

Streamflow and Groundwater Conditions in Rhode Island October 2024 – January 2025

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January 09, 2025
U.S. Geological Survey
New England Water Science Center



Table 2, Rhode Island Drought Indices and Phases

Drought Phase	Palmer Drought Index +	Crop Moisture Index	Precipitation +	Ground Water** +	Stream flow +	Reservoirs**
Normal	-1.0 to -1.99	0.0 to -1.0	Slightly Dry	1 month below normal 1 month below normal	2 consecutive months below normal	Reservoir levels at or near normal for the time of year
Advisory	-2.0 to -2.99	-1.0 to -1.9 Abnormally Dry	2 month cumulative below 65% of normal	At least 2 out of 3 months below normal	3 consecutive months below normal	Small index Reservoirs below normal
Watch	-3.0 to -3.99	-2.0 to -2.9 Excessively Dry	1 of the following criteria met: 3 month cum. <65% or 6 month cum. <70% or 12 month cum. <70%	4-5 consecutive months below normal	At least 4 out of 5 consecutive months below normal	Medium index Reservoirs below normal
Warning	-4.0 and below	> -2.9 Severely Dry	2 out of 3 of the above criteria met: 3 month cum. <65% and 6 month cum. <65% or 6 month cum. <65% and 12 month cum. <65% or 3 month cum. <65% and 12 month cum. <65%	6-7 consecutive months below normal observation wells recording monthly record lows	At least 6 out of 7 consecutive months below normal	Large index reservoirs below normal
Emergency	-4.0 and below	> -2.9 Severely dry	Same criteria as Warning and Previous month was Warning or Emergency	>7 months below normal Observation wells recording monthly record lows	>7 months below normal	Continuation of previous month's conditions

+ Major Hydrologic Indicators.

** Local triggers from the water system supply management plans will also be considered in assessing drought phases on a regional basis. The WRB staff will review local plans and work with suppliers to coordinate regarding drought phases and to collect, review and report surface reservoir and ground water data.

"Normal" is defined as the statistical average of the data for the period of record. Percentages for precipitation are relative to normal.

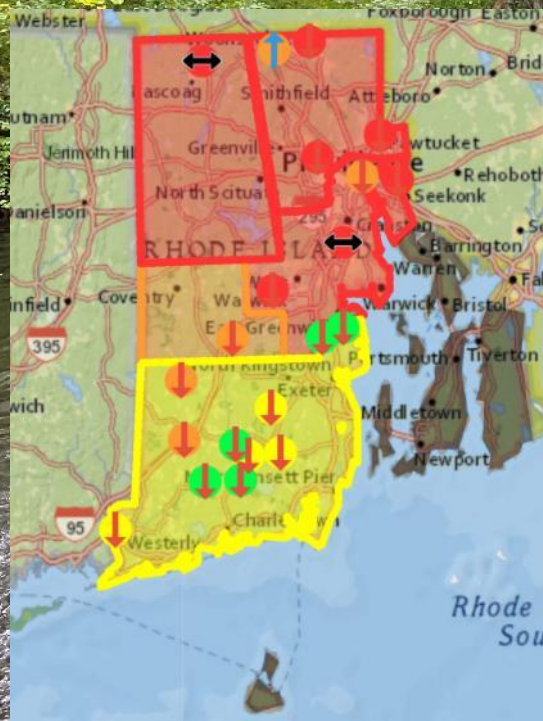


Table 4
Returning to Normal

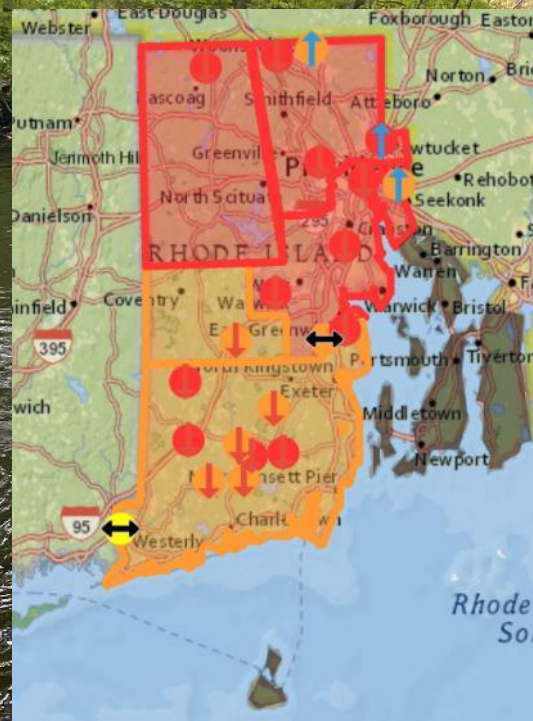
Current Drought Phase	Next Drought Phase	Reduce Drought Phase by one category
Emergency	Emergency-continued below normal conditions	Groundwater levels at or above normal and no precipitation deficit for past 3 months; and/or water resource problems which prompted the emergency have abated
Warning	Emergency-worsening conditions or continued below normal conditions	2 consecutive months of groundwater levels at or above normal and near normal precipitation for past 6 months
Watch	Warning-worsening conditions Watch continued below normal	2 consecutive months of groundwater levels at or above normal and near normal precipitation for past 6 months
Advisory	Watch-worsening conditions	2 consecutive months of groundwater levels at or above normal and near normal precipitation for past 3 months

Average Monthly Streamflow Conditions October - December

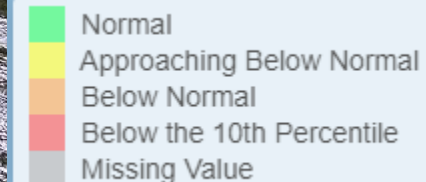
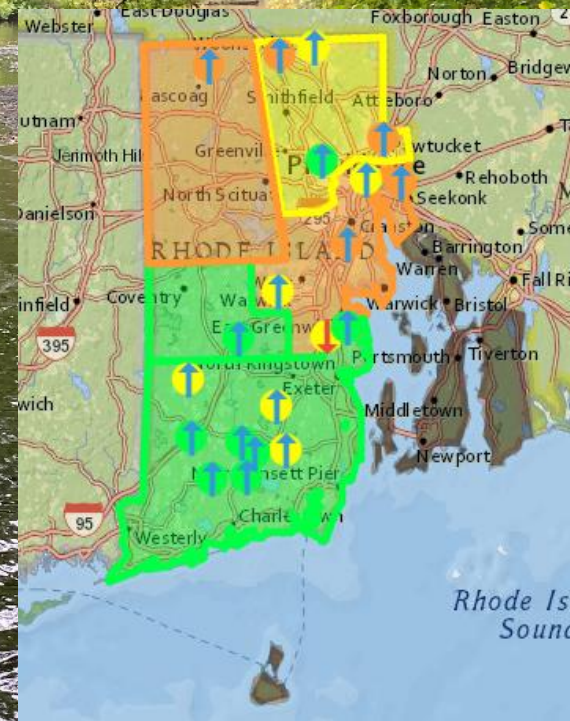
October



