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# Streamflow and Groundwater Conditions in Massachusetts

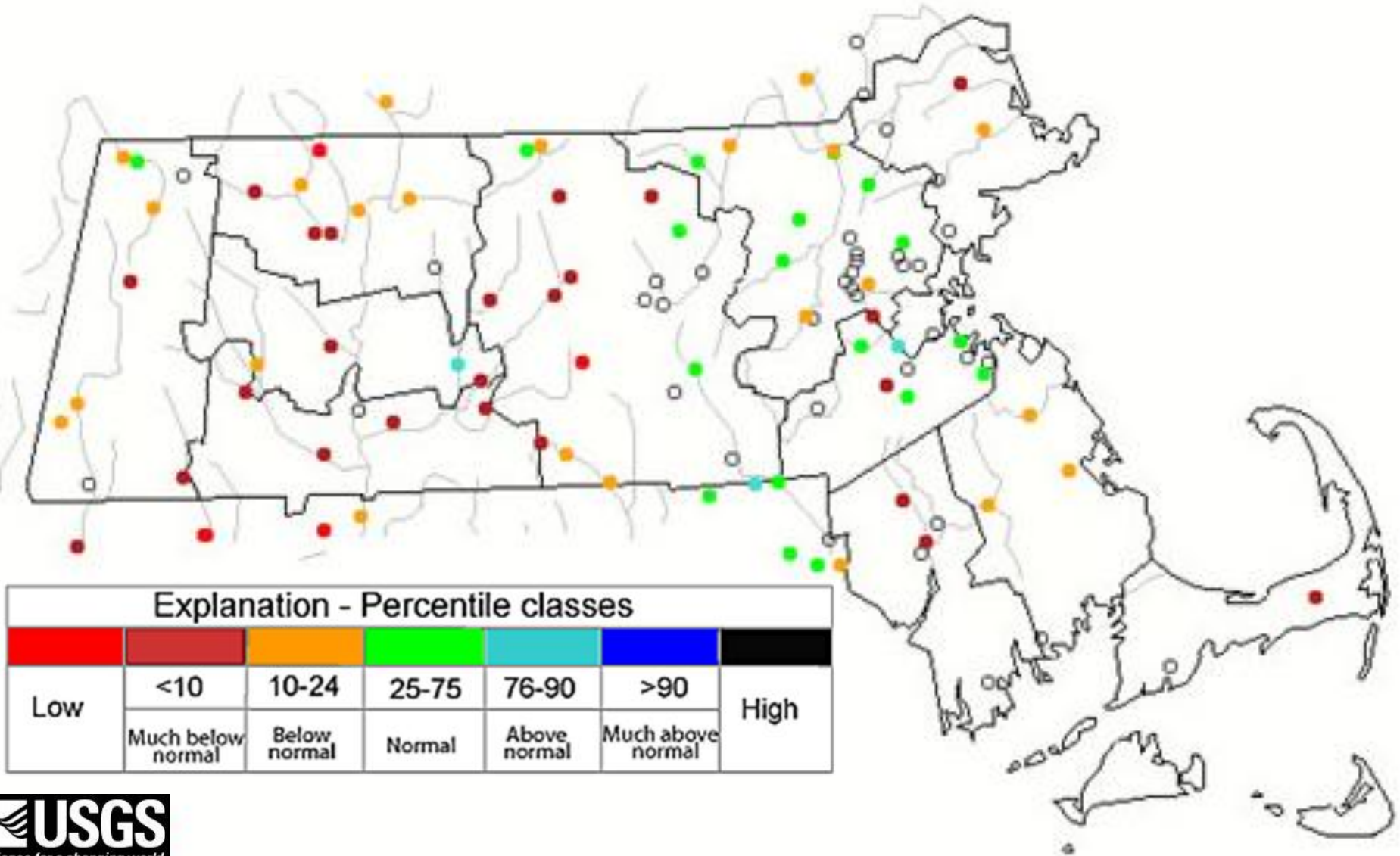
January 5, 2017

Gardner Bent  
U.S. Geological Survey  
New England Water Science Center  
Massachusetts – Rhode Island Office



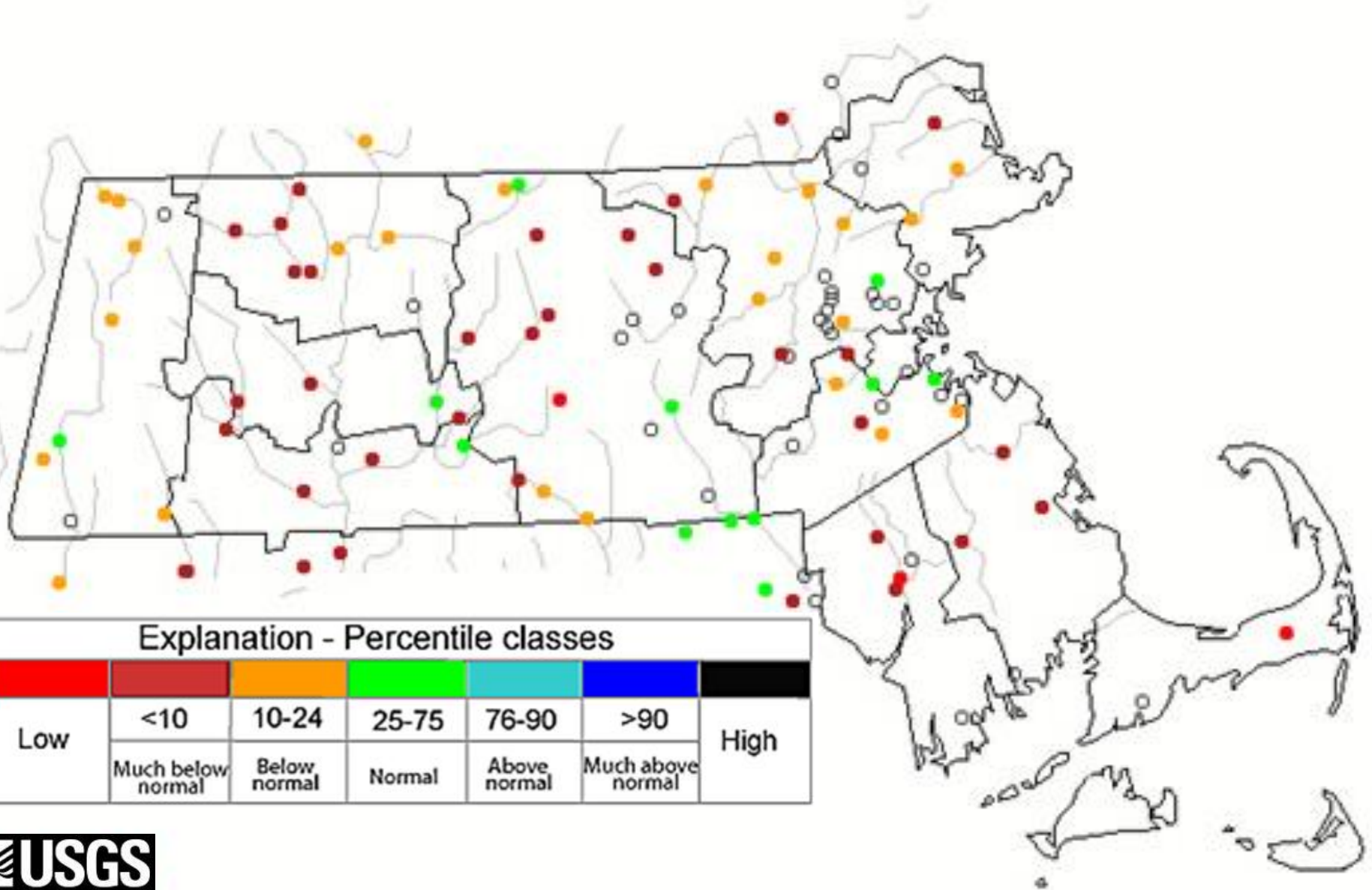
# Average Streamflow Conditions – Oct. 2016

