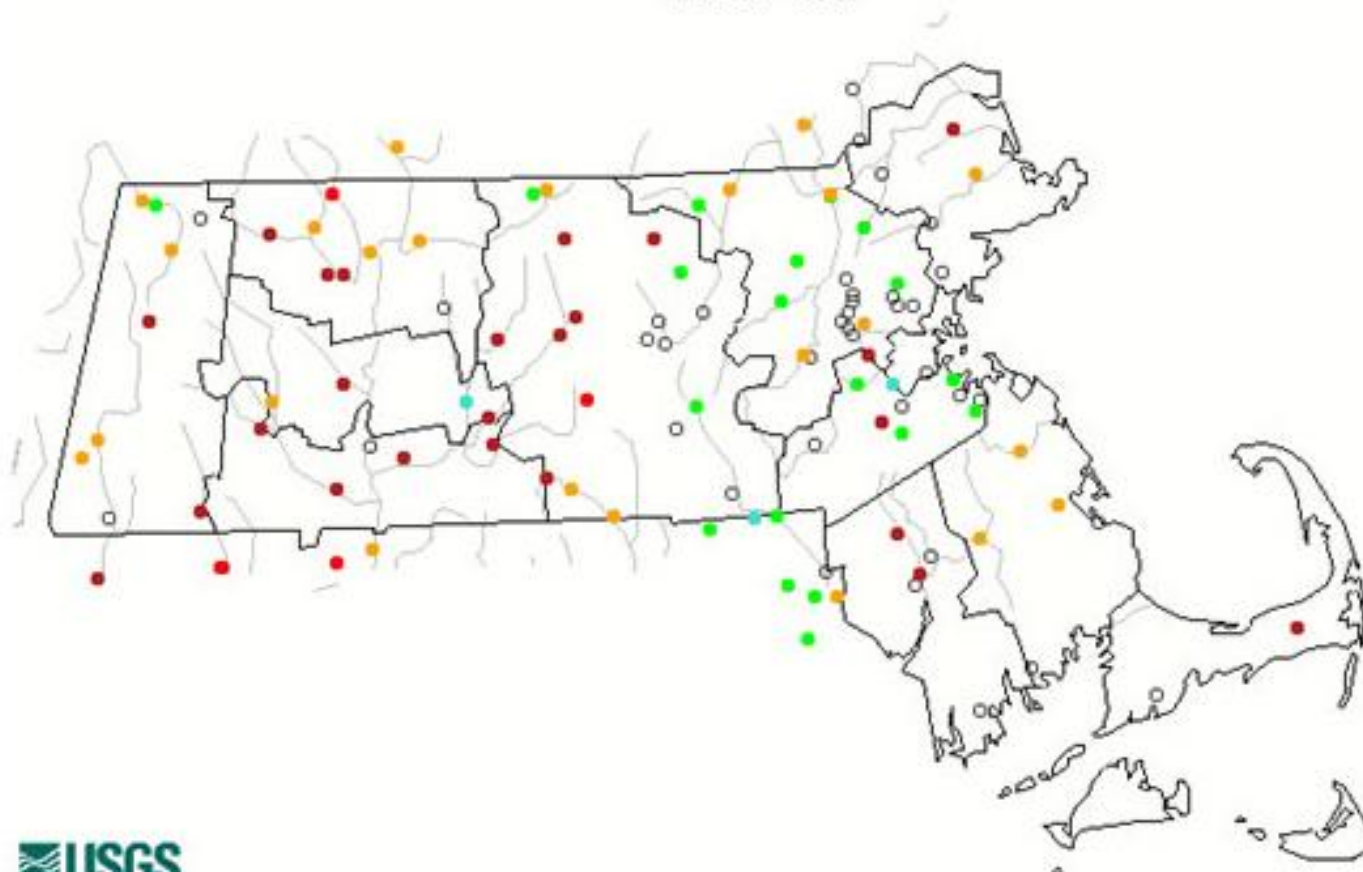
September 2016



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Streamflow Conditions During October 2016

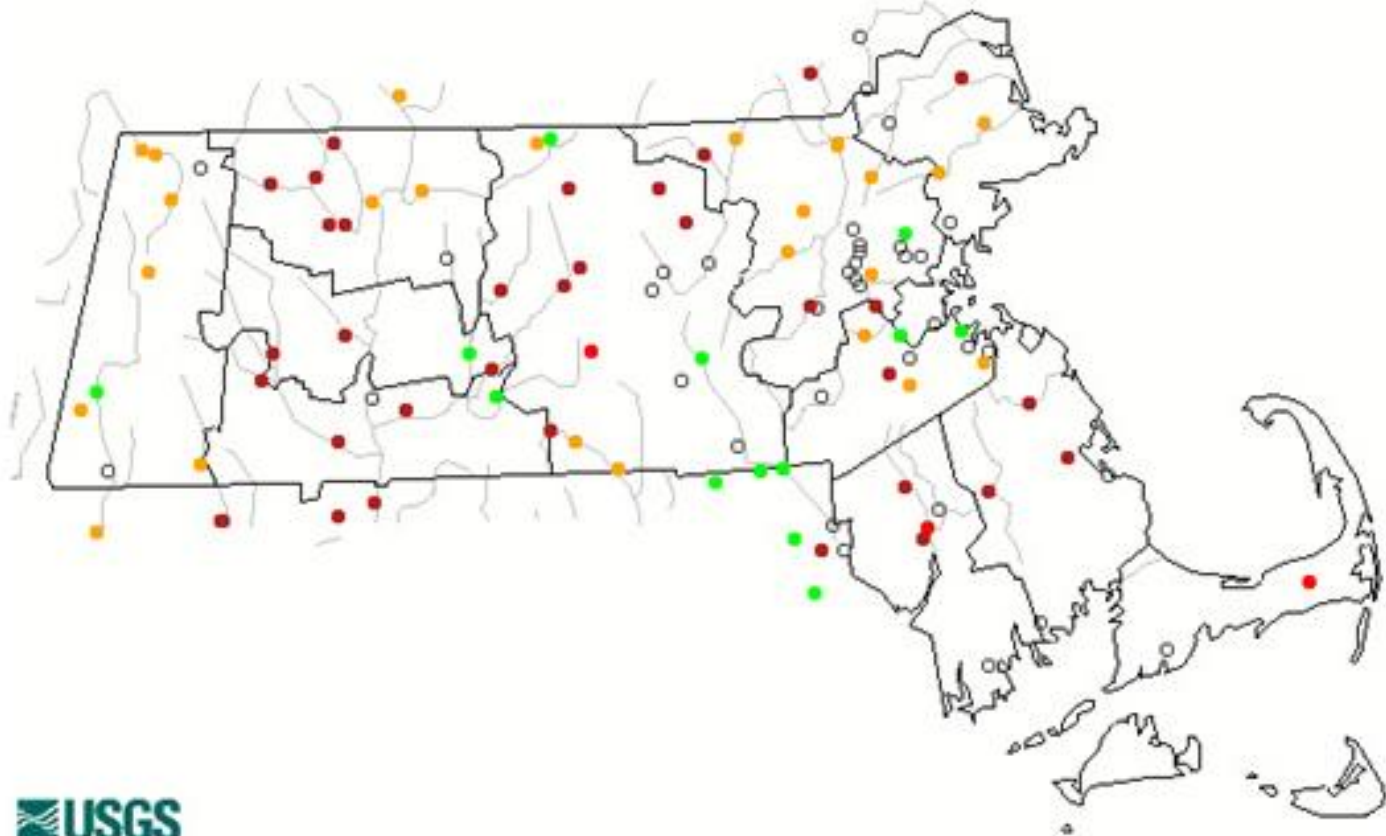
October 2016



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Streamflow Conditions During November 2016