November



December



Average Monthly Streamflow Conditions

June 2024 – Jan 2025

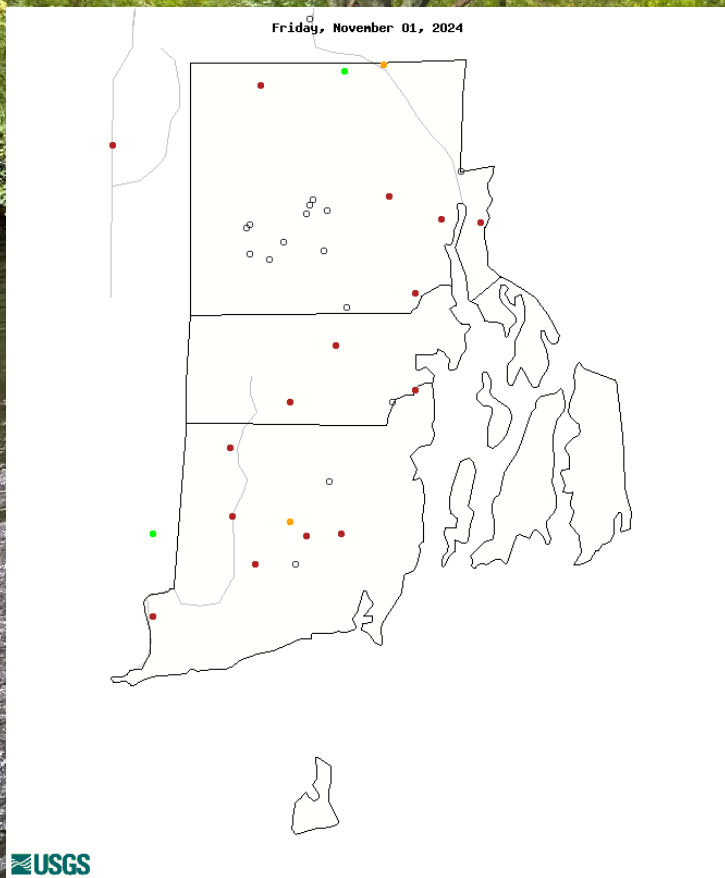
Region & Num of Gages	Q 6/2024	Q 7/2024	Q 8/2024	Q 9/2024	Q 10/2024	Q 11/2024	Q 12/2024
Northwest (1)	62	47	42	5	5	2	10
Northeast (4)	60	47	41	14	10	10	27
Central West (1)	86	84	81	38	19	11	41
Central East (4)	66	74	58	19	9	4	23
Eastern (0)	-----						
Southern (11)	76	76	85	52	31	14	43
New Shoreham (0)	-----						
Statewide (21)	71	69	69	36	21	10	32

Streamflow = Advisory (Three consecutive months below normal)