October 2016



# Average Streamflow Conditions – Nov. 2016

November 2016

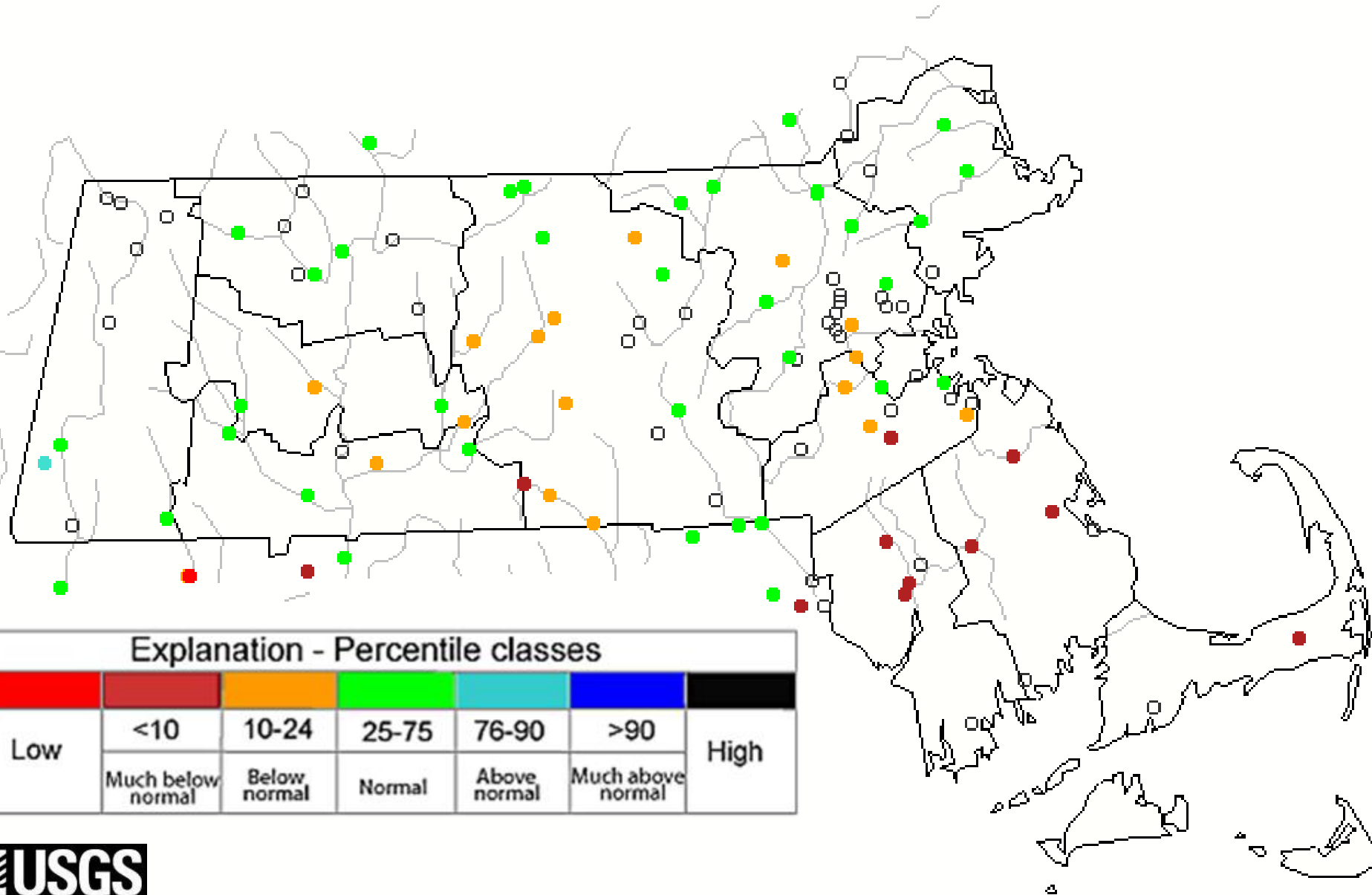


Explanation - Percentile classes

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

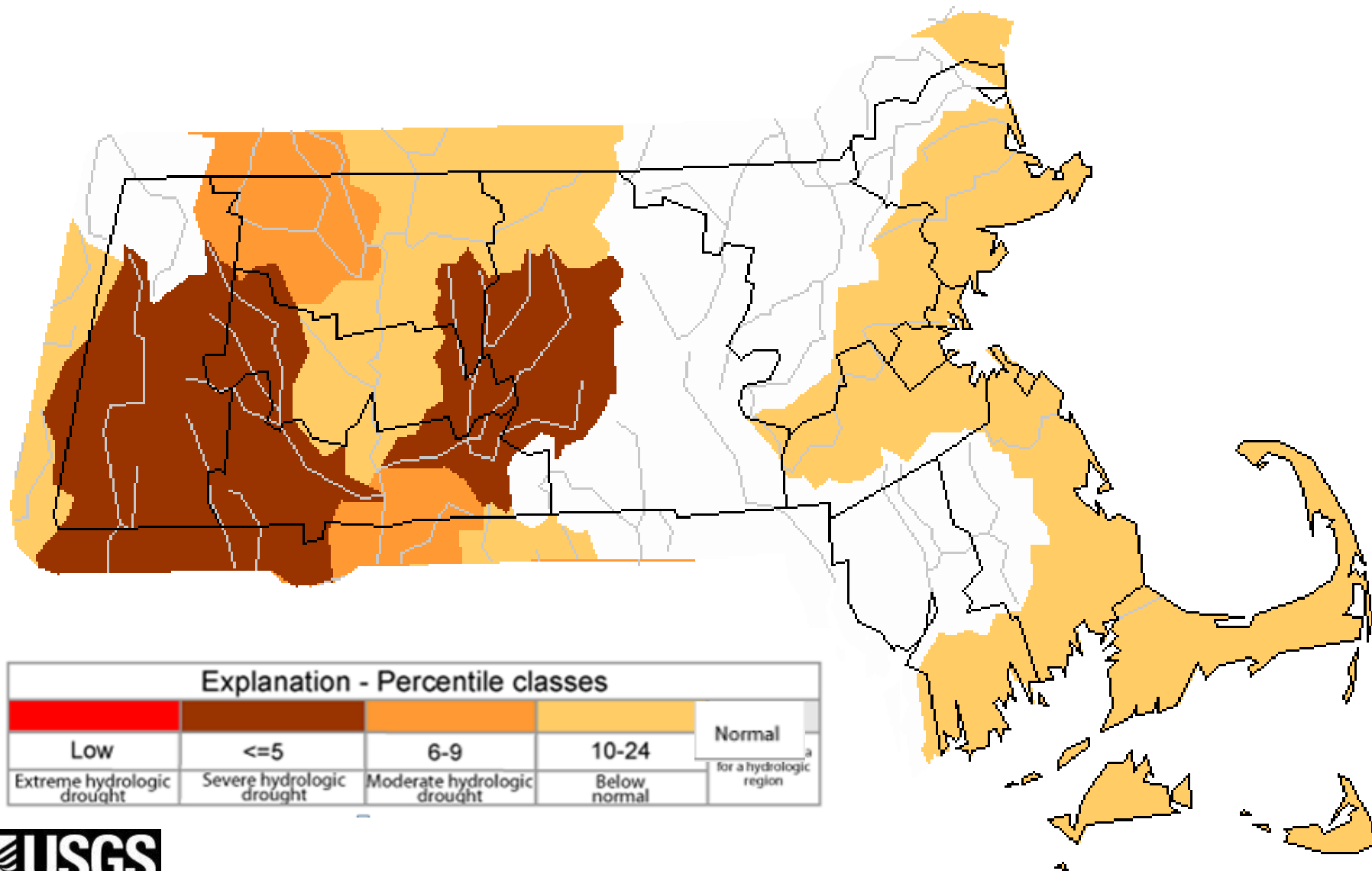
# Average Streamflow Conditions – Dec. 2016

December 2016



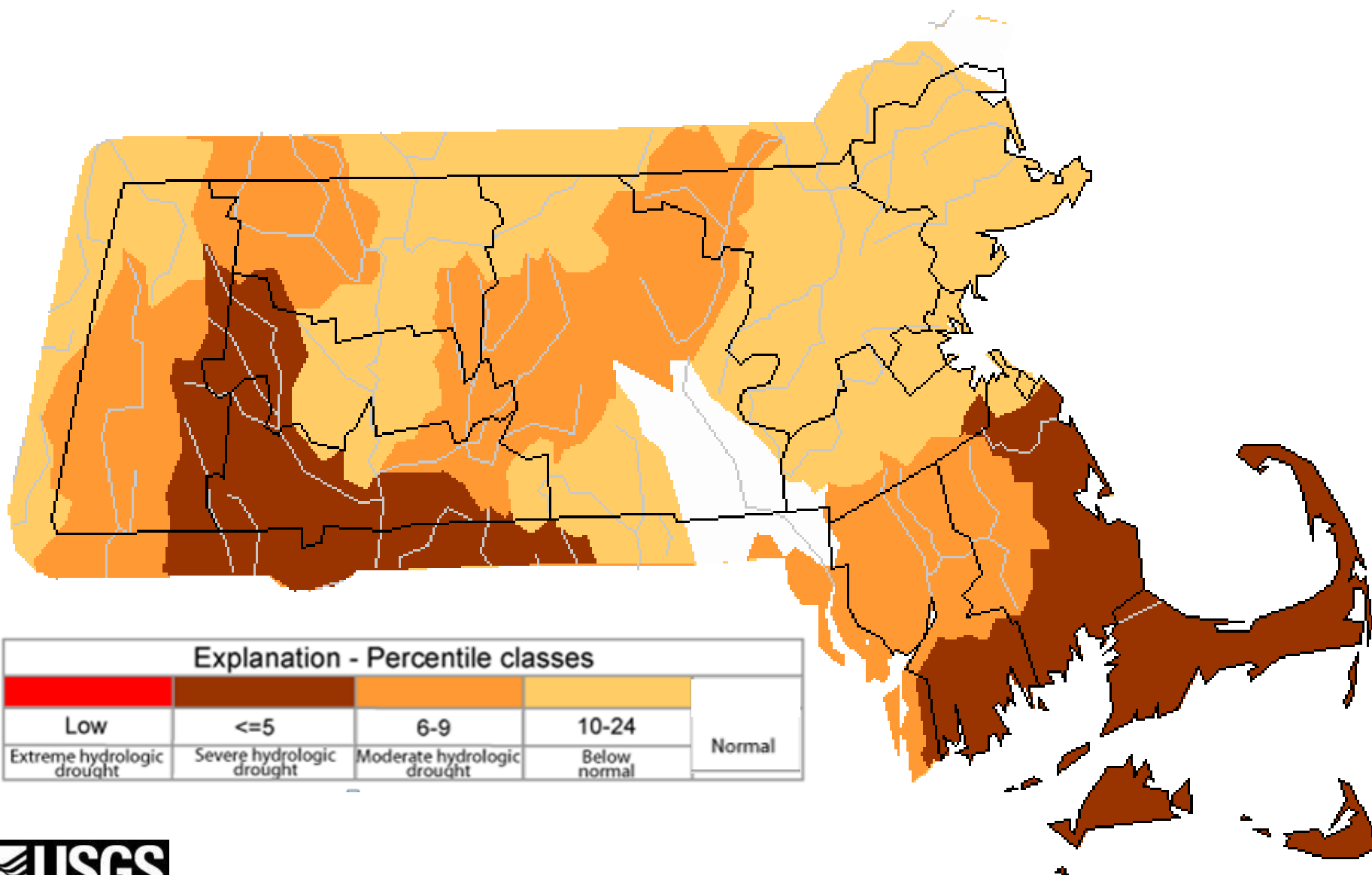
# Below normal average monthly streamflow – Oct. 2016