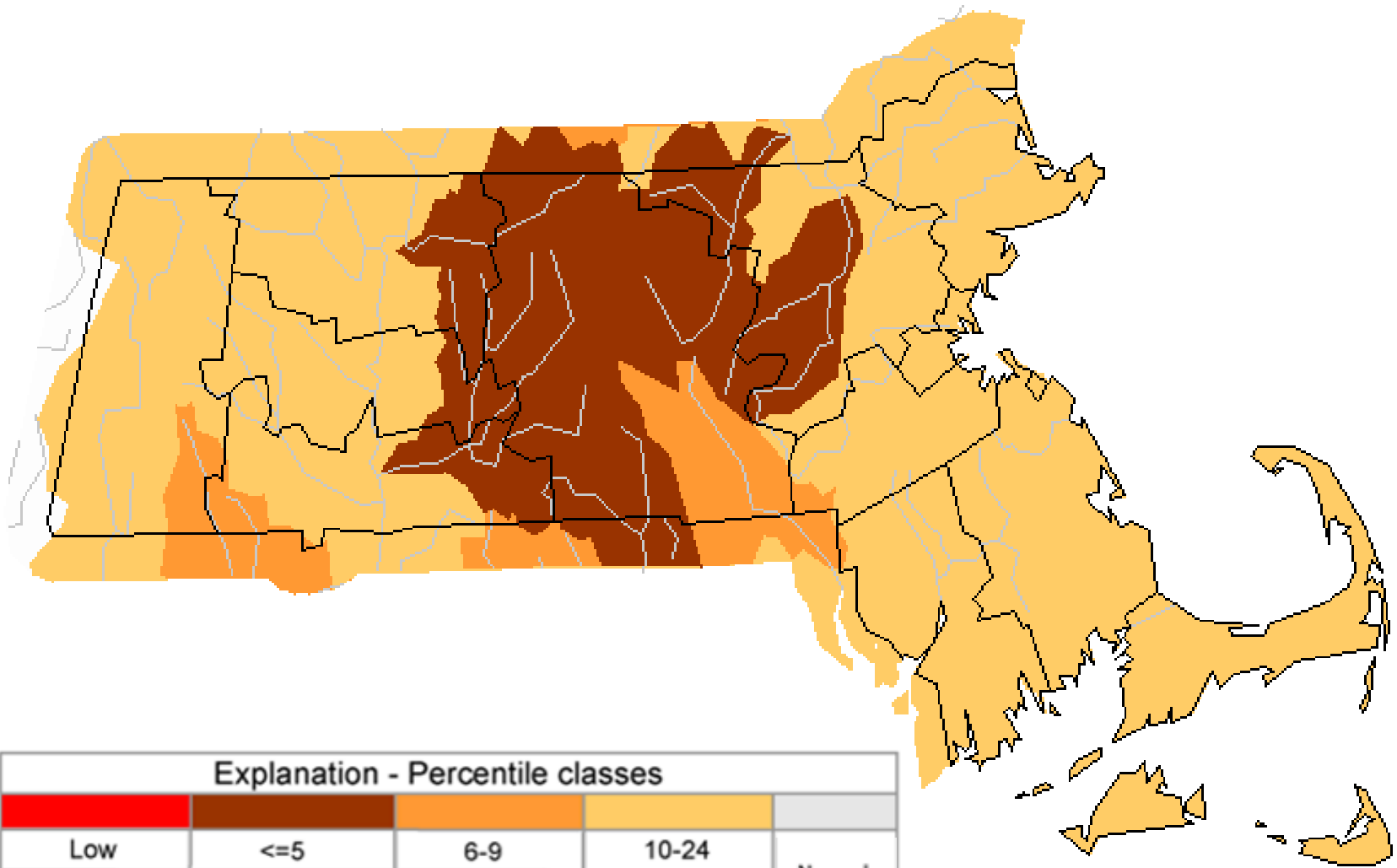
November 2016



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Below normal average monthly streamflow - June 2016

June 2016

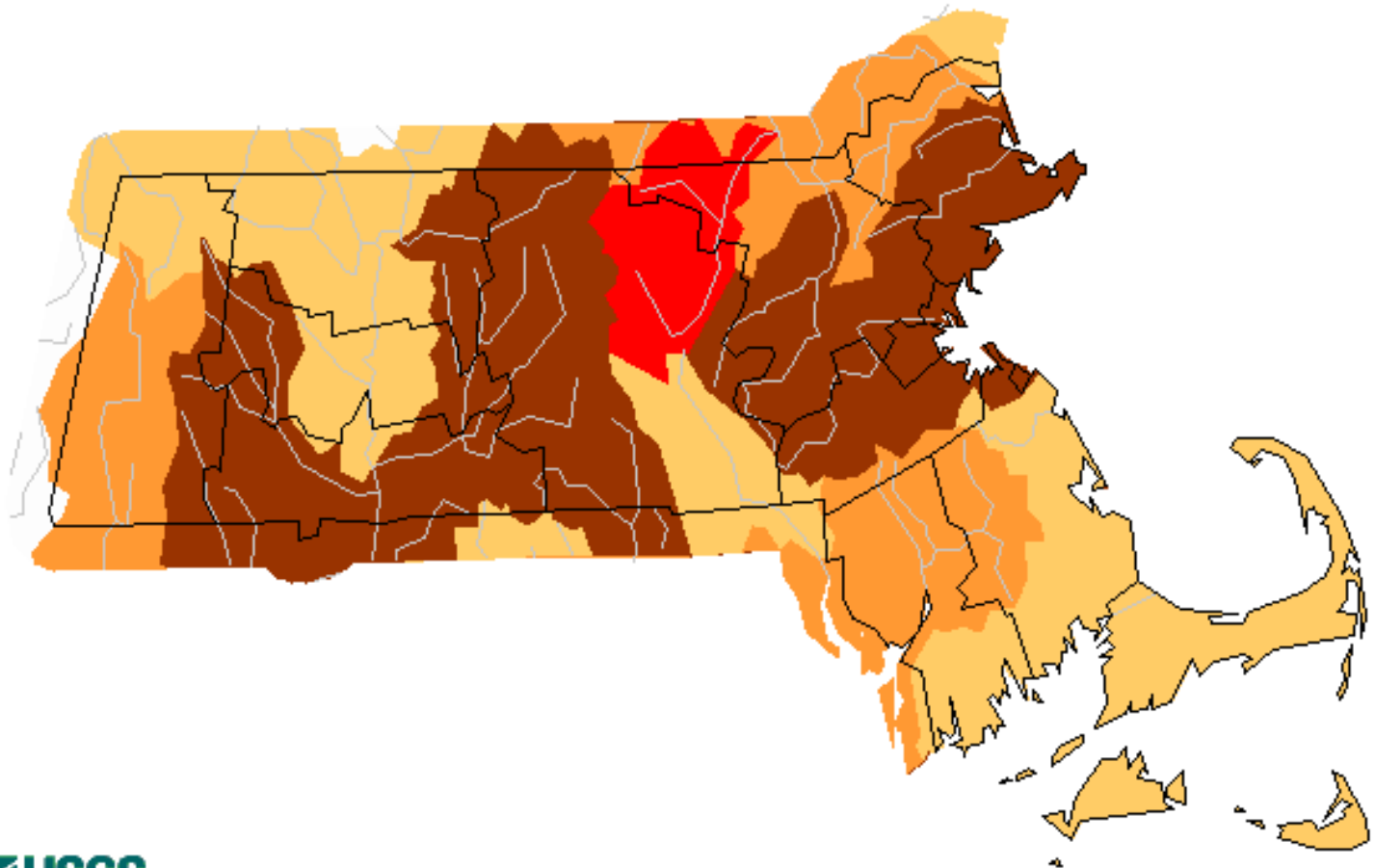






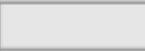
Explanation - Percentile classes

Low	≤ 5	6-9	10-24	Normal
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Below normal average monthly streamflow - July 2016