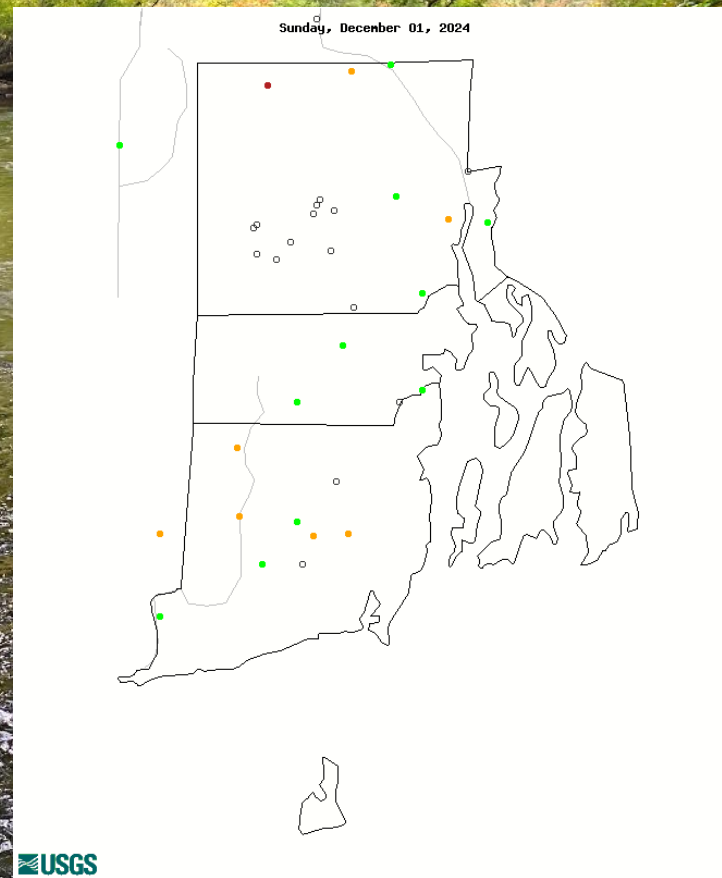


7 - Day Maps

November 01, 2024



December 01, 2024

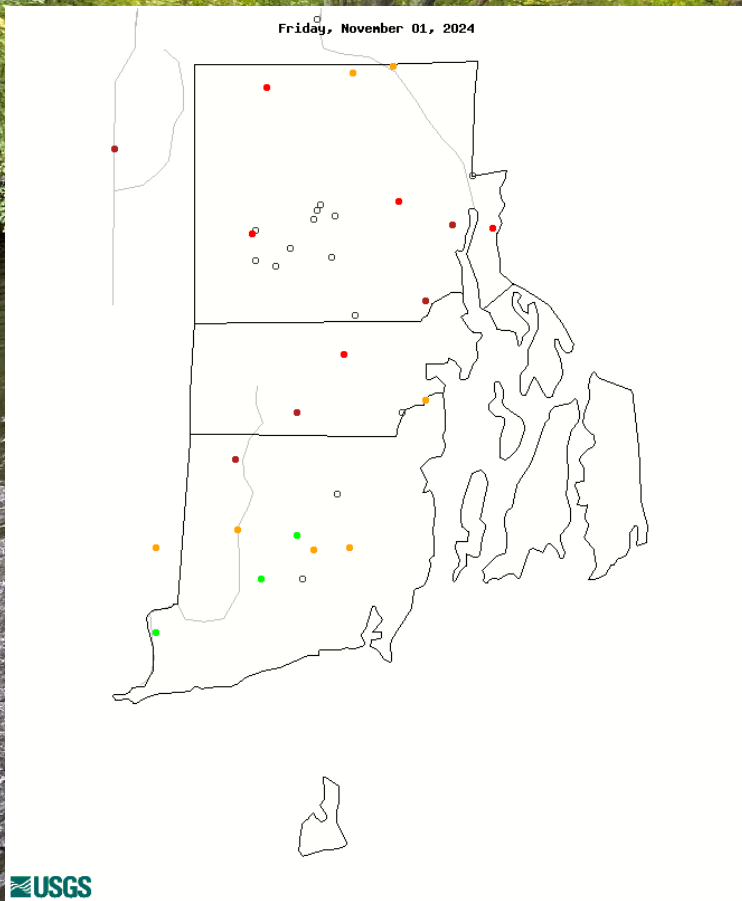


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

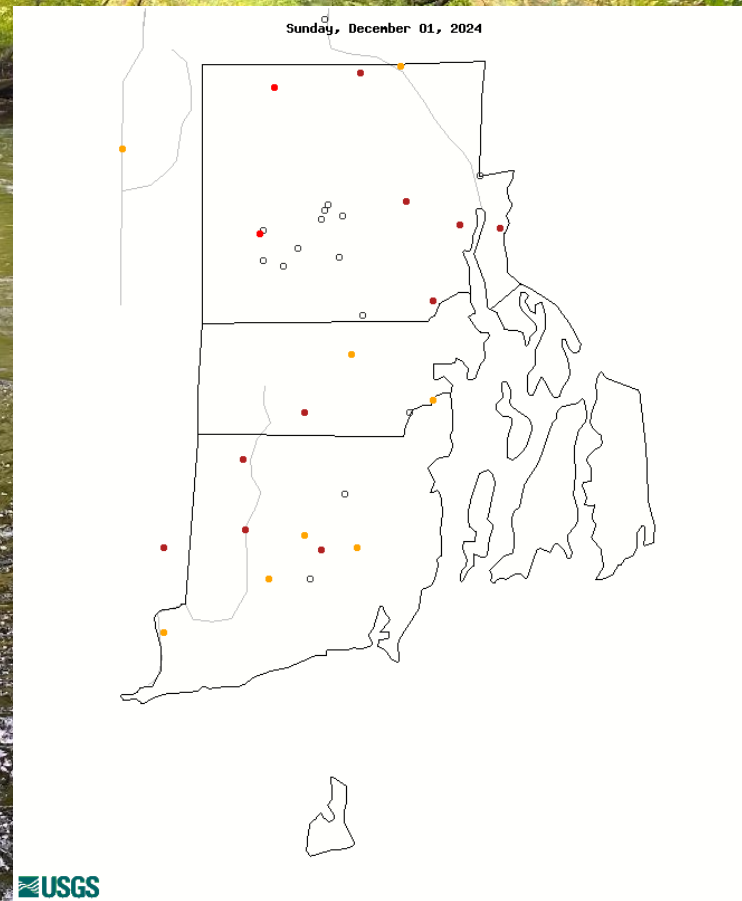


28 - Day Maps

November 01, 2024

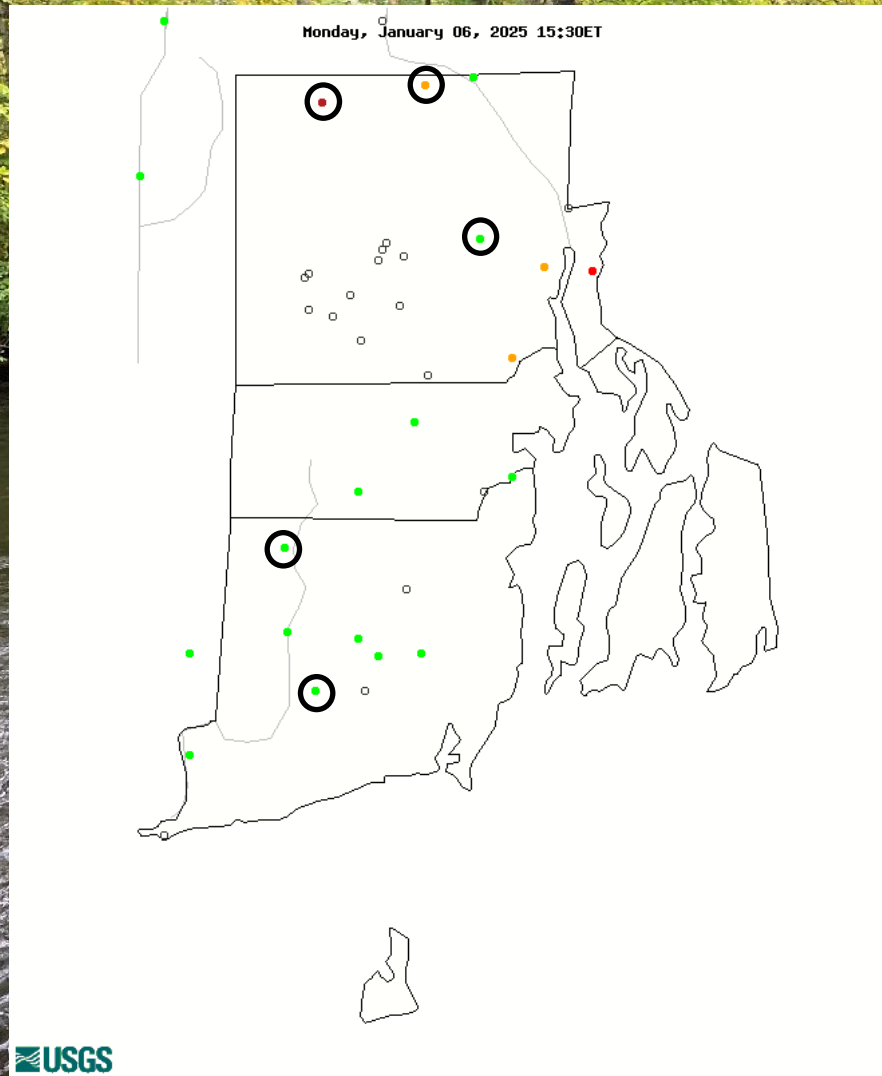


December 01, 2024



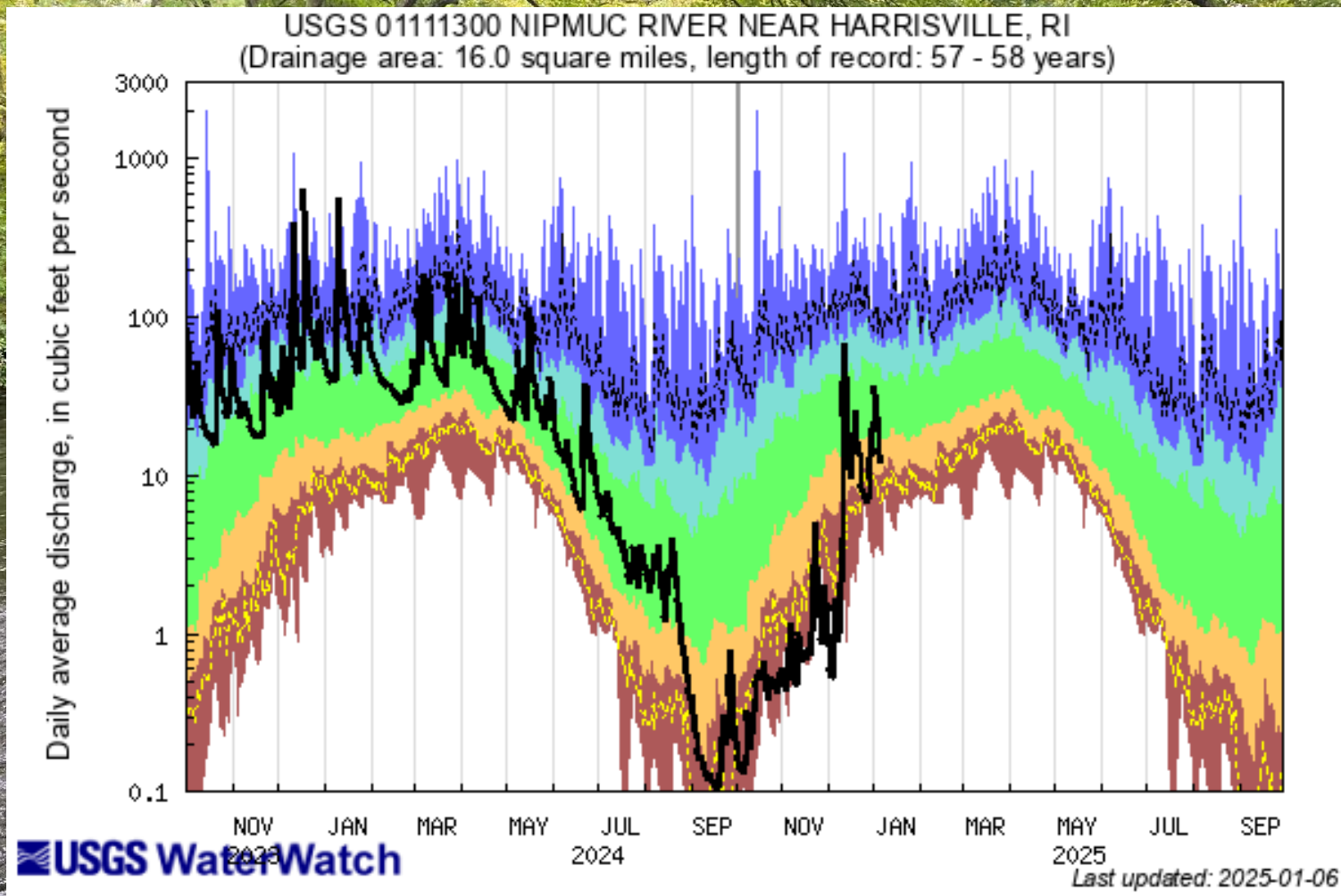