October 2016



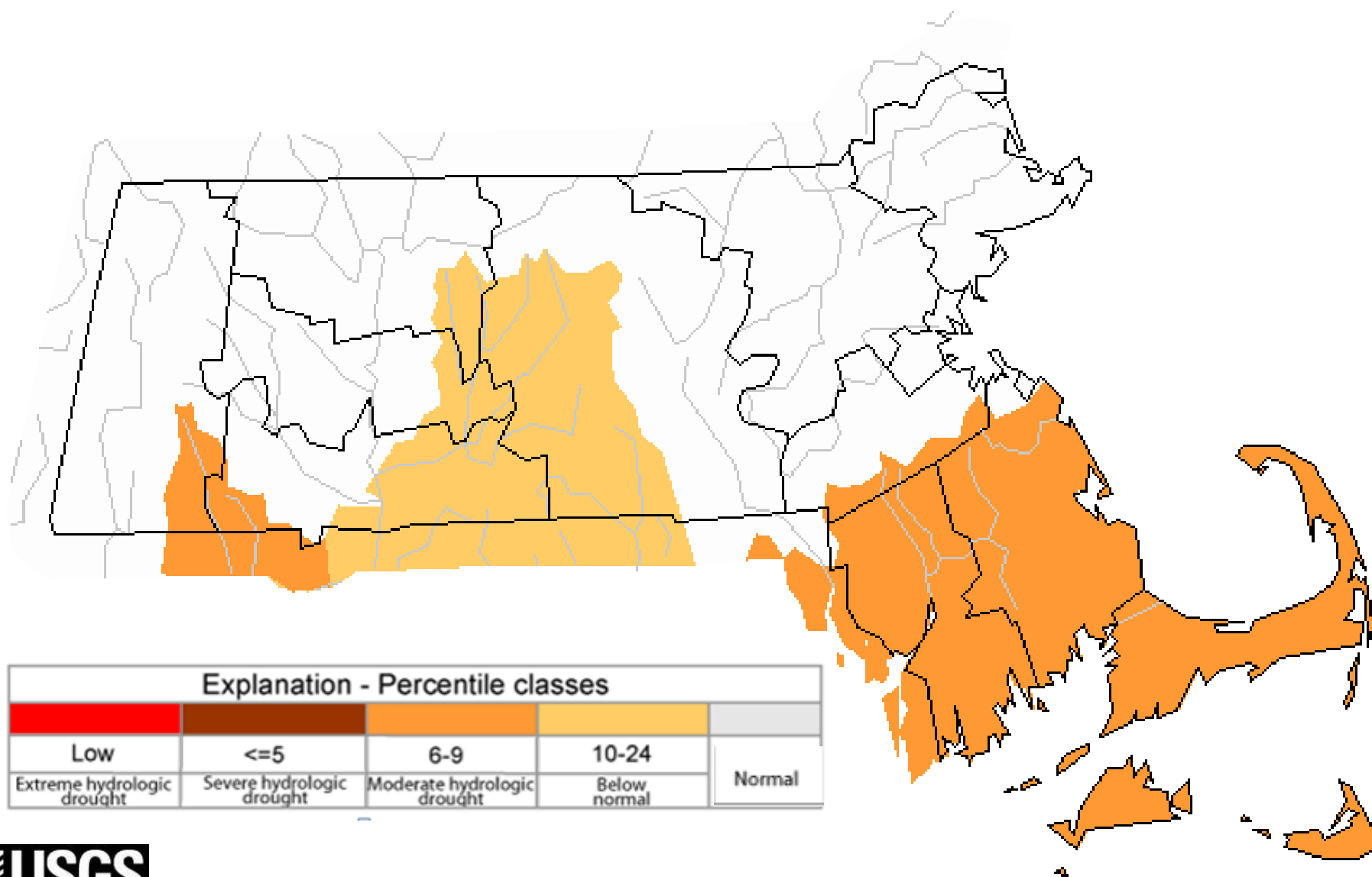
# Below normal average monthly streamflow – Nov. 2016

November 2016



# Below normal average monthly streamflow – Dec. 2016

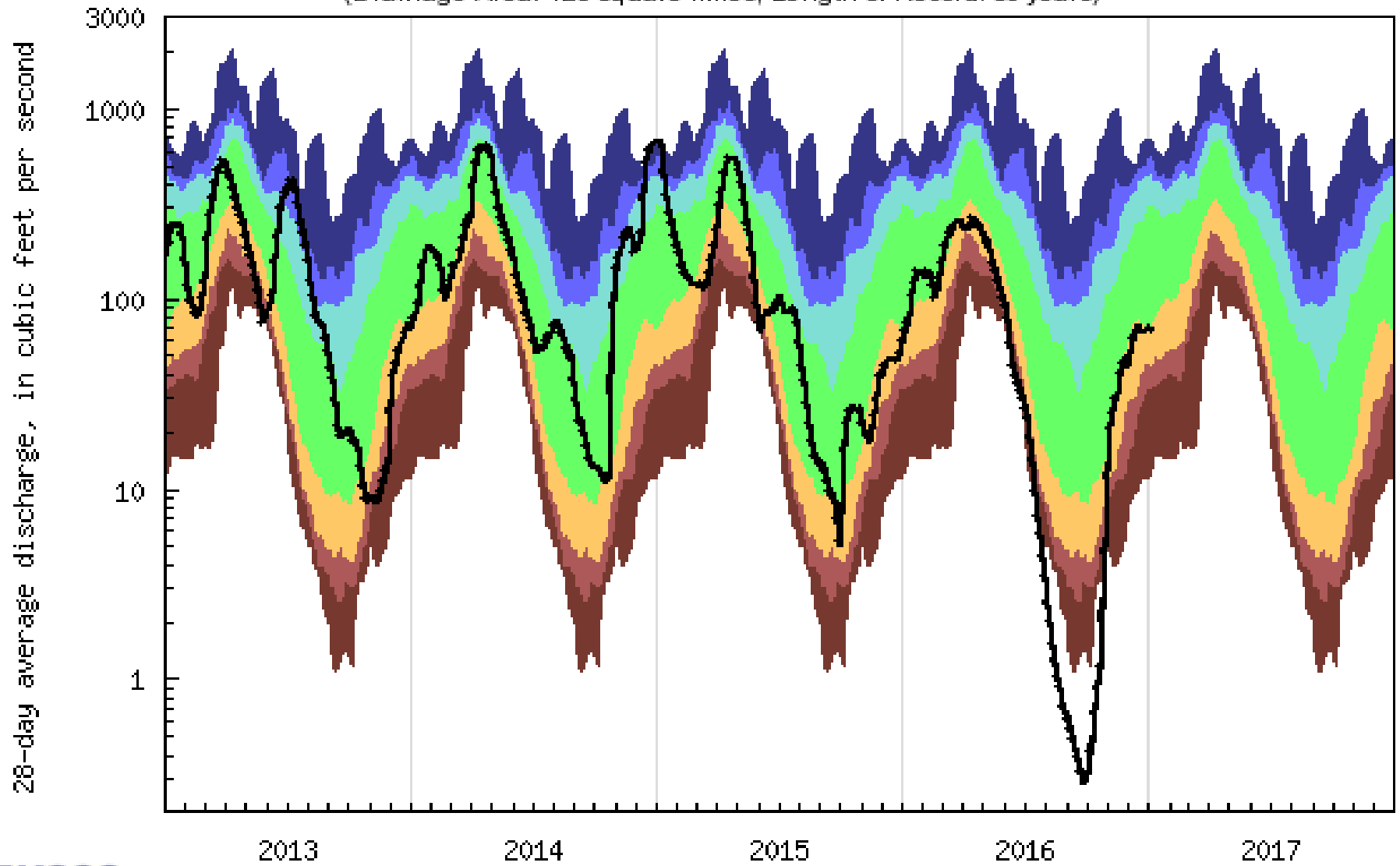
December 2016



Explanation - Percentile classes

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

USGS 01102000 IPSWICH RIVER NEAR IPSWICH, MA  
 (Drainage Area: 125 square miles, Length of Record: 85 years)