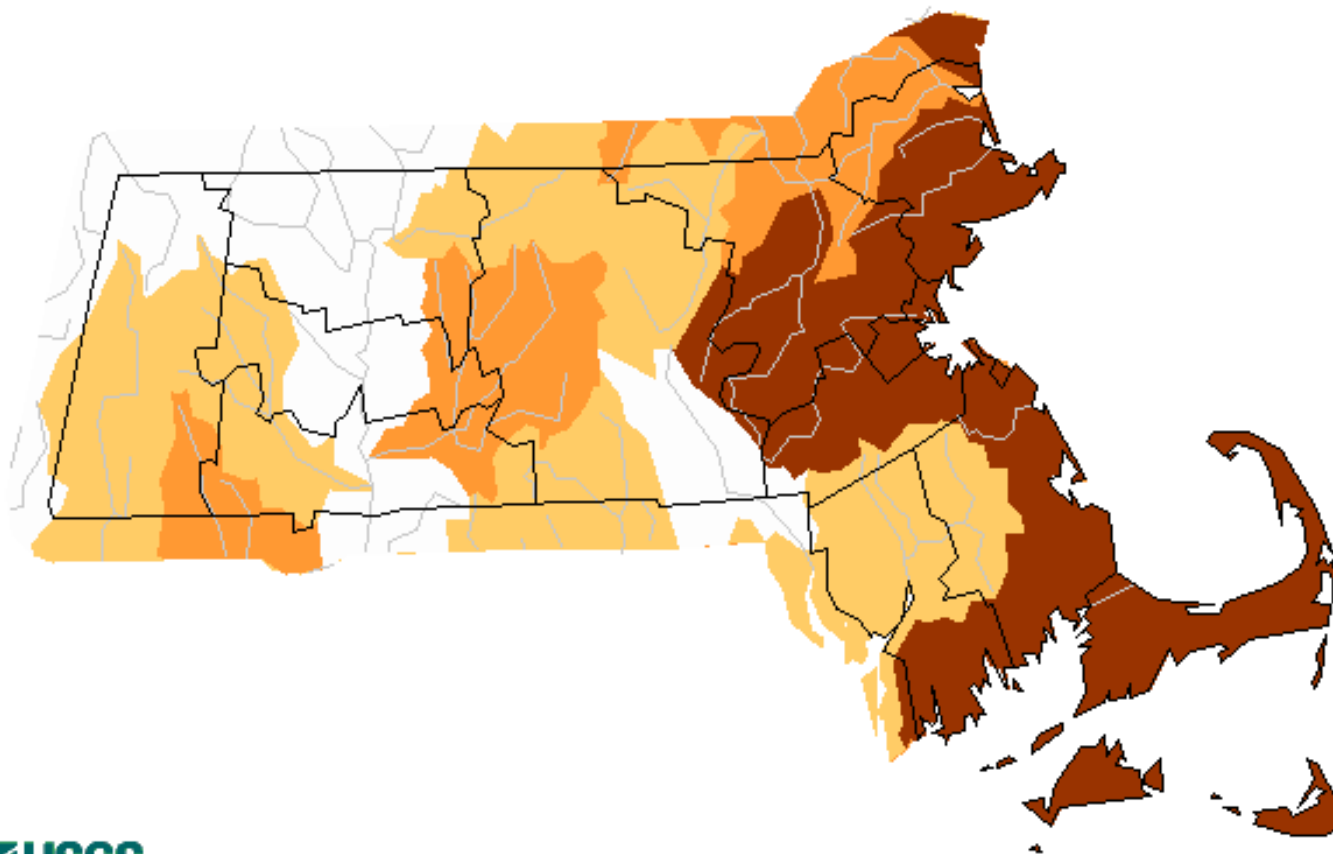
July 2016








Explanation - Percentile classes				
				
Low	≤ 5	6-9	10-24	Normal
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Below normal average monthly streamflow - August 2016

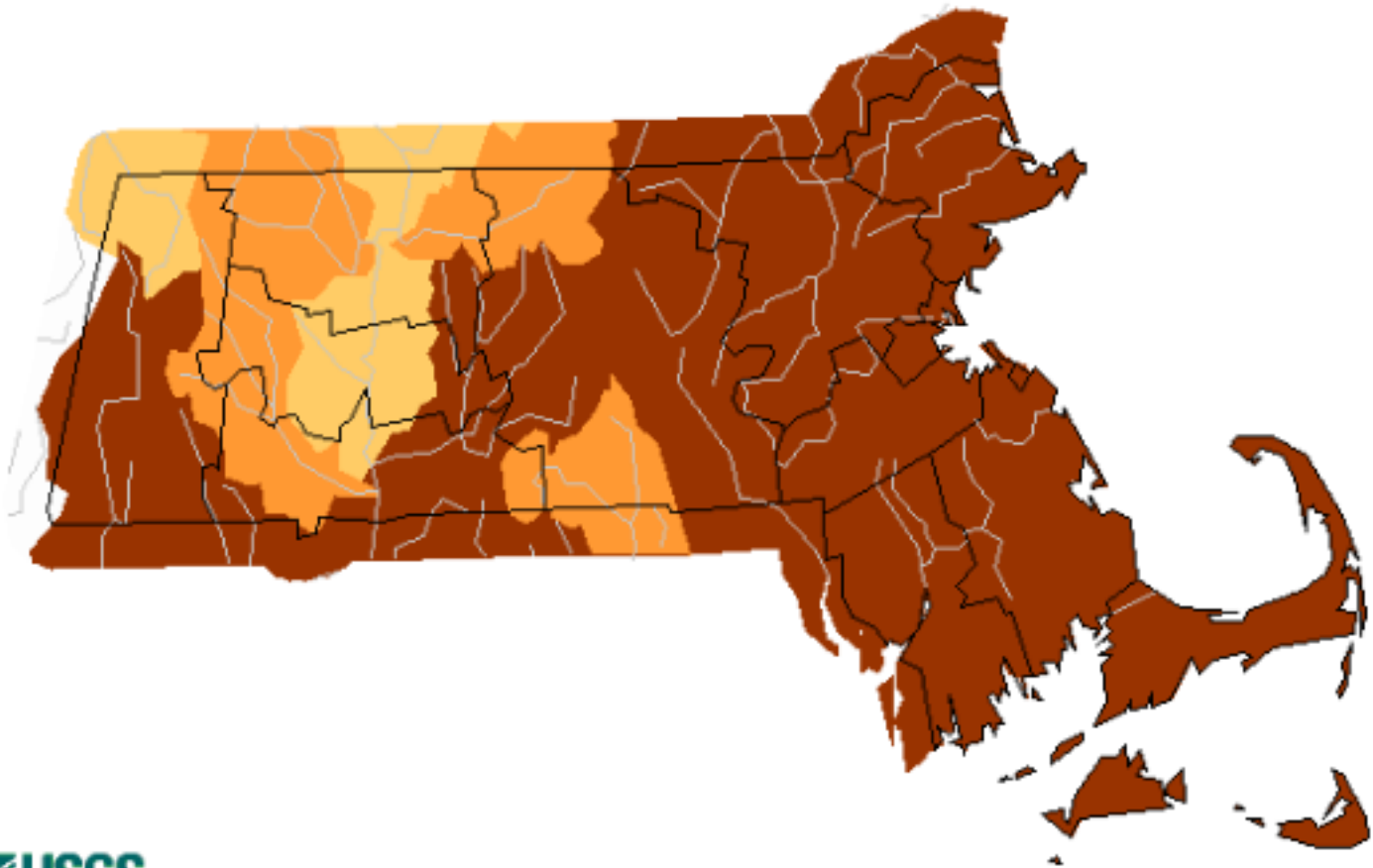
August 2016



Explanation - Percentile classes				
				
Low	≤ 5	6-9	10-24	Normal
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Below normal average monthly streamflow - September 2016

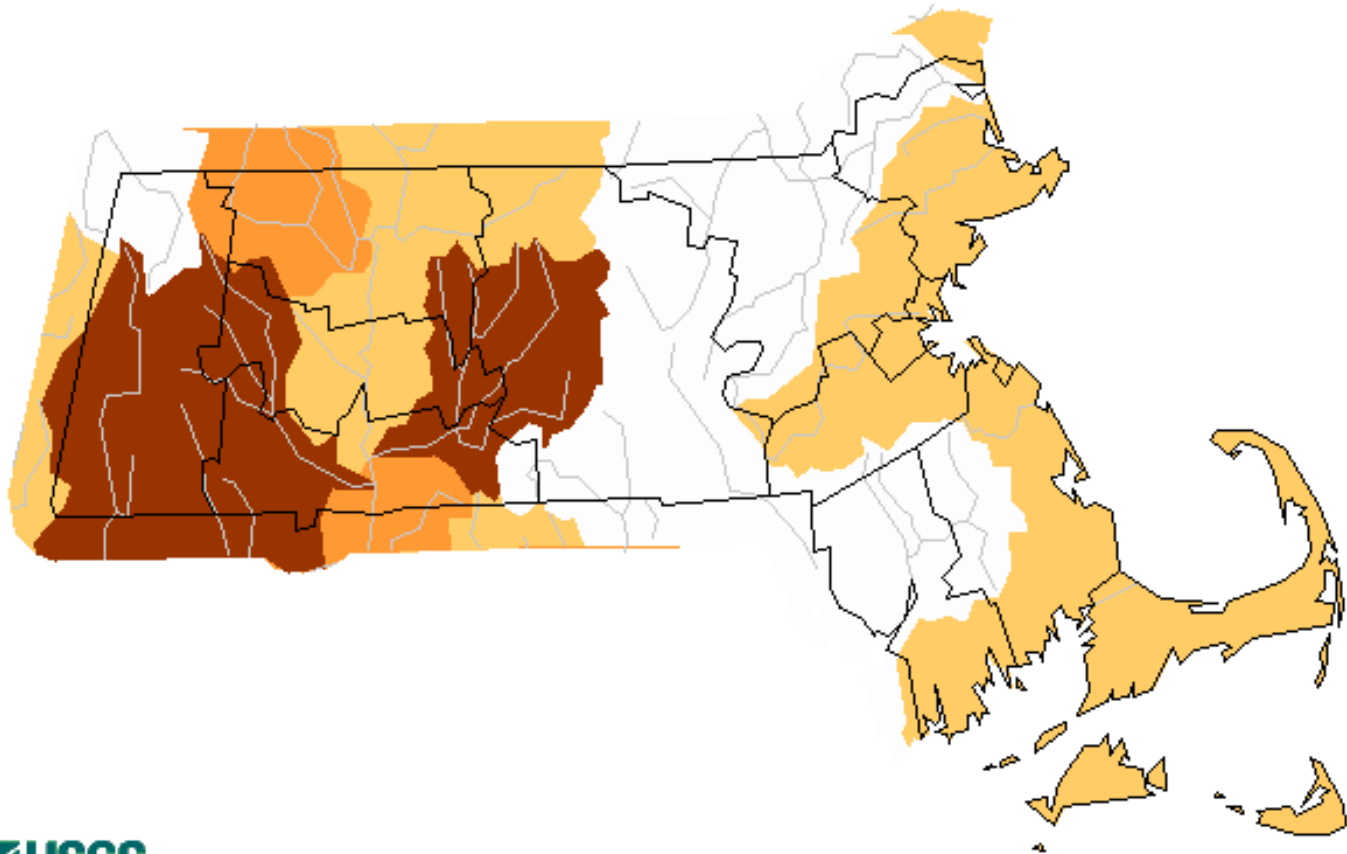
September 2016



Explanation - Percentile classes				
Low	≤ 5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Below normal average monthly streamflow - October 2016