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



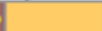
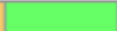
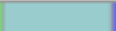


Current Streamflow Conditions – January 06, 2025



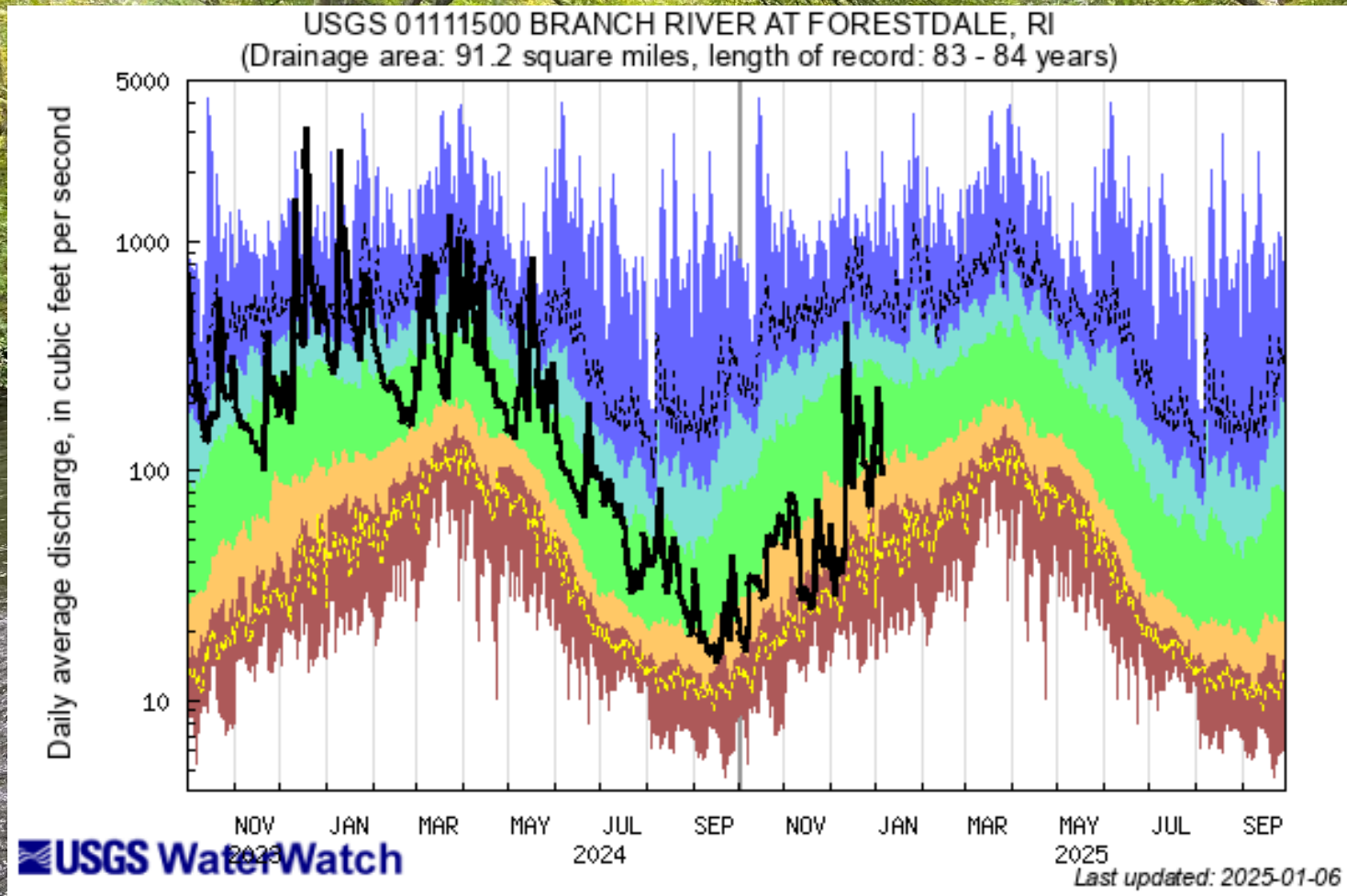
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	