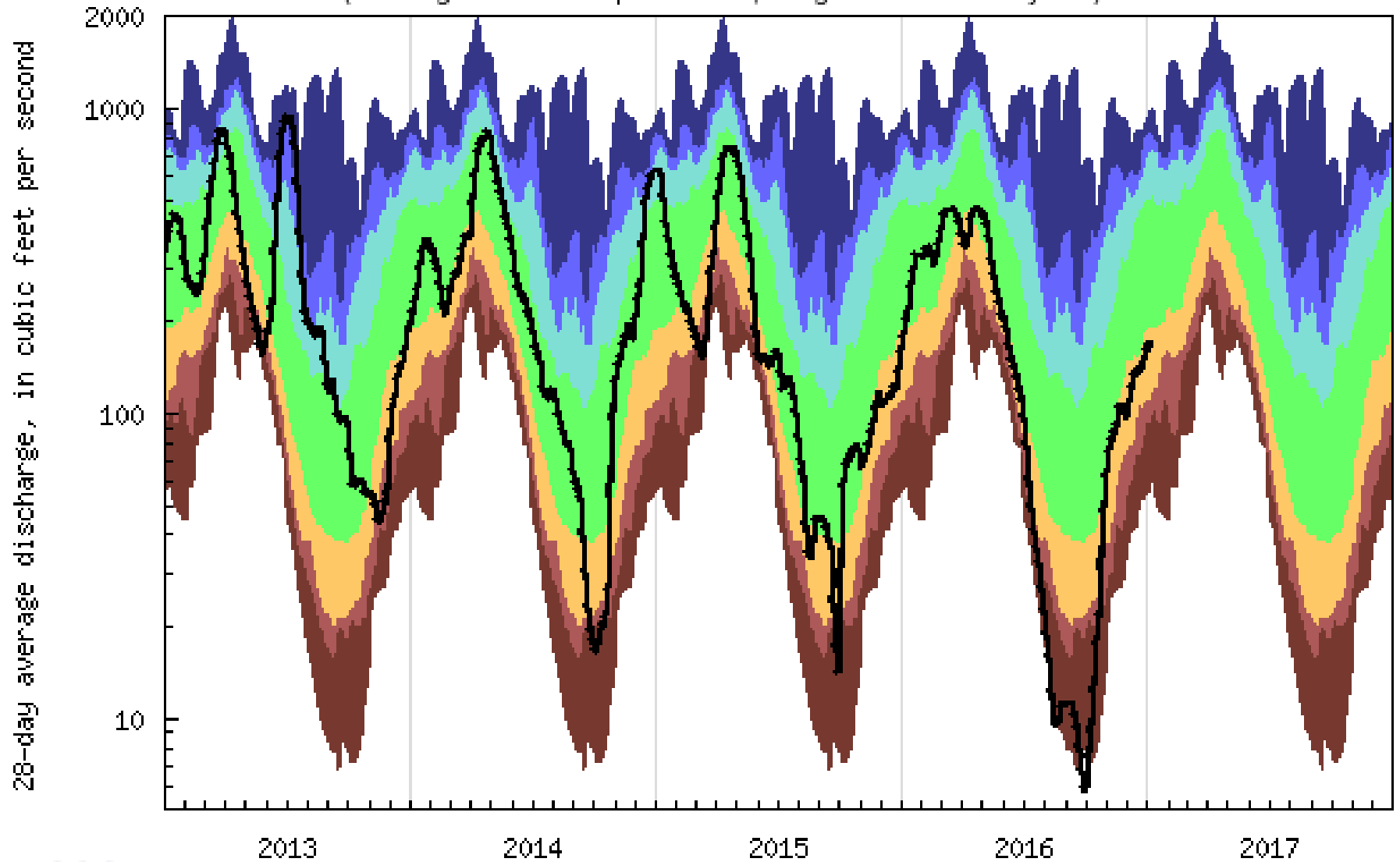
**USGS WaterWatch**



Explanation - Percentile classes							Flow
lowest-5th percentile	6-9	10-24	25-75	76-90	91-94	95th percentile-highest	
Severe hydrologic drought	Moderate hydrologic drought	Below normal	Normal	Above normal	Much above normal		



USGS 01103500 CHARLES RIVER AT DOVER, MA  
 (Drainage Area: 183 square miles, Length of Record: 78 years)

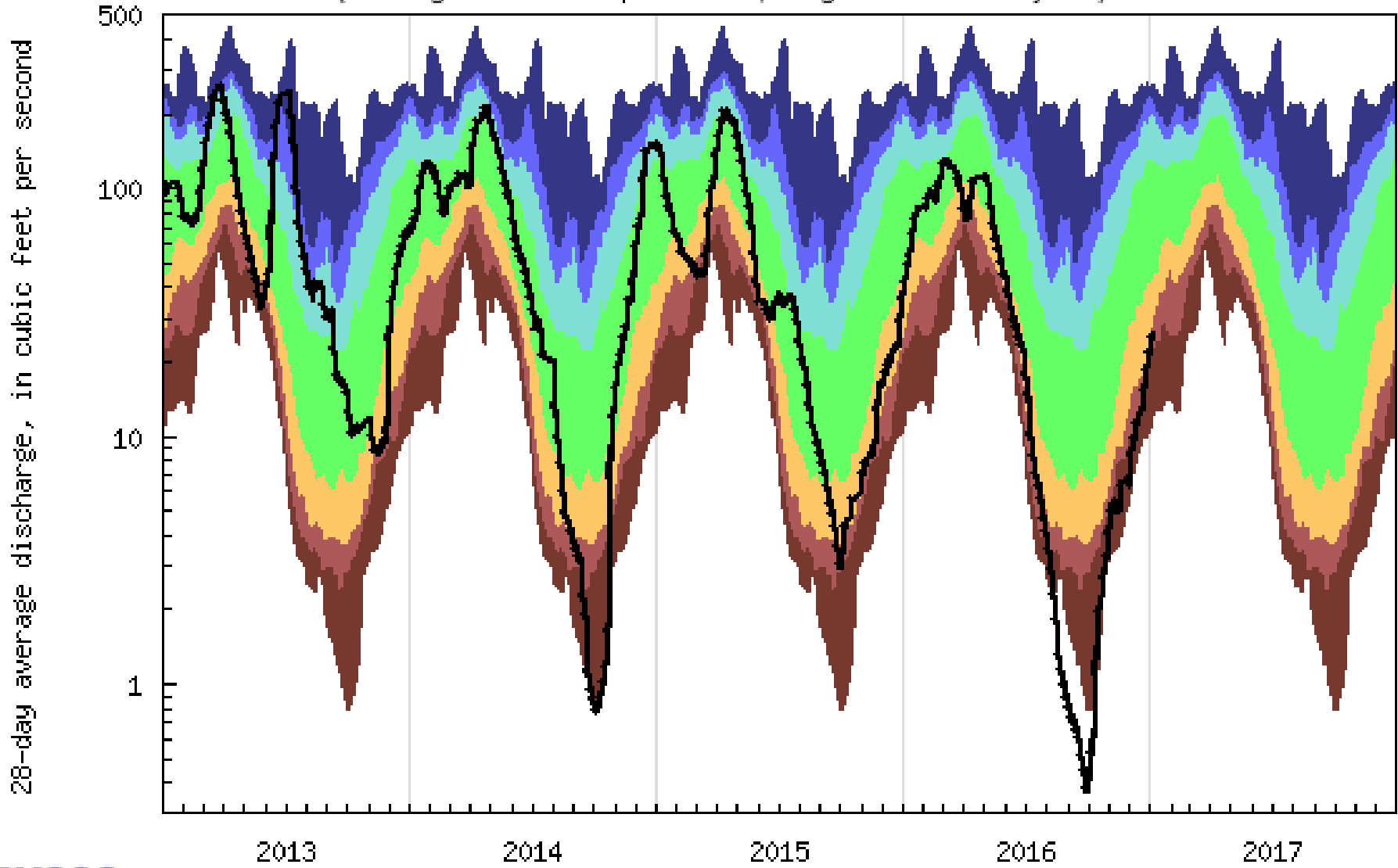


USGS WaterWatch



Explanation - Percentile classes							Flow
lowest-5th percentile	6-9	10-24	25-75	76-90	91-94	95th percentile -highest	
Severe hydrologic drought	Moderate hydrologic drought	Below normal	Normal	Above normal	Much above normal		

USGS 01109000 WADING RIVER NEAR NORTON, MA  
 (Drainage Area: 43.3 square miles, Length of Record: 91 years)