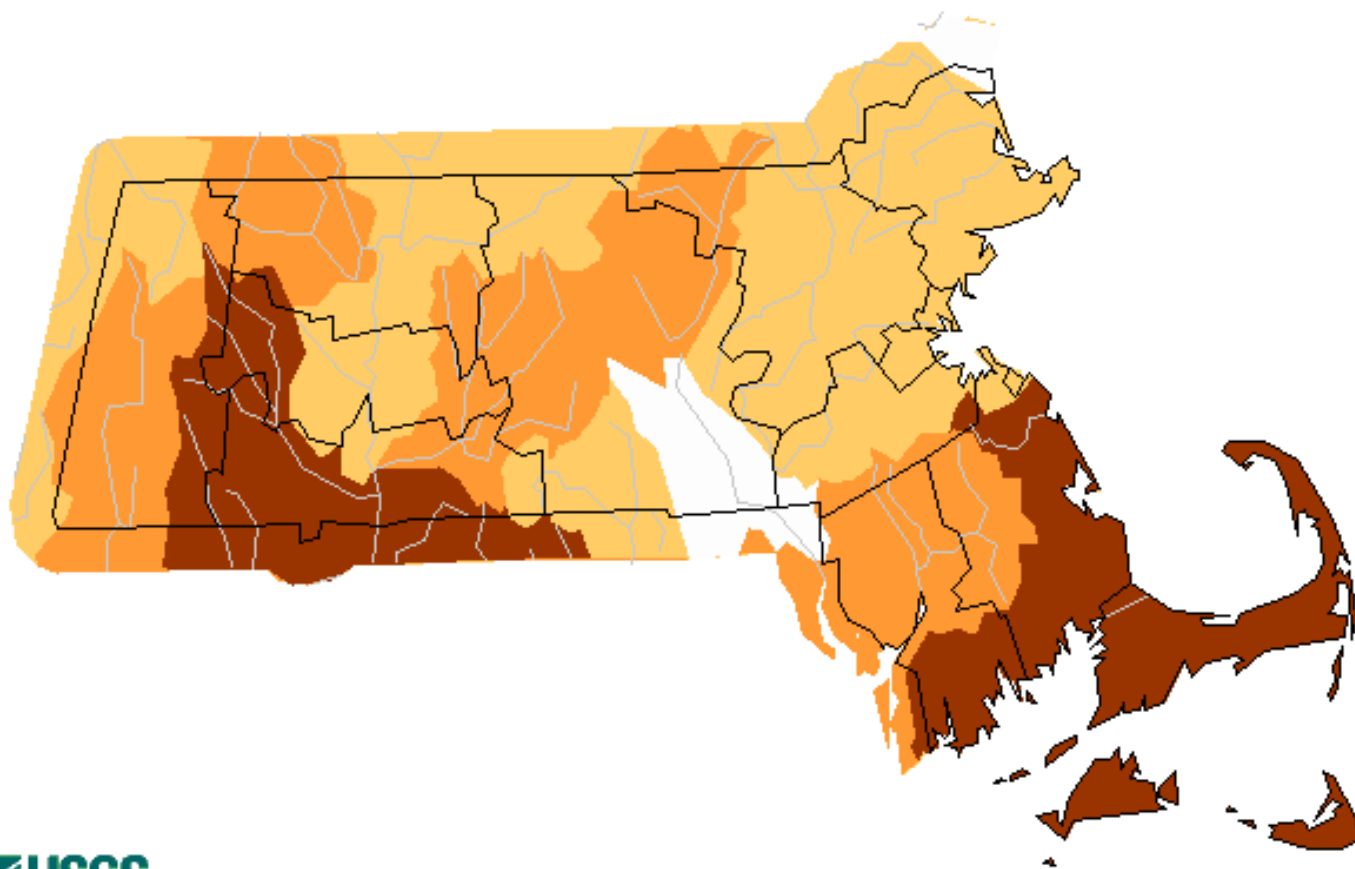
October 2016



Explanation - Percentile classes				
Low	≤ 5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

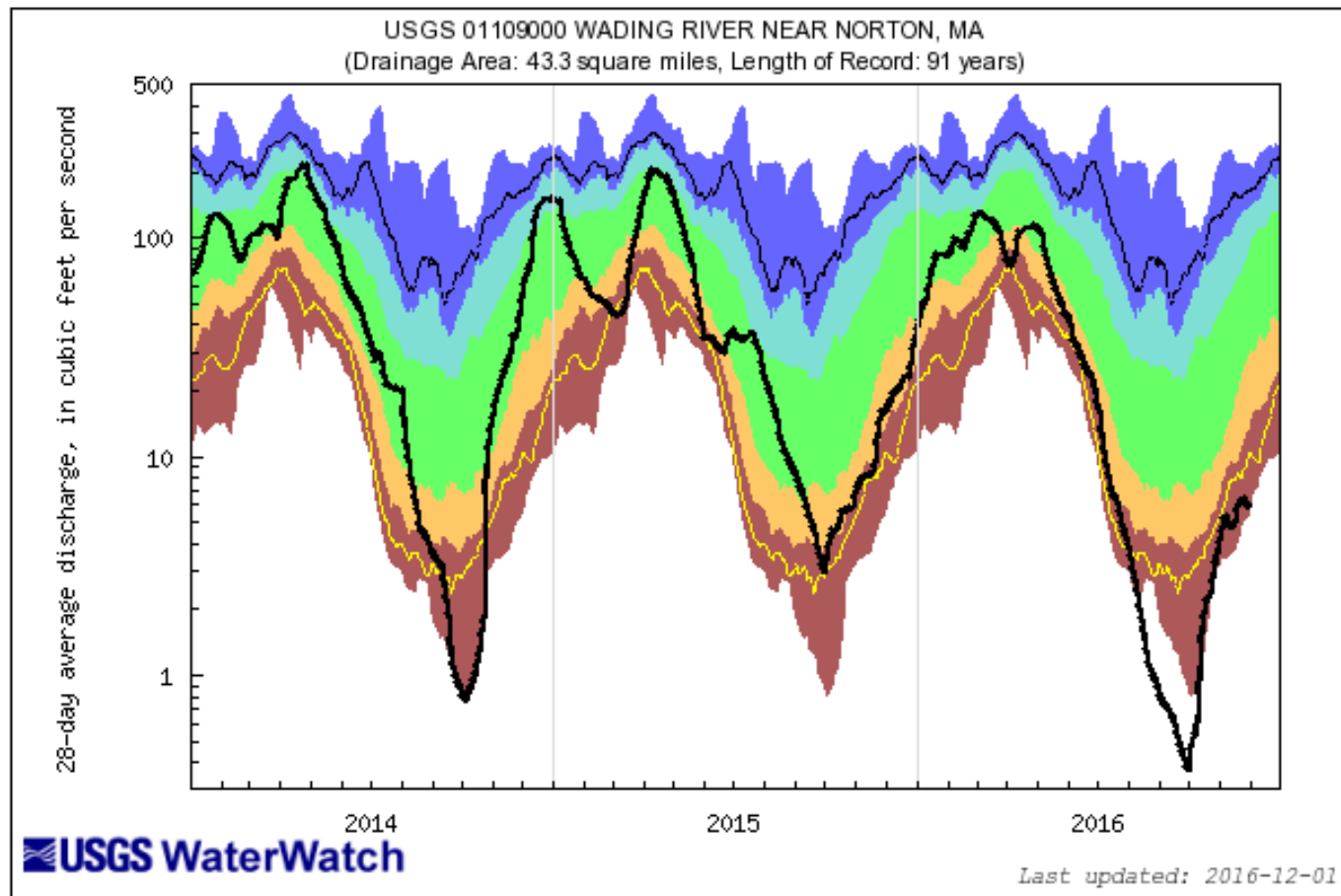
Below normal average monthly streamflow - November 2016