Northwest



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			

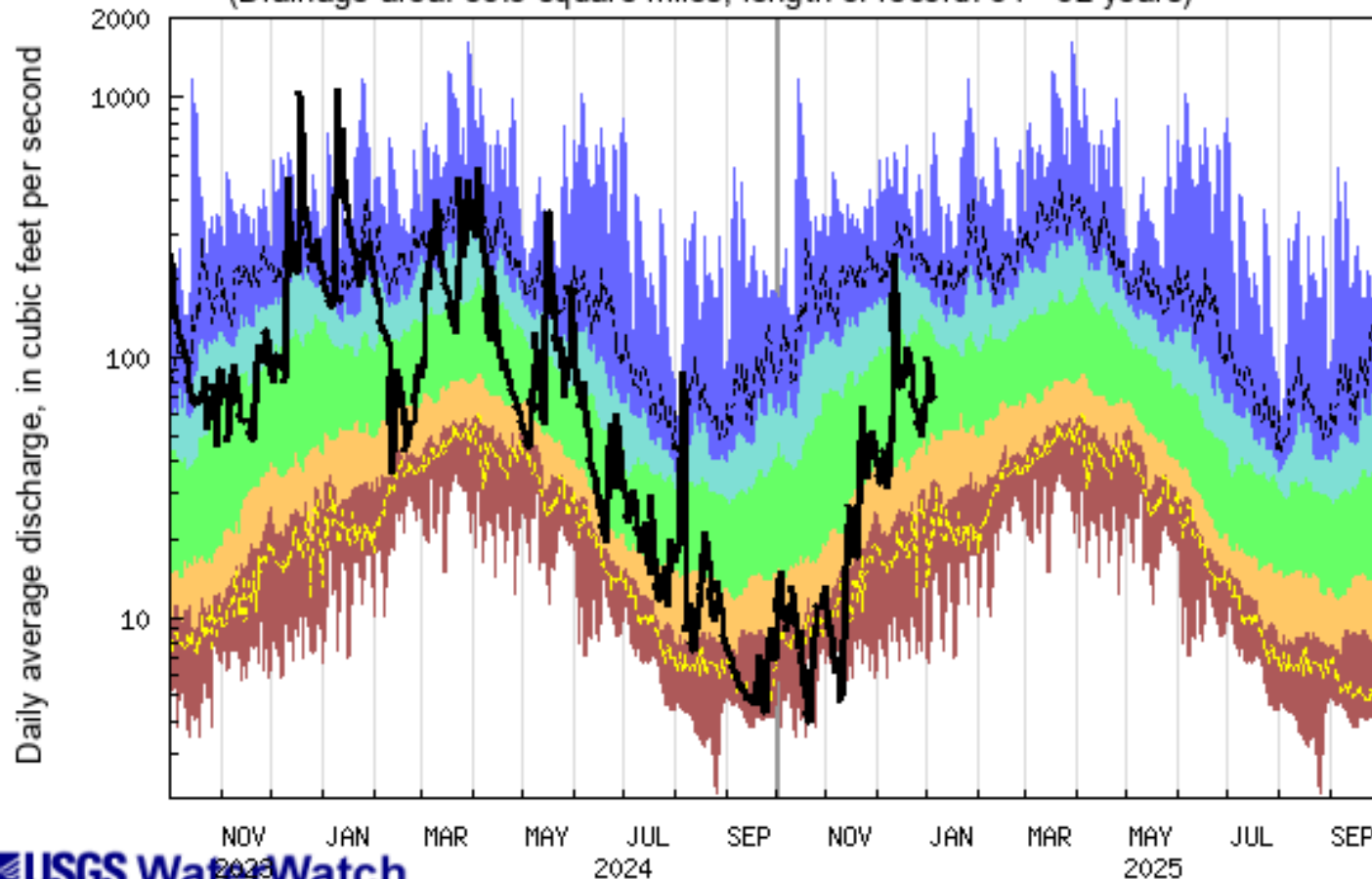
Northeast



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

USGS 01114500 WOONASQUATUCKET RIVER AT CENTERDALE, RI
(Drainage area: 38.3 square miles, length of record: 81 - 82 years)