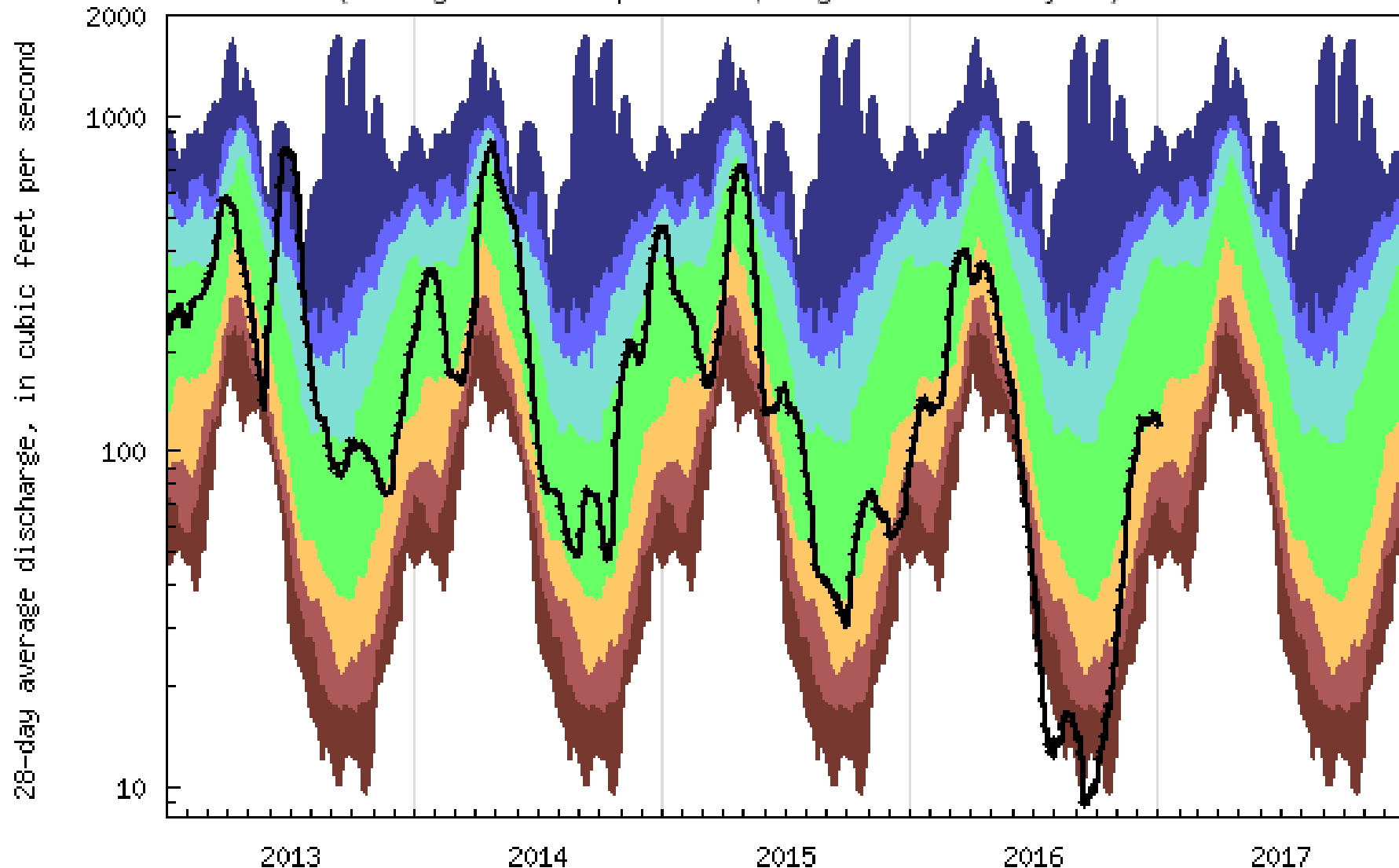


**USGS WaterWatch**



Explanation - Percentile classes							Flow
lowest-5th percentile	6-9	10-24	25-75	76-90	91-94	95th percentile-highest	
Severe hydrologic drought	Moderate hydrologic drought	Below normal	Normal	Above normal	Much above normal		

USGS 01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA  
 (Drainage Area: 150 square miles, Length of Record: 103 years)

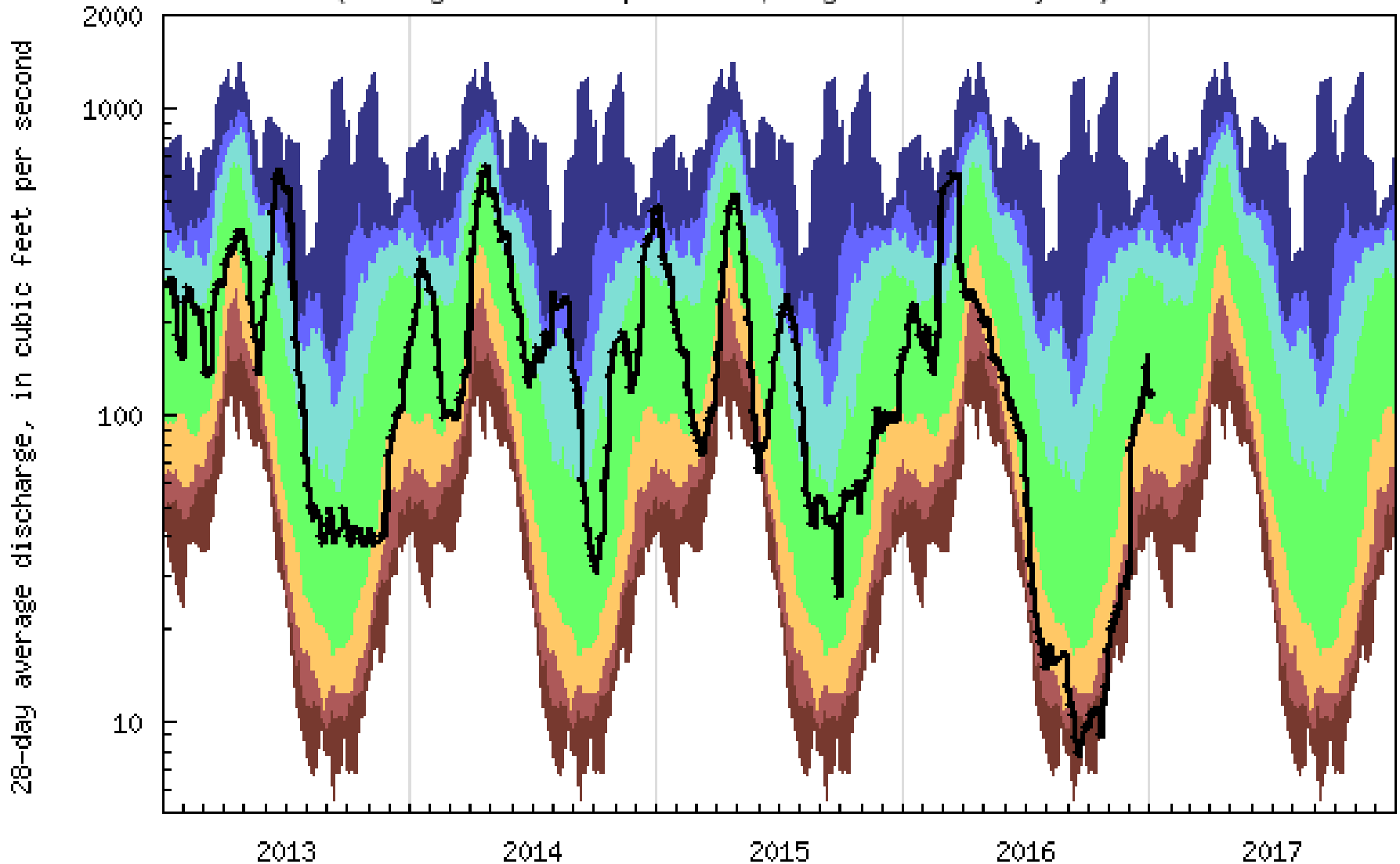


USGS WaterWatch

Explanation - Percentile classes

lowest-5th percentile	6-9	10-24	25-75	76-90	91-94	95th percentile-highest	Flow
Severe hydrologic drought	Moderate hydrologic drought	Below normal	Normal	Above normal	Much above normal		

USGS 01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA  
 (Drainage Area: 94.0 square miles, Length of Record: 80 years)

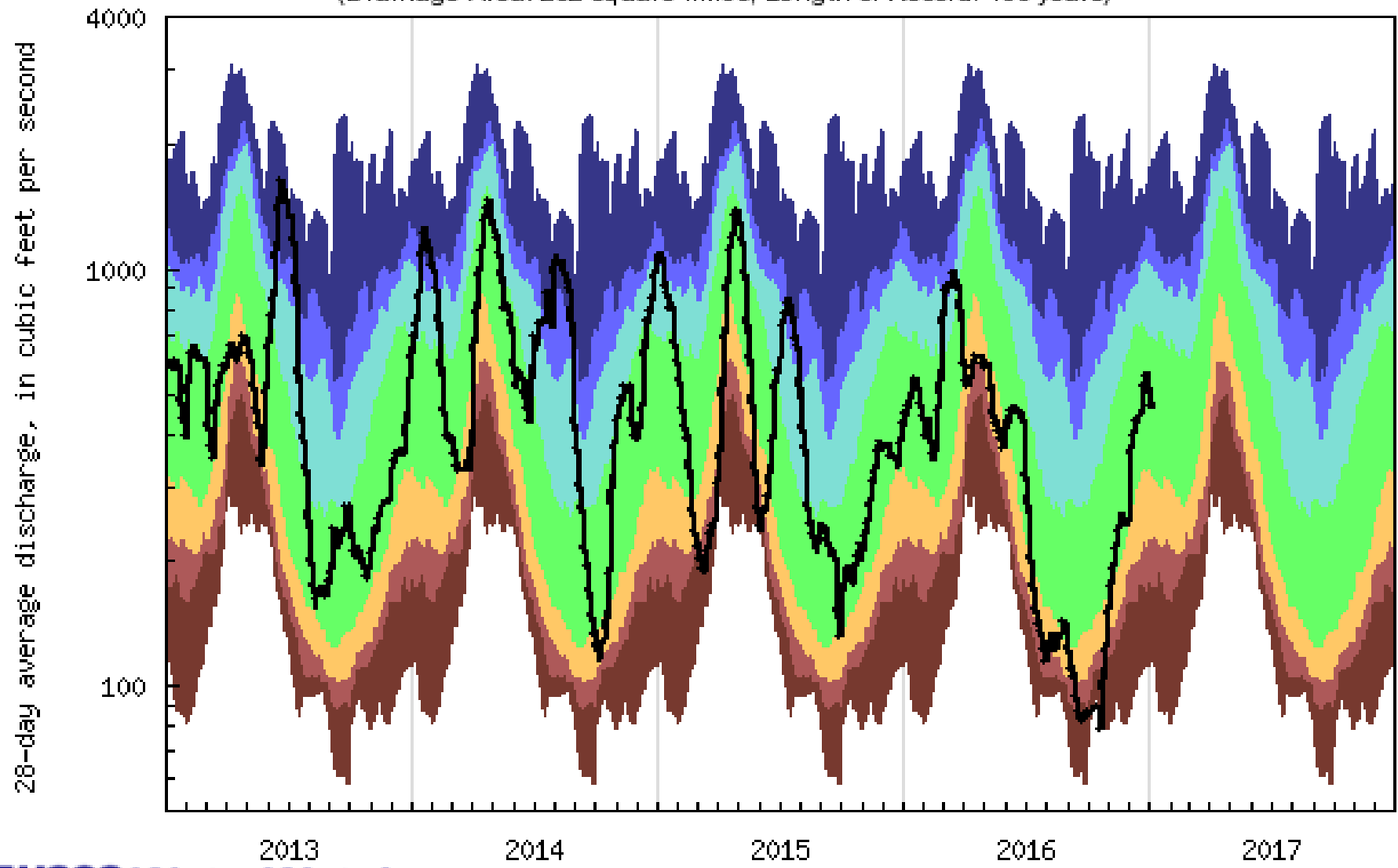


**USGS WaterWatch**



Explanation - Percentile classes							Flow
lowest-5th percentile	6-9	10-24	25-75	76-90	91-94	95th percentile-highest	
Severe hydrologic drought	Moderate hydrologic drought	Below normal	Normal	Above normal	Much above normal		