November 2016



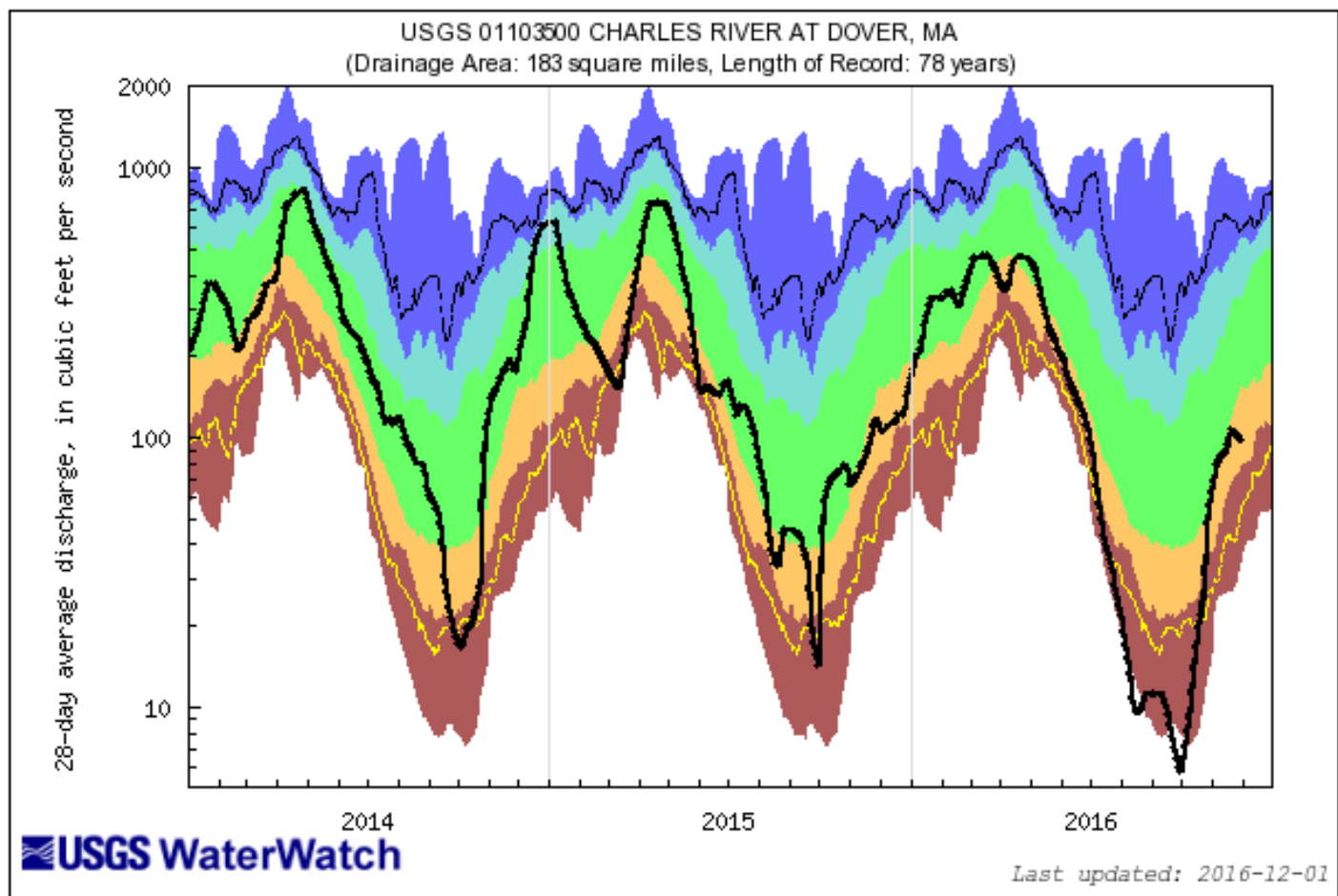
Explanation - Percentile classes				
Low	≤ 5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Long-term look (3-yr) at Wading River near Norton



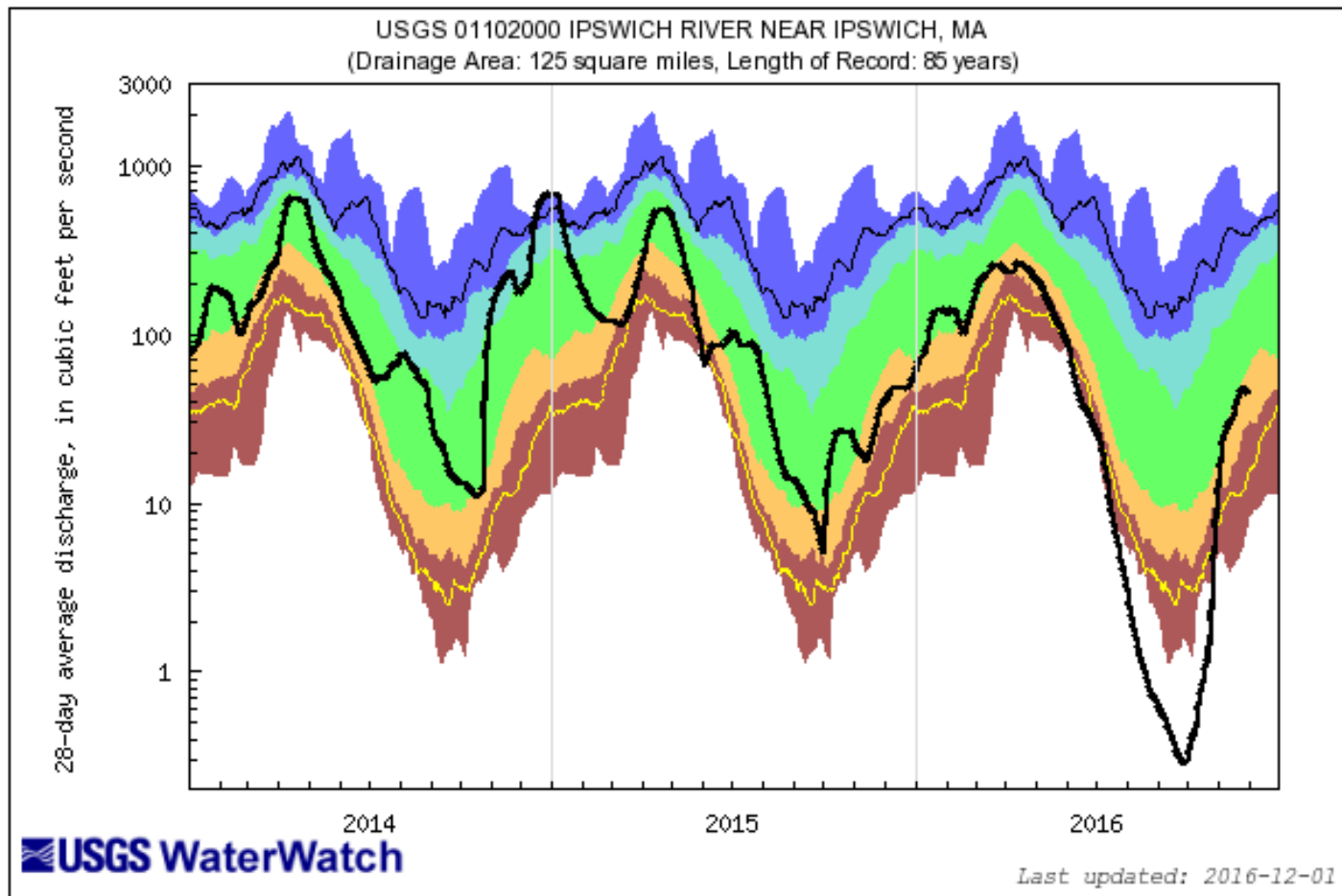
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal			