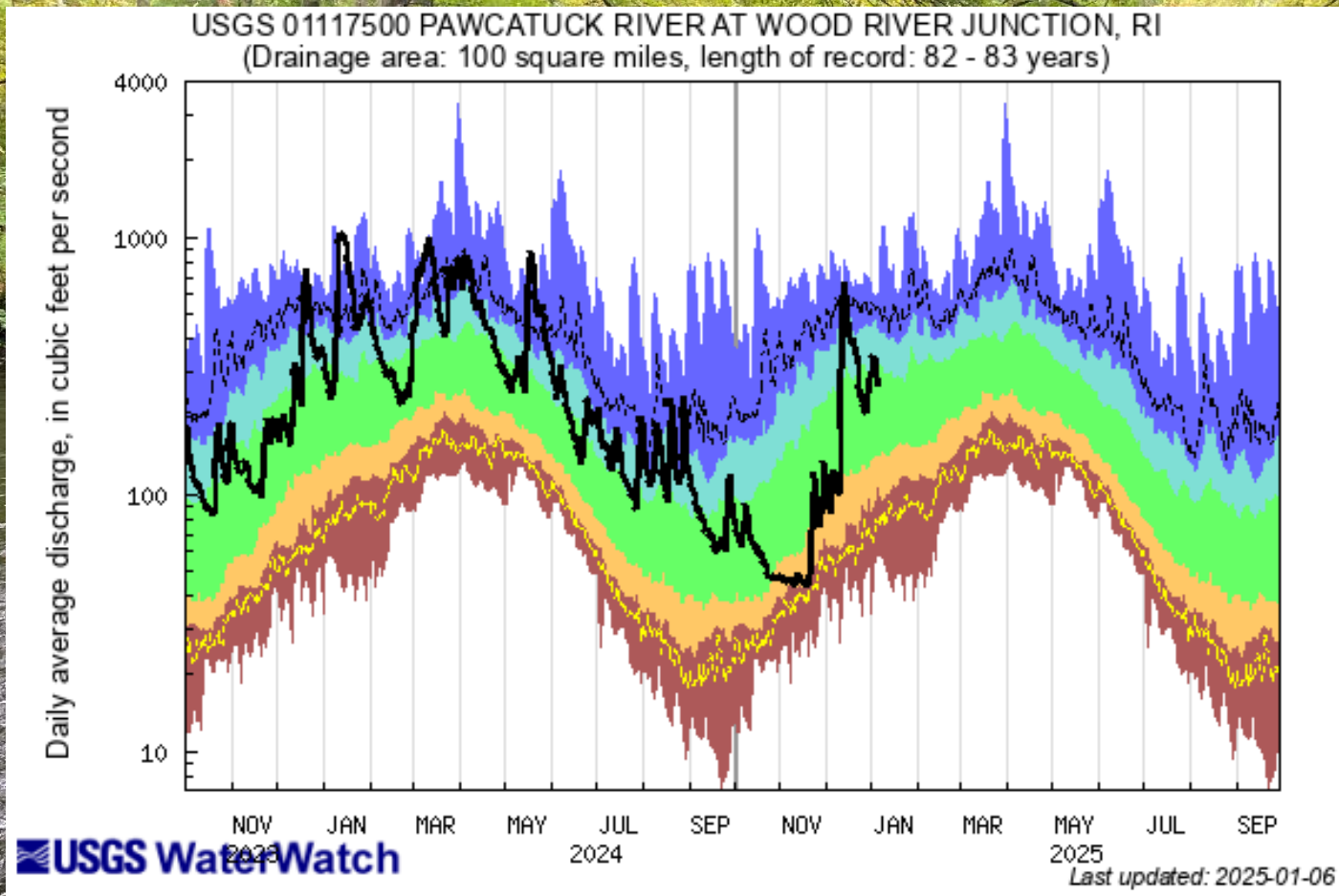
USGS WaterWatch

Last updated: 2025-01-06

Explanation - Percentile classes

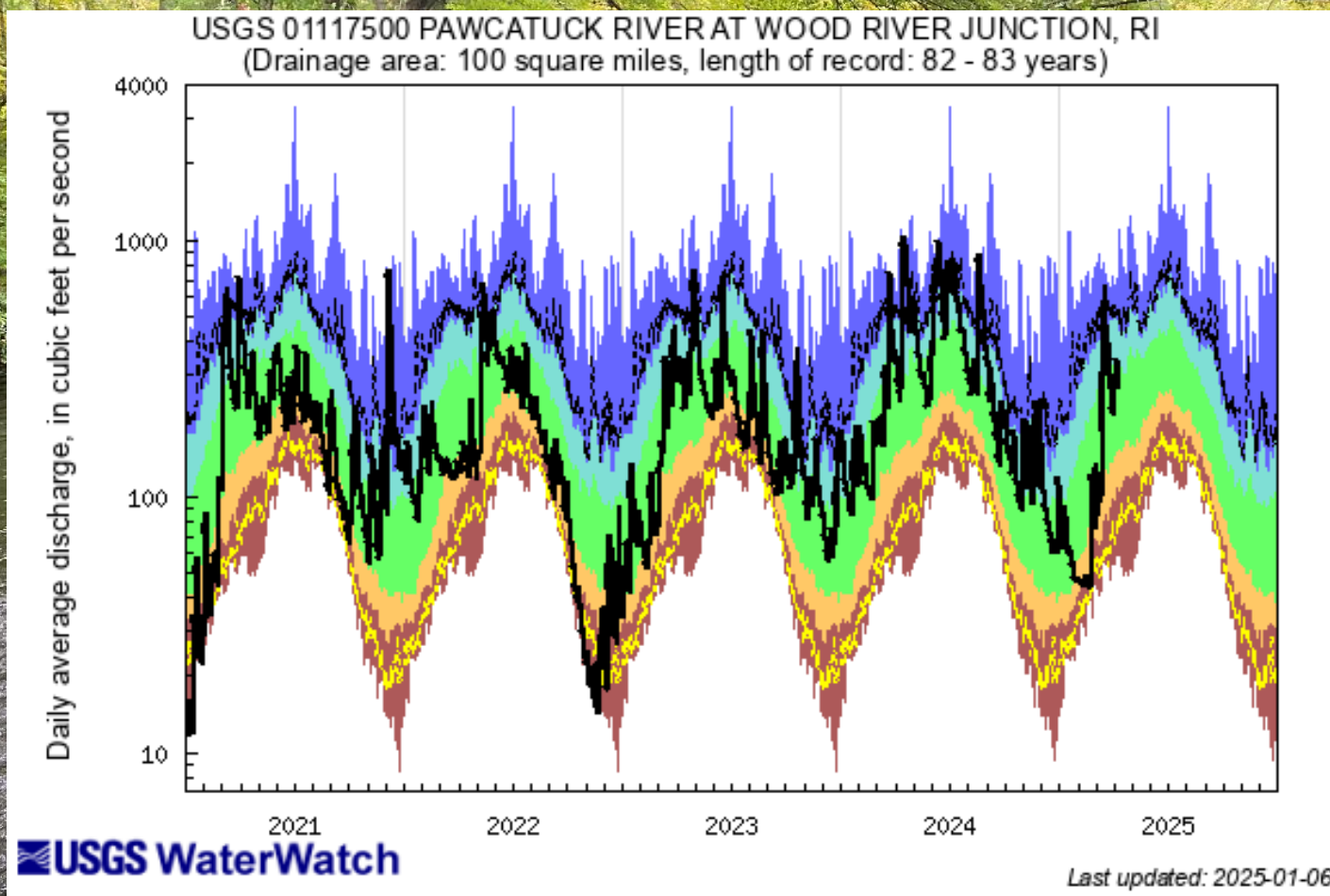
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal			