USGS 01197500 HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA  
 (Drainage Area: 282 square miles, Length of Record: 103 years)

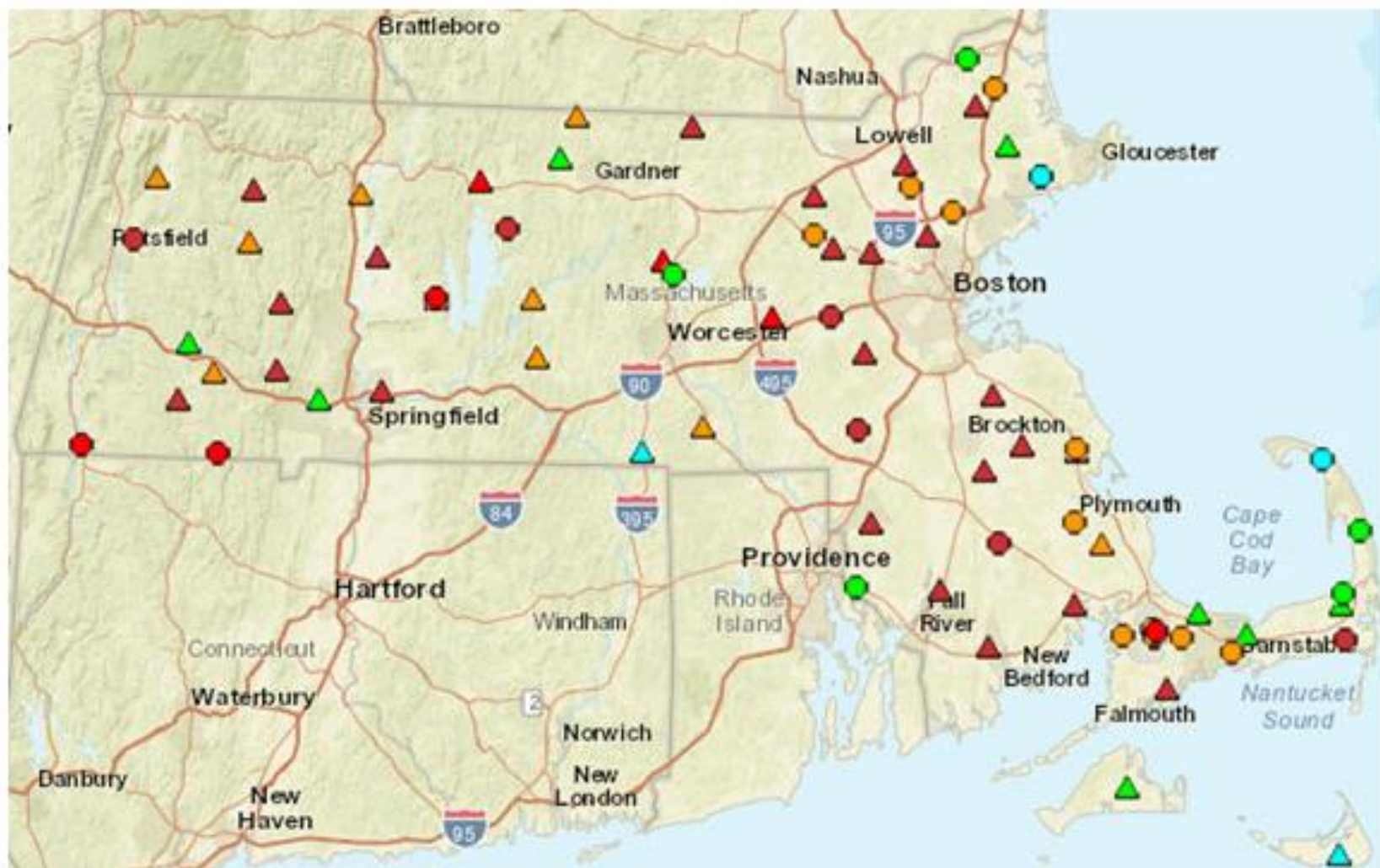


USGS WaterWatch

Explanation - Percentile classes

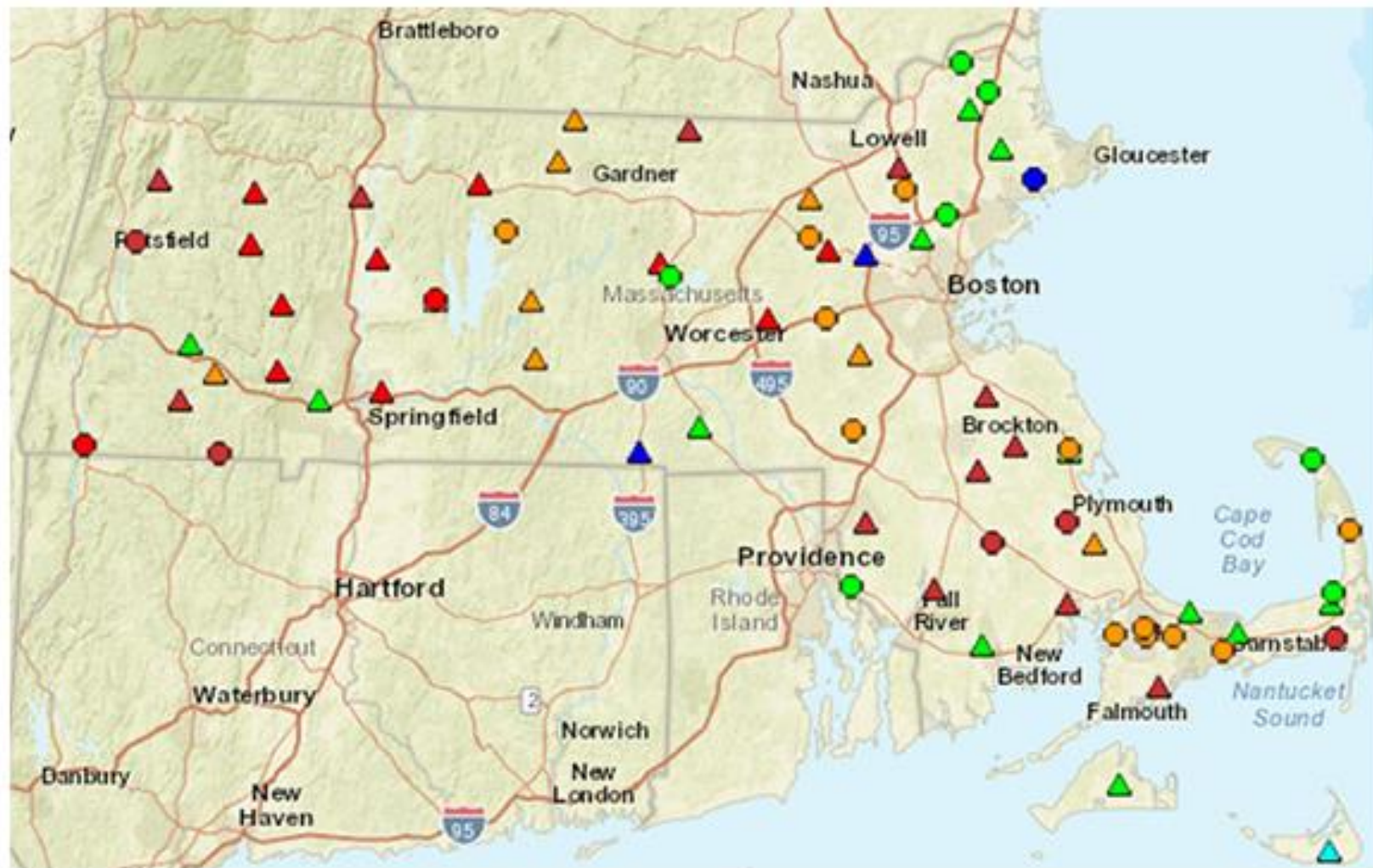
lowest-5th percentile	6-9	10-24	25-75	76-90	91-94	95th percentile - highest
Severe hydrologic drought	Moderate hydrologic drought	Below normal	Normal	Above normal	Much above normal	
						Flow