Long-term look (3-yr) at Charles River at Dover



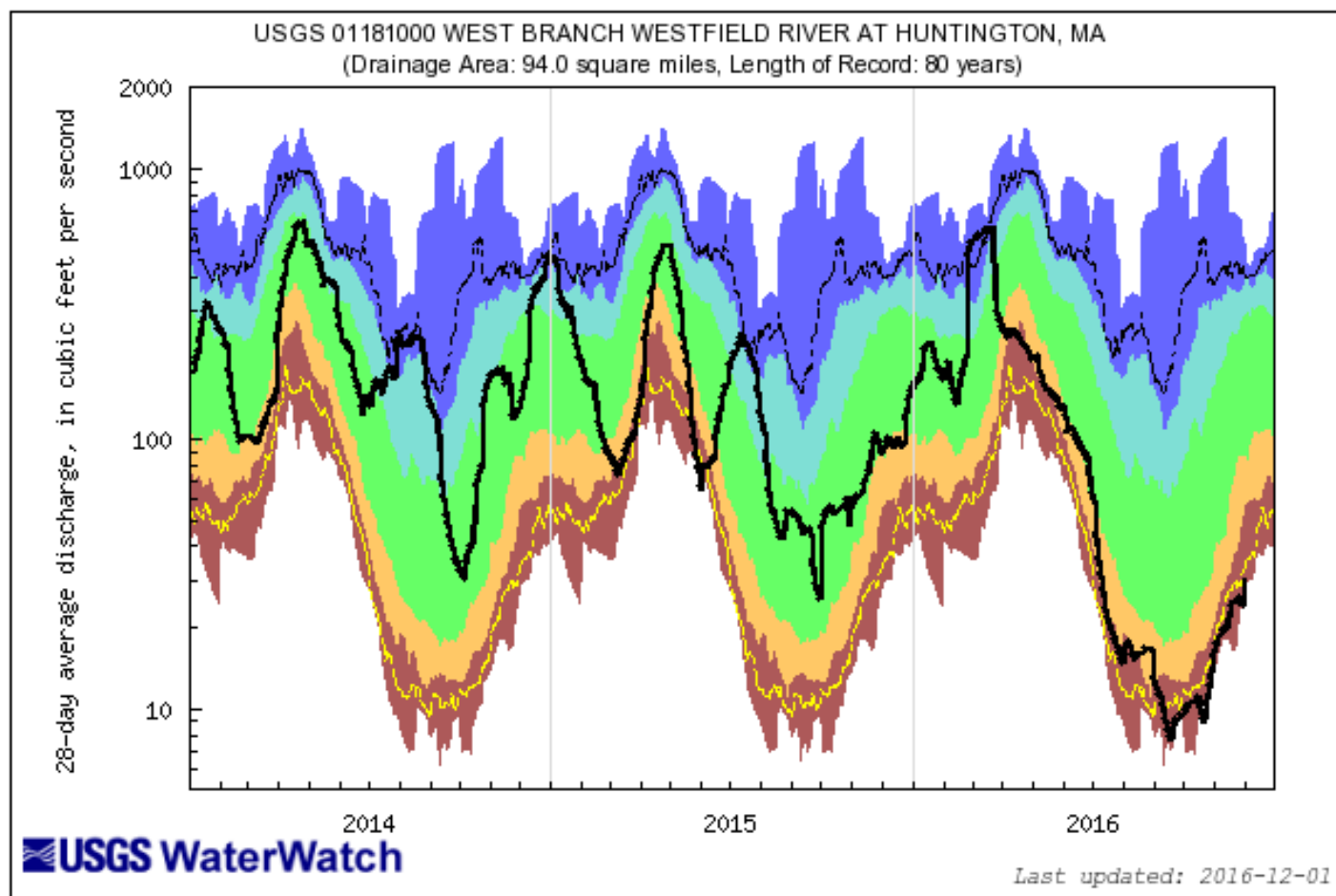
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

Long-term look (3-yr) at Ipswich River near Ipswich



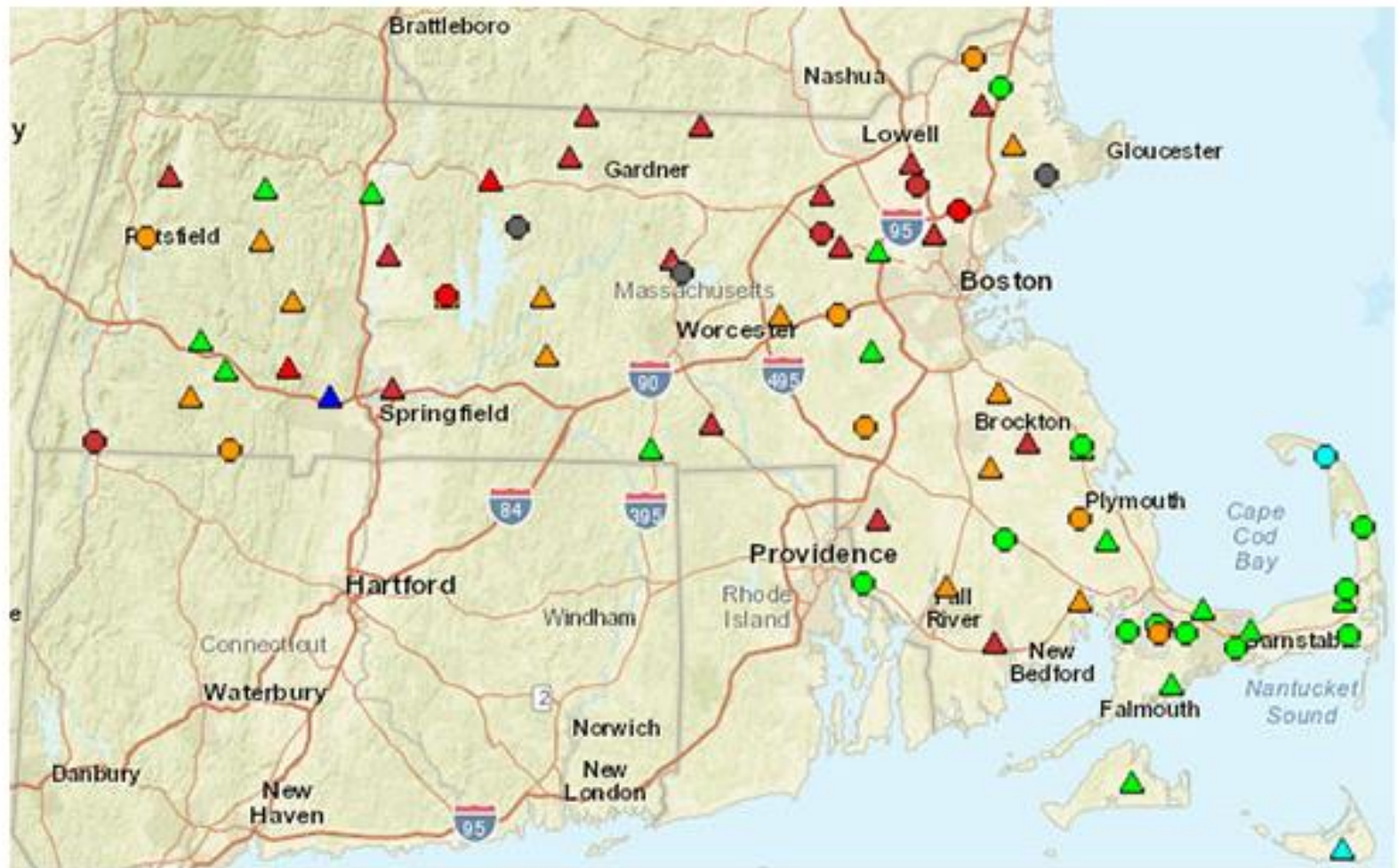
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal			