Southern



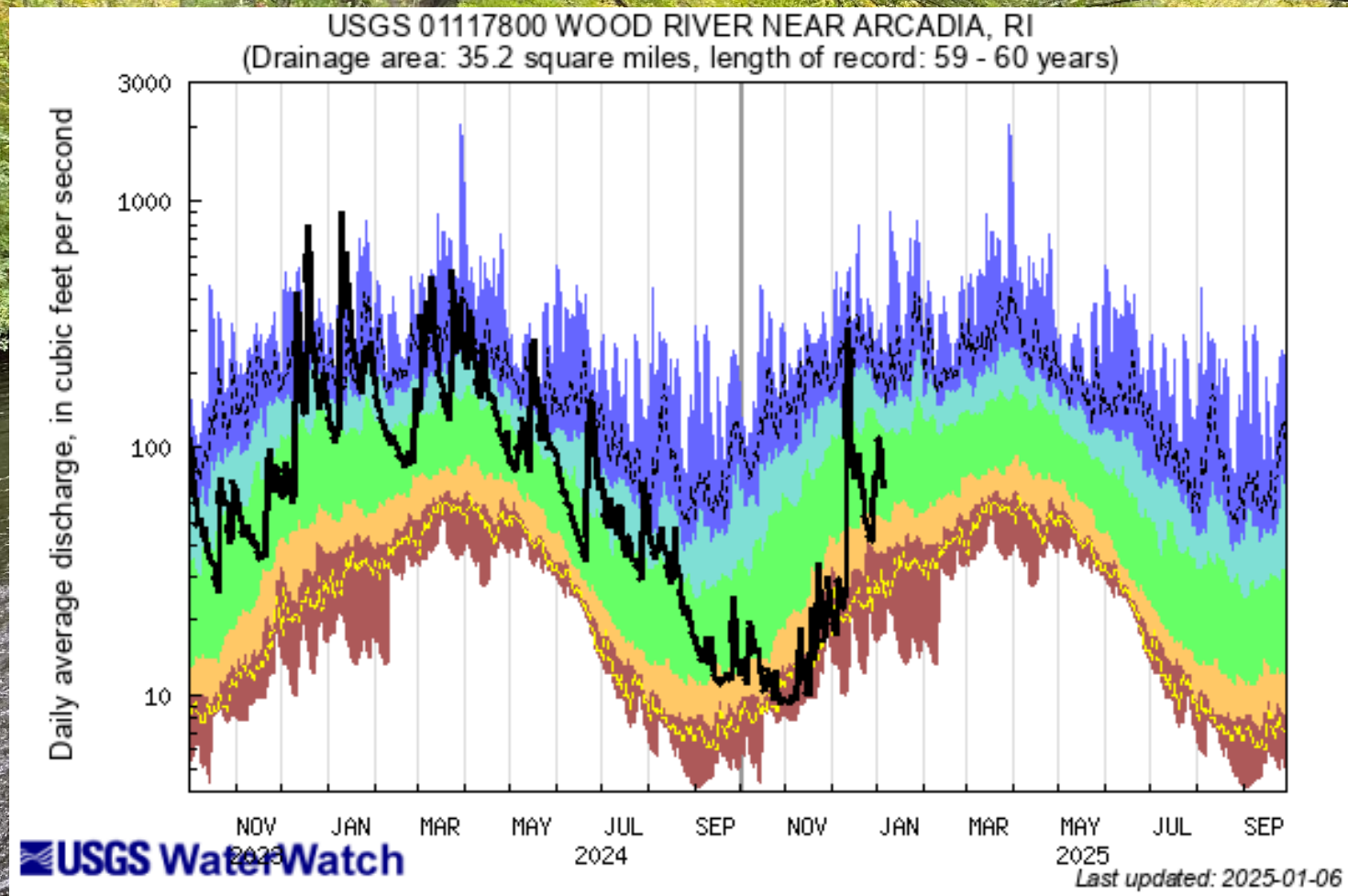
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow








Southern



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			

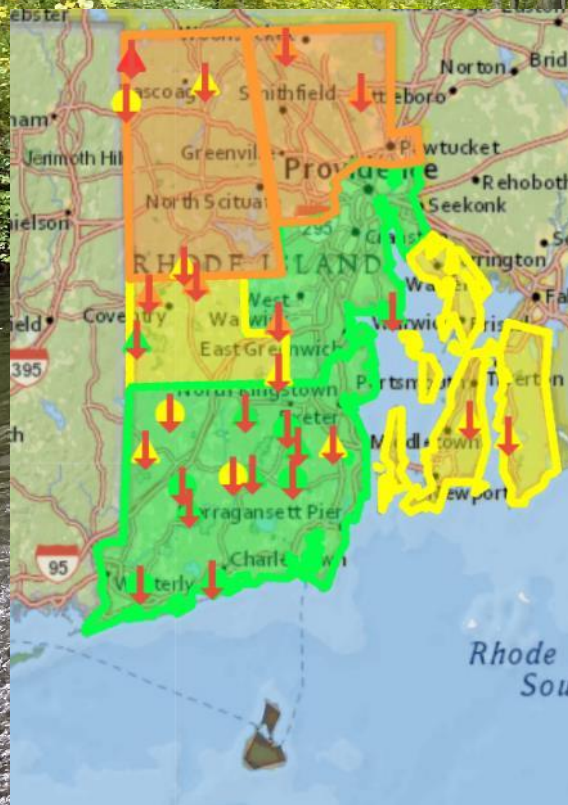
Southern



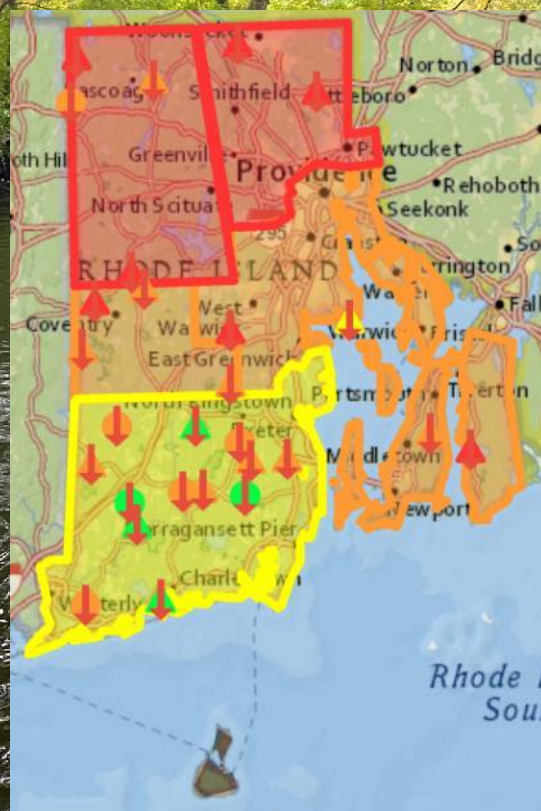
Explanation - Percentile classes							Flow
							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	
Much below Normal	Below normal	Normal	Above normal	Much above normal			