# Groundwater Conditions During Oct. 2016



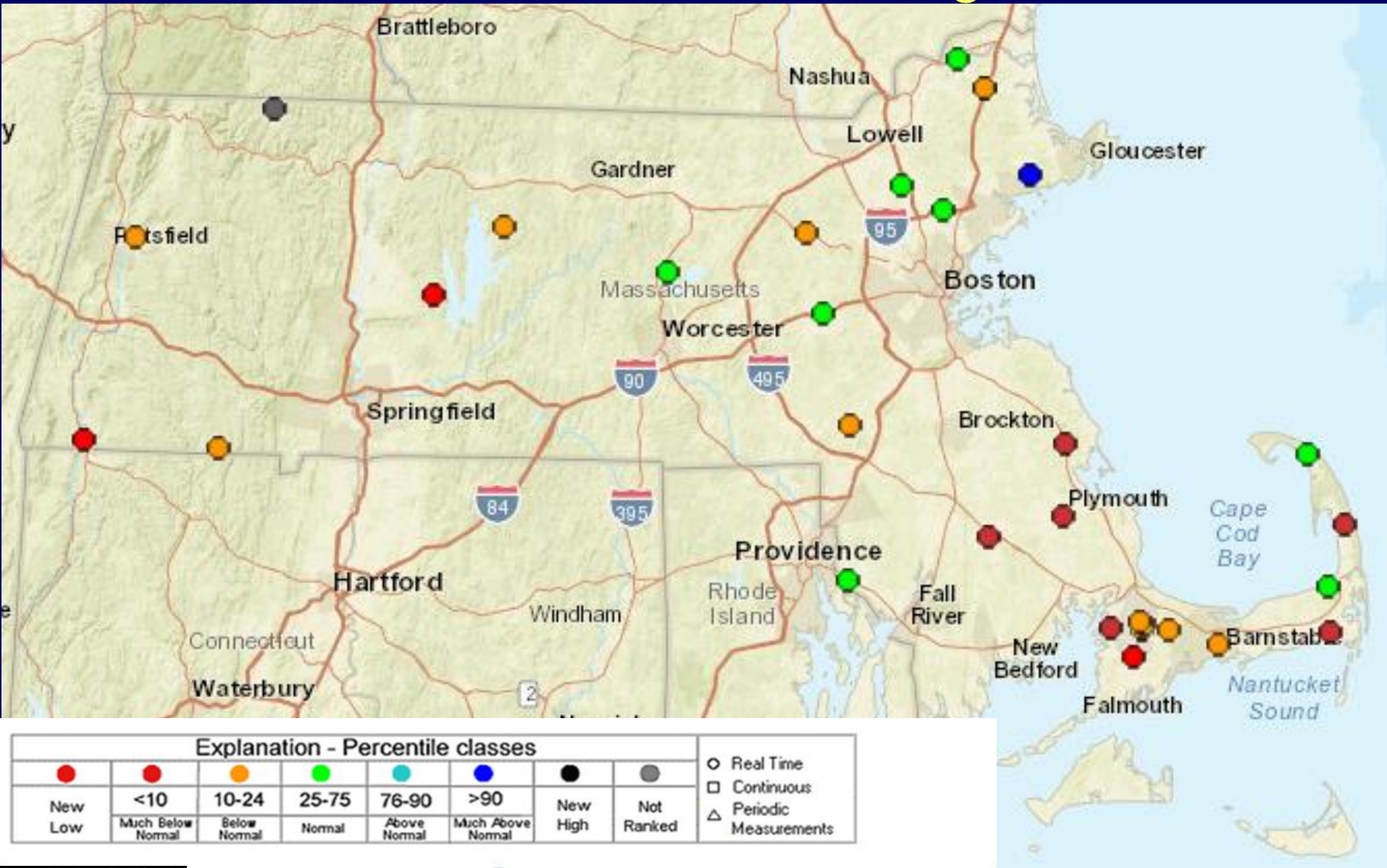
Explanation - Percentile classes								
								Real Time
New	<10	10-24	25-75	76-90	>90	New	Not	Continuous
Low	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal	High	Ranked	Periodic Measurements

# Groundwater Conditions During Nov. 2016

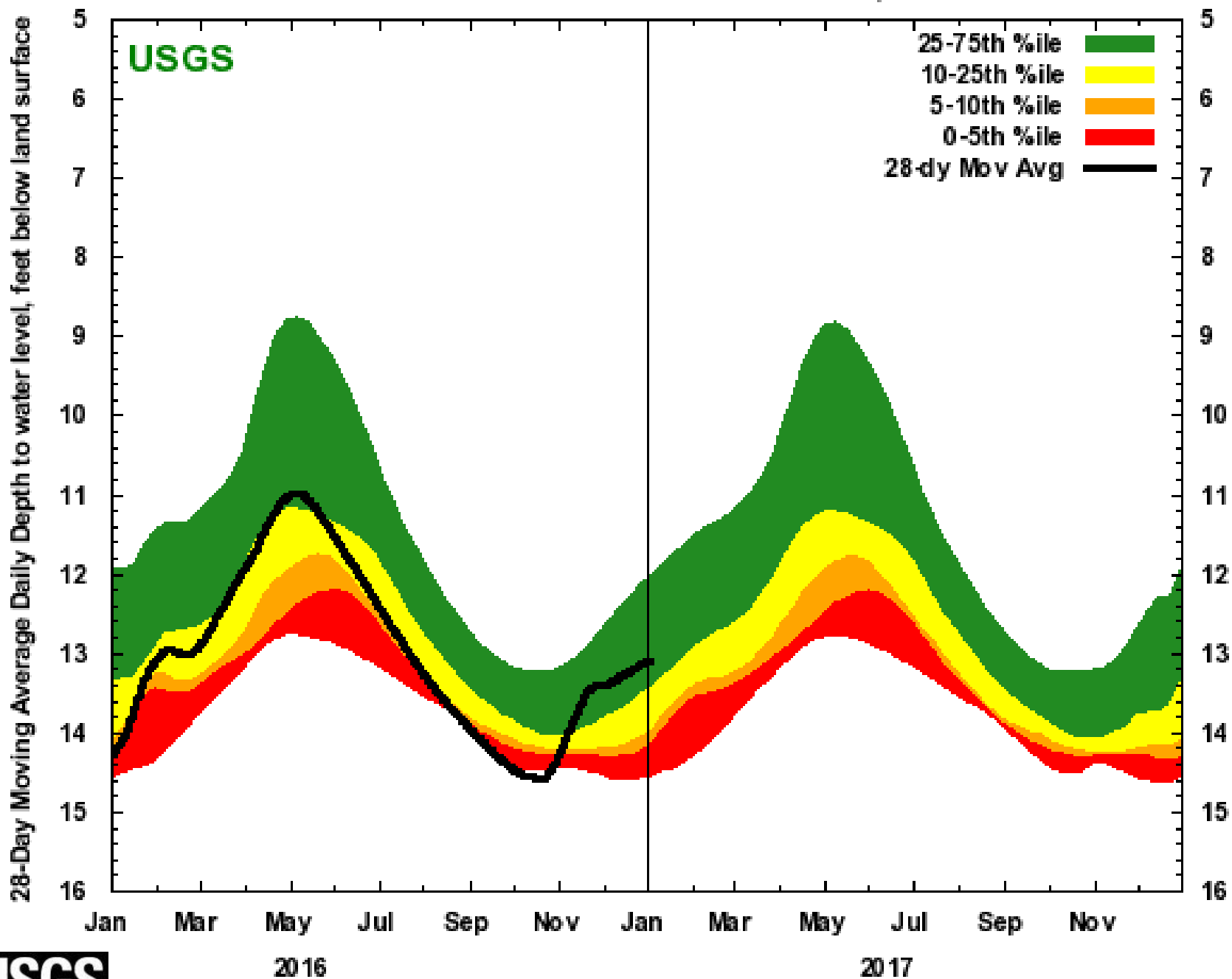


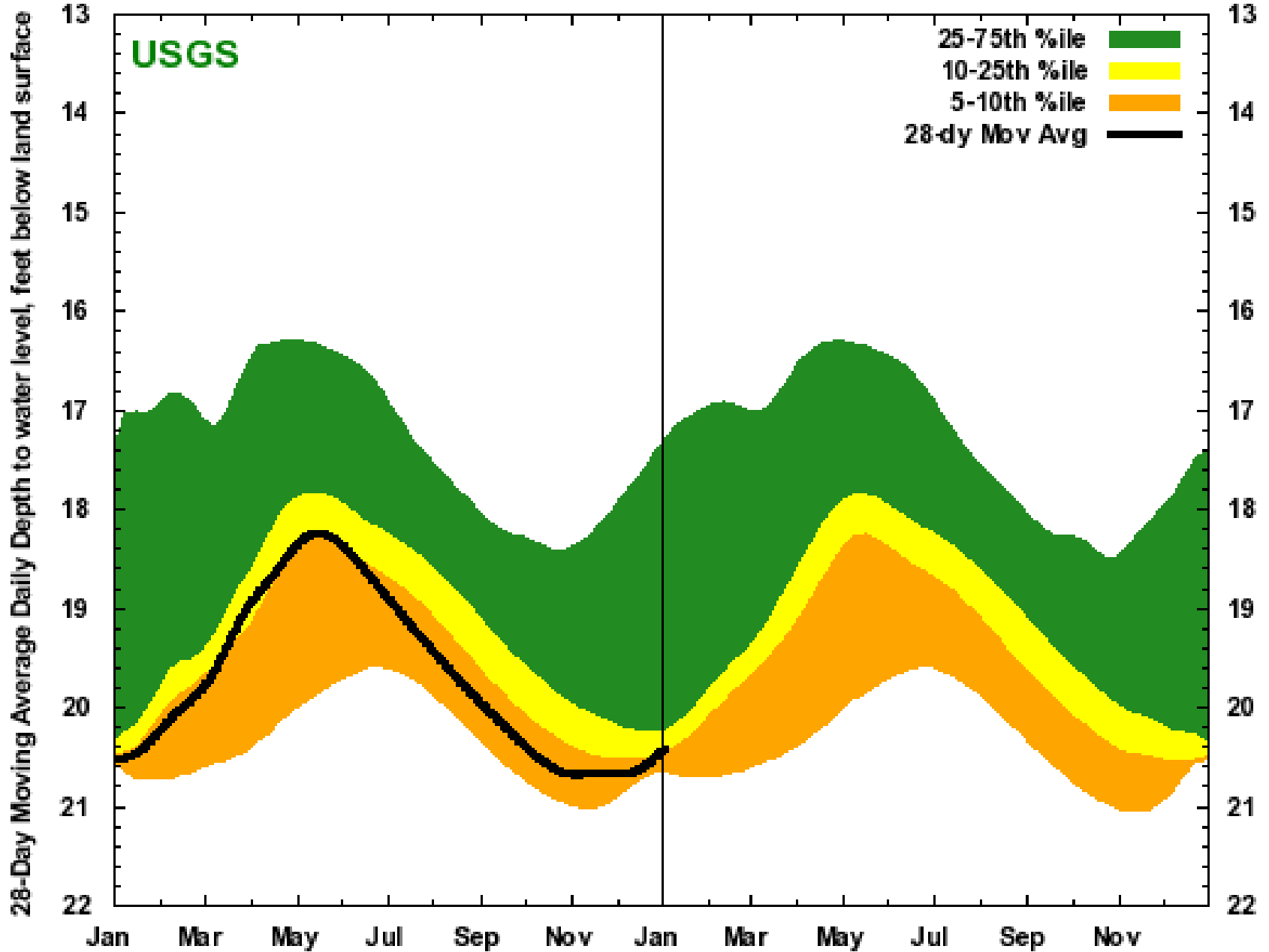
Explanation - Percentile classes								○ Real Time	□ Continuous	△ Periodic Measurements
● New Low	● <10	● 10-24	● 25-75	● 76-90	● >90	● New High	● Not Ranked			
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal					