Long-term look (3-yr) at West Branch Westfield River at Huntington



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		Flow

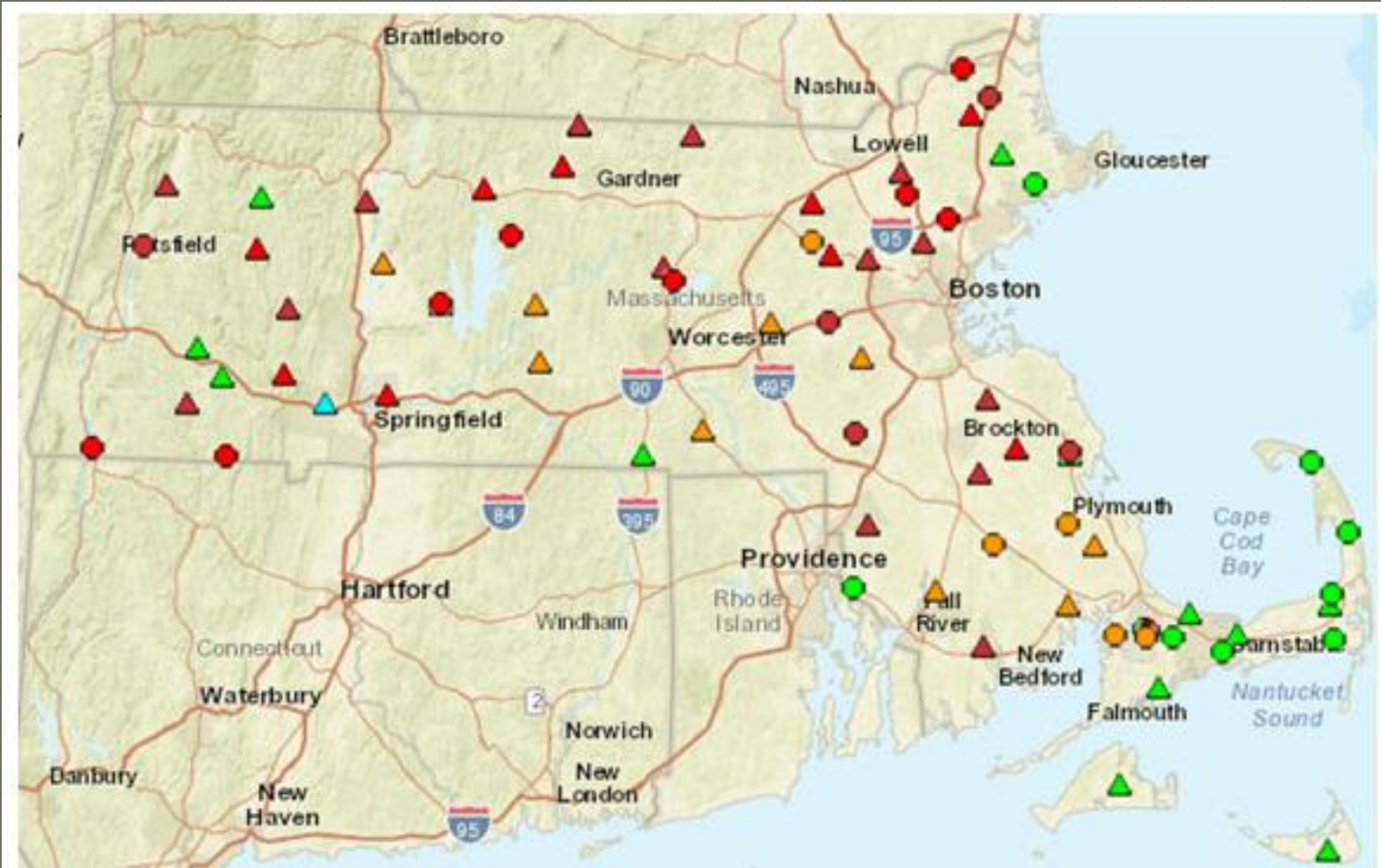
Groundwater Conditions During June 2016



Explanation - Percentile classes

New Low								Real Time Continuous Periodic Measurements
	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	New High	Not Ranked	

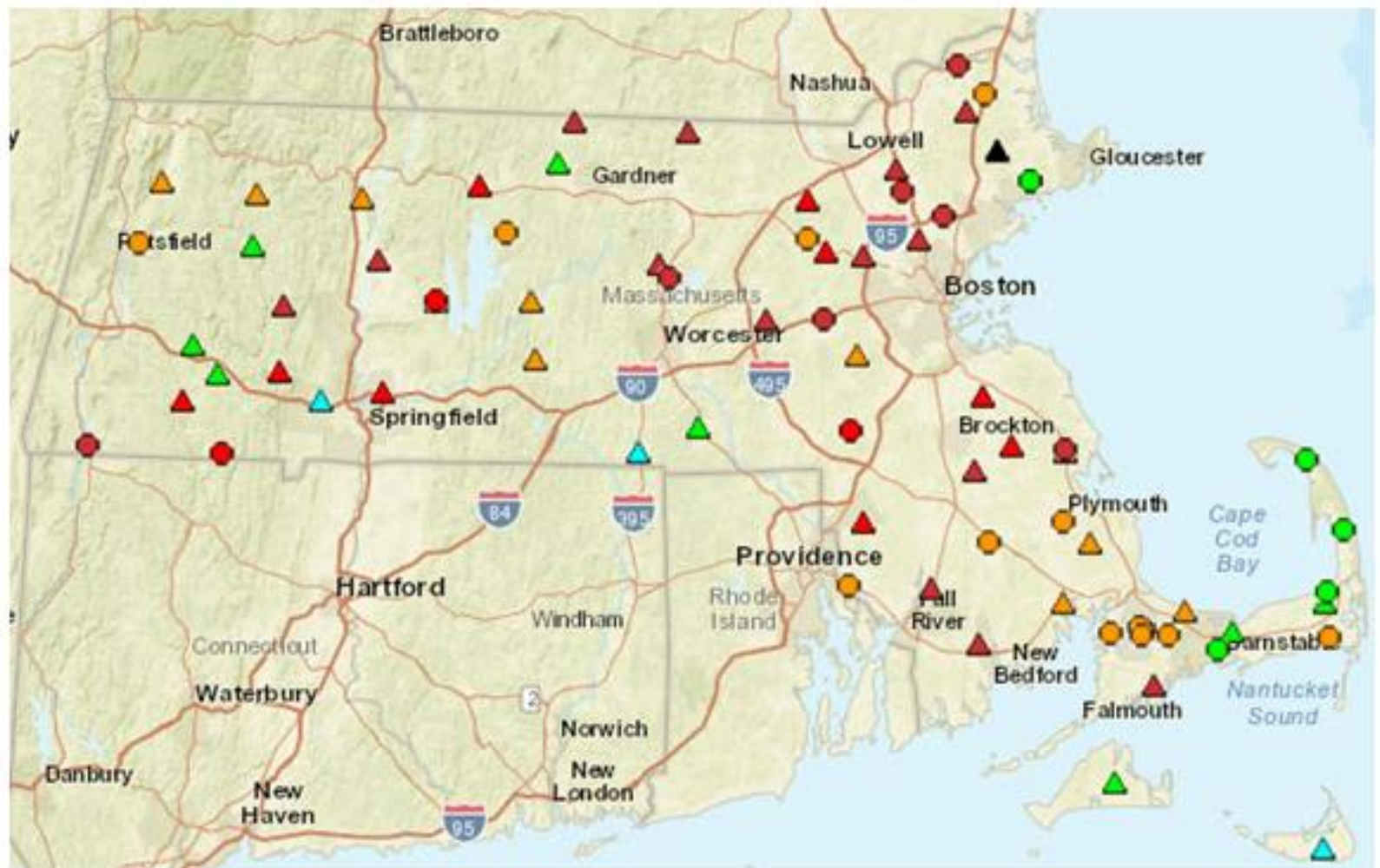
Groundwater Conditions During July 2016



Explanation - Percentile classes

New								
Low	<10	10-24	25-75	76-90	>90	New High	Not Ranked	
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal			
								Periodic Measurements

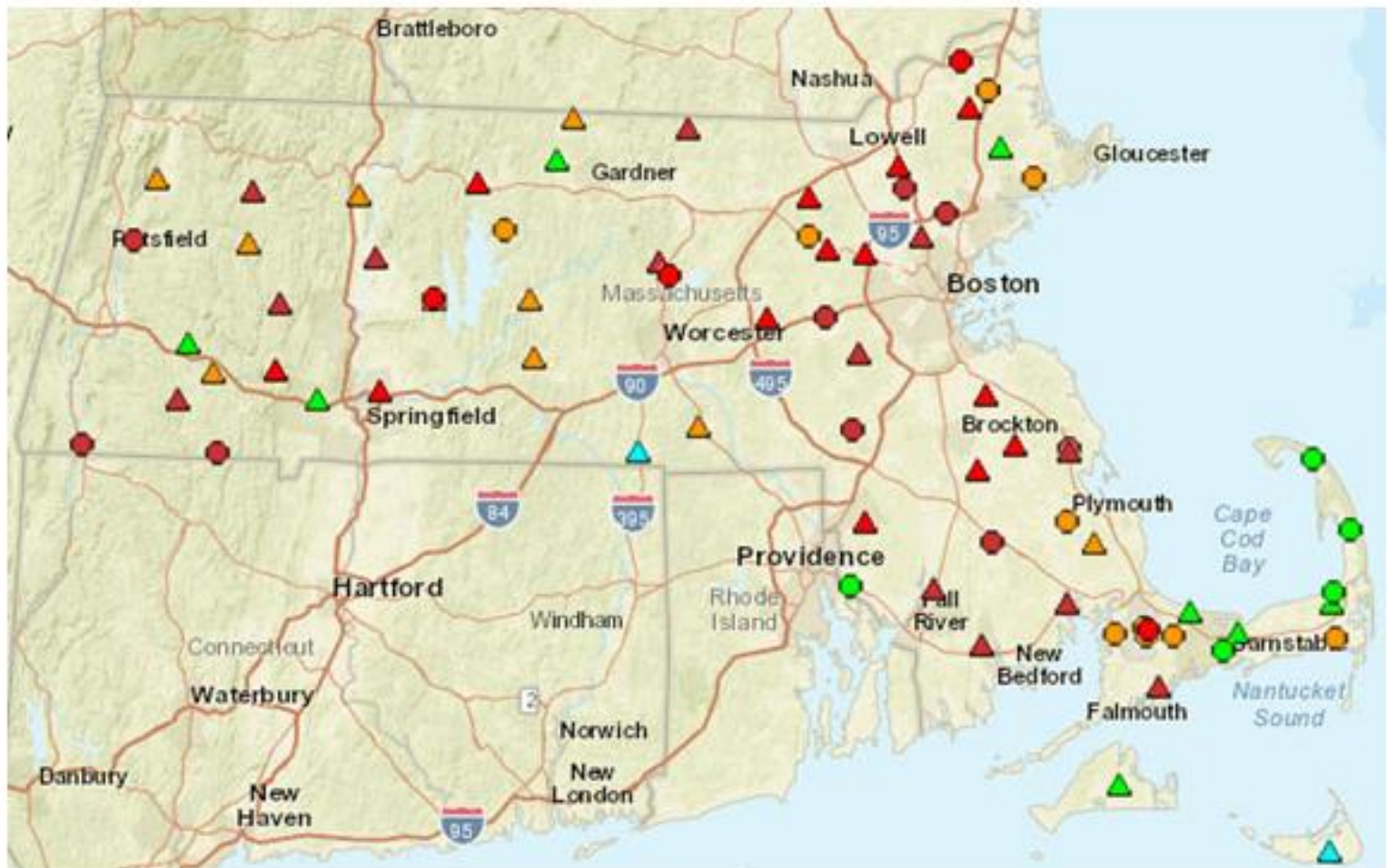
Groundwater Conditions During August 2016



Explanation - Percentile classes							
New Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	New High	Not Ranked
							Real Time Continuous Periodic Measurements

Groundwater Conditions During September 2016

Massachusetts Groundwater Conditions

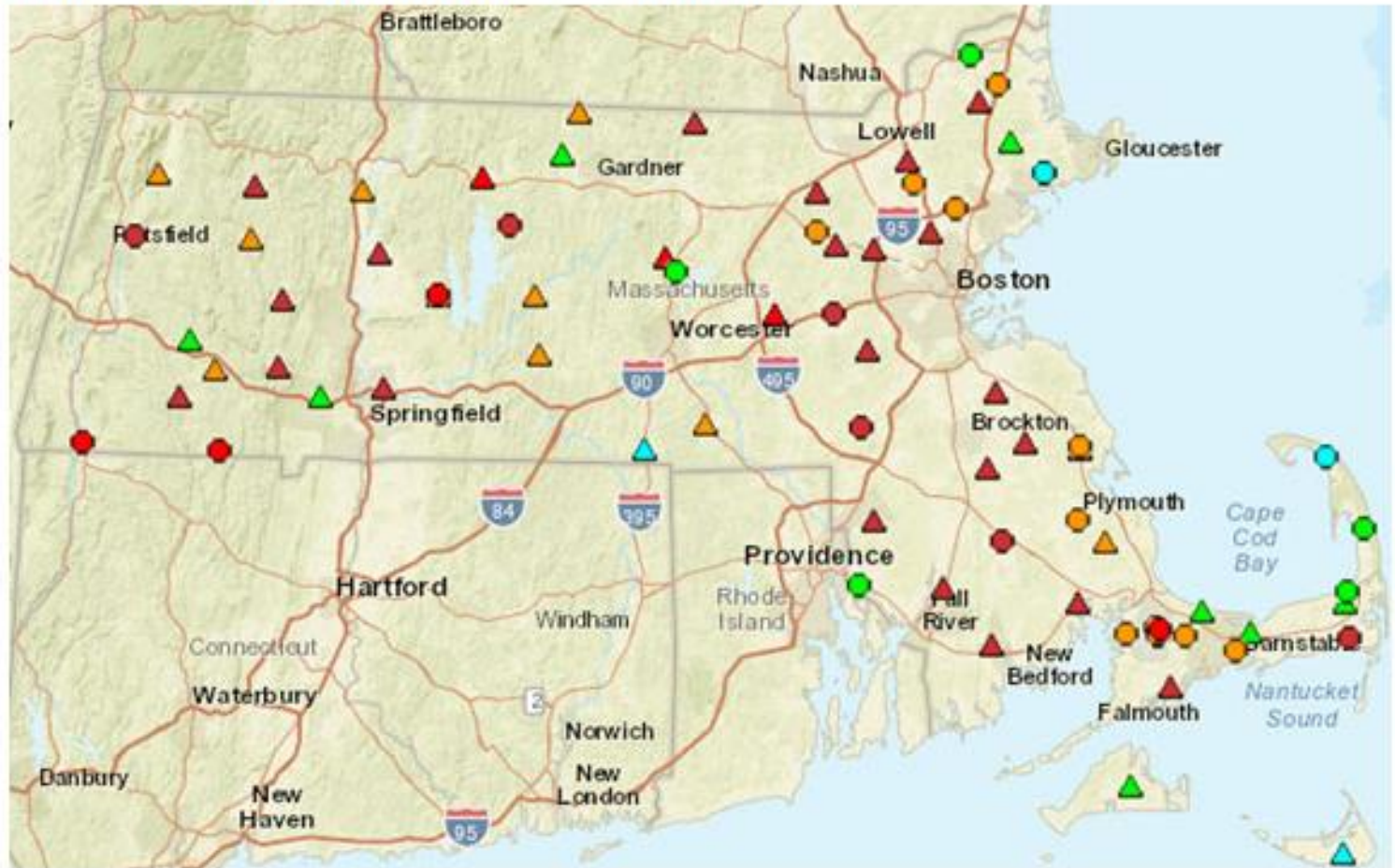


Explanation - Percentile classes

New Low	<10	10-24	25-75	76-90	>90	New High	Not Ranked	Real Time
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal			Continuous
								Periodic Measurements

Groundwater Conditions During October 2016

Massachusetts Groundwater Conditions

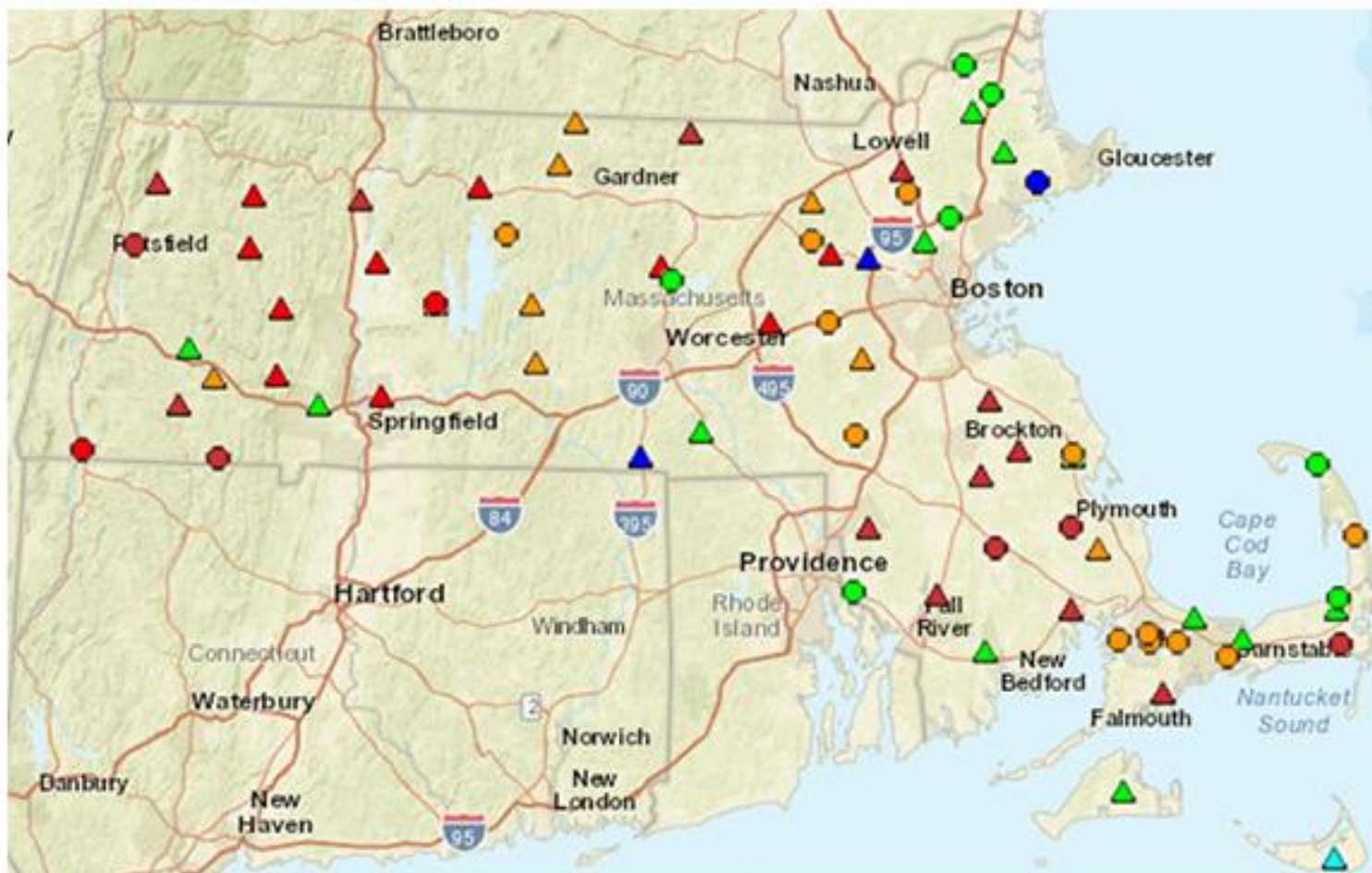


Explanation - Percentile classes

								<ul style="list-style-type: none"> Real Time Continuous Periodic Measurements
New Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	New High	Not Ranked	

Groundwater Conditions During November 2016

Massachusetts Groundwater Conditions



Explanation - Percentile classes

New Low	<10	10-24	25-75	76-90	>90	New High	Not Ranked	Real Time	Continuous	Periodic Measurements
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal					

Questions ?