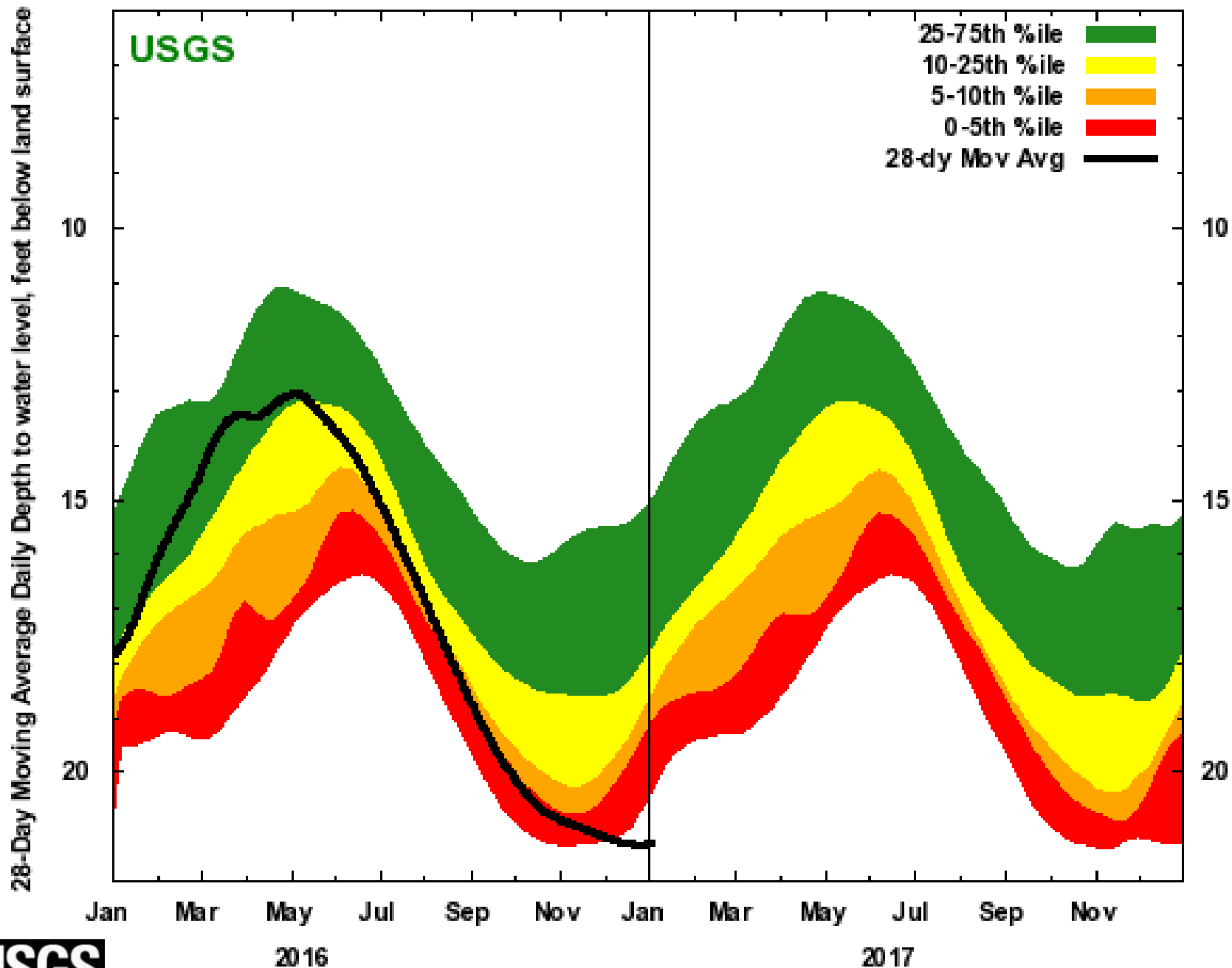
# Groundwater Conditions During Dec. 2016

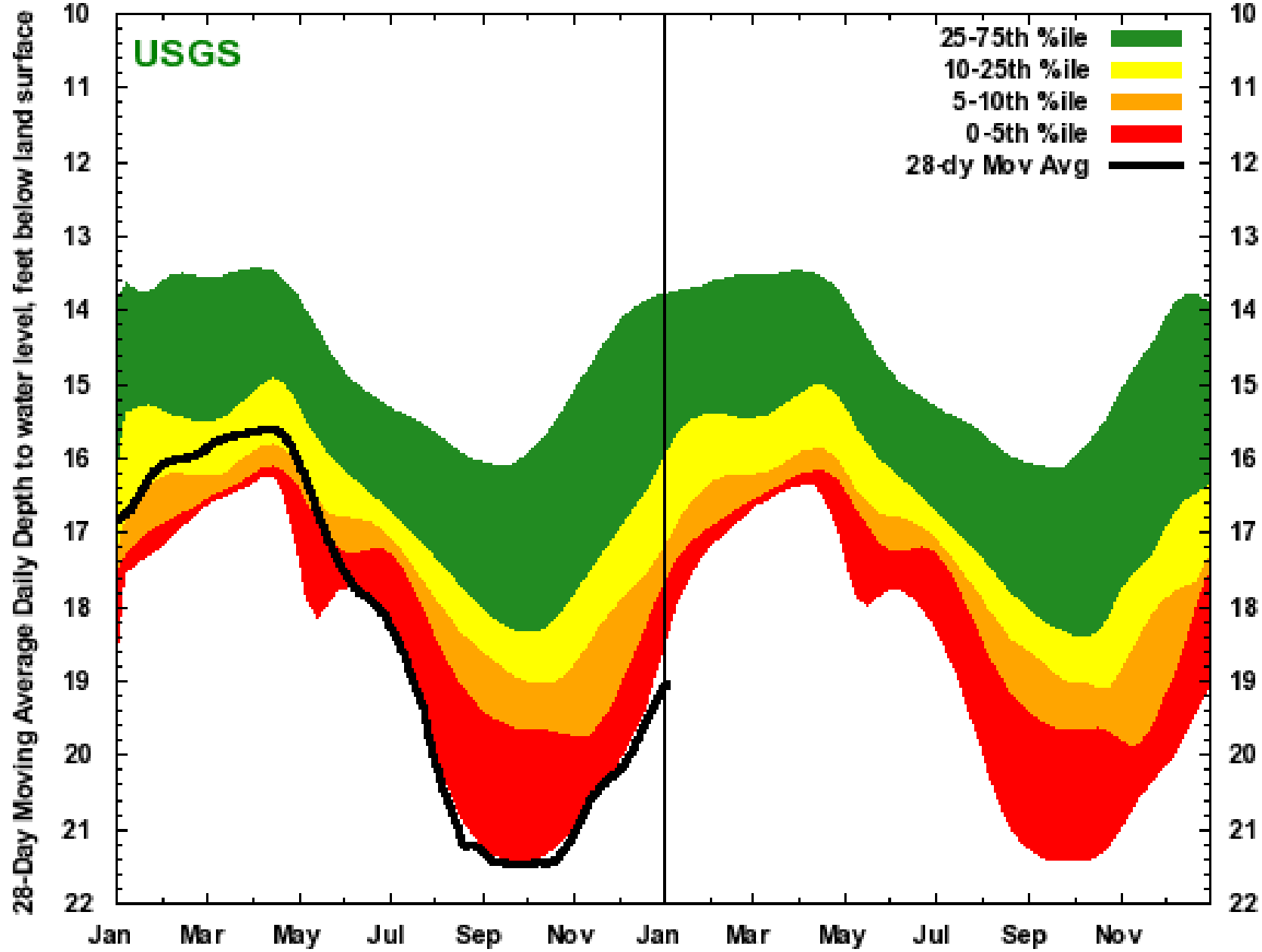












USGS

25-75th %ile  
10-25th %ile  
5-10th %ile  
0-5th %ile  
28-dy Mov Avg