Groundwater Conditions

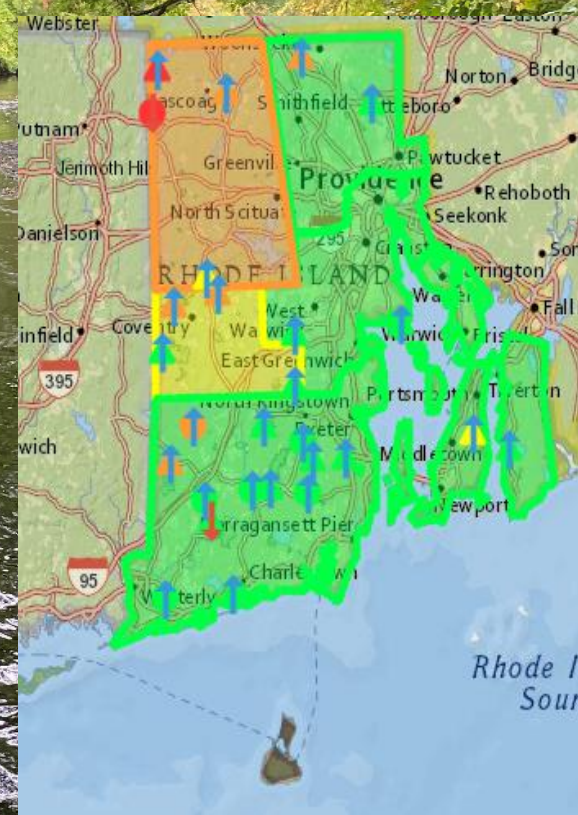
October 2024



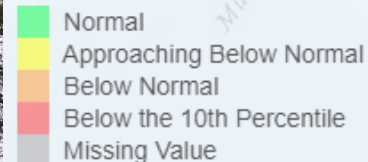
November 2024



December 2024



Normal is 25th to 75th percentile



Average Monthly Groundwater Conditions June – December

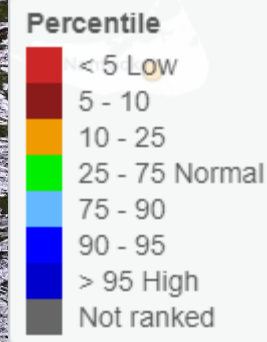
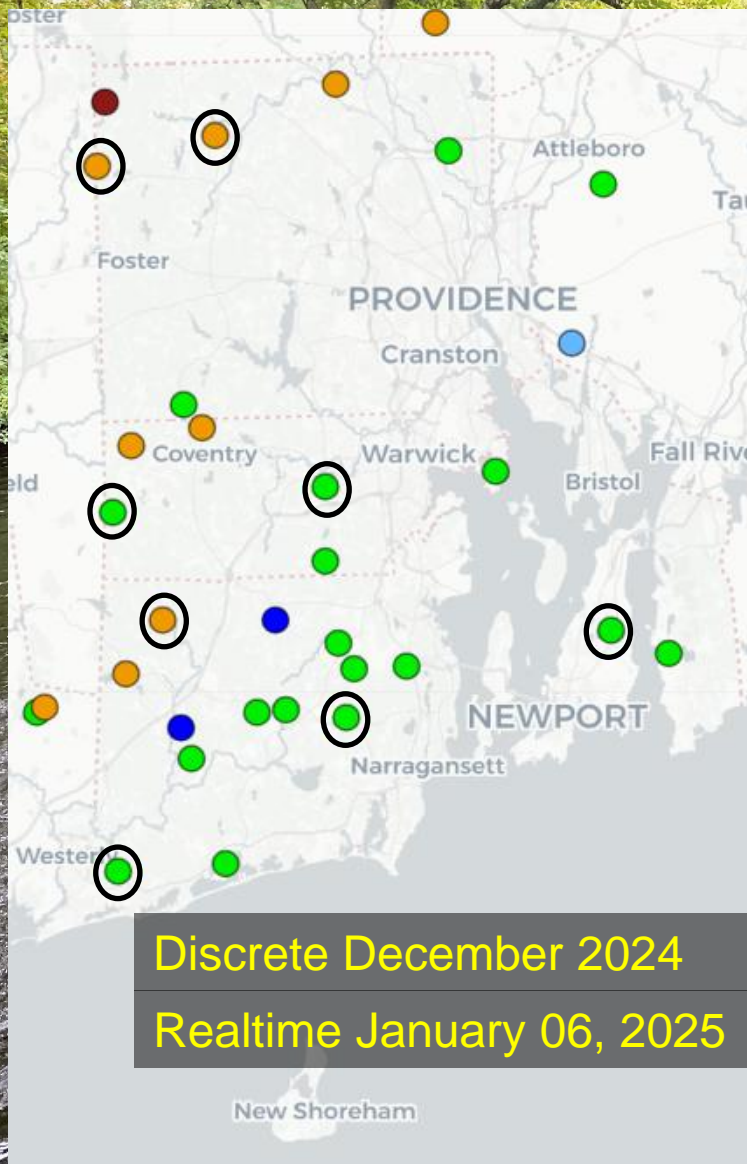
Region & Num of Gages	GW 6/2024	GW 7/2024	GW 8/2024	GW 9/2024	GW 10/2024	GW 11/2024	GW 12/2024
Northwest (4)	60	67	52	38	24	10	16
Northeast (2)	50	43	46	29	12	3	38
Central West (4)	83	89	82	53	28	14	28
Central East (2)	69	68	75	55	38	18	42
Eastern (2)	55	69	73	53	30	12	38
Southern (13)	74	74	81	68	51	36	54
New Shoreham (0)							
Statewide (27)	70	69	73	56	38	15	41

Groundwater = Advisory (Two out of three months below normal)



****Disclaimer:** Pvsional numbers for November are derived from median based percentiles, not averages.

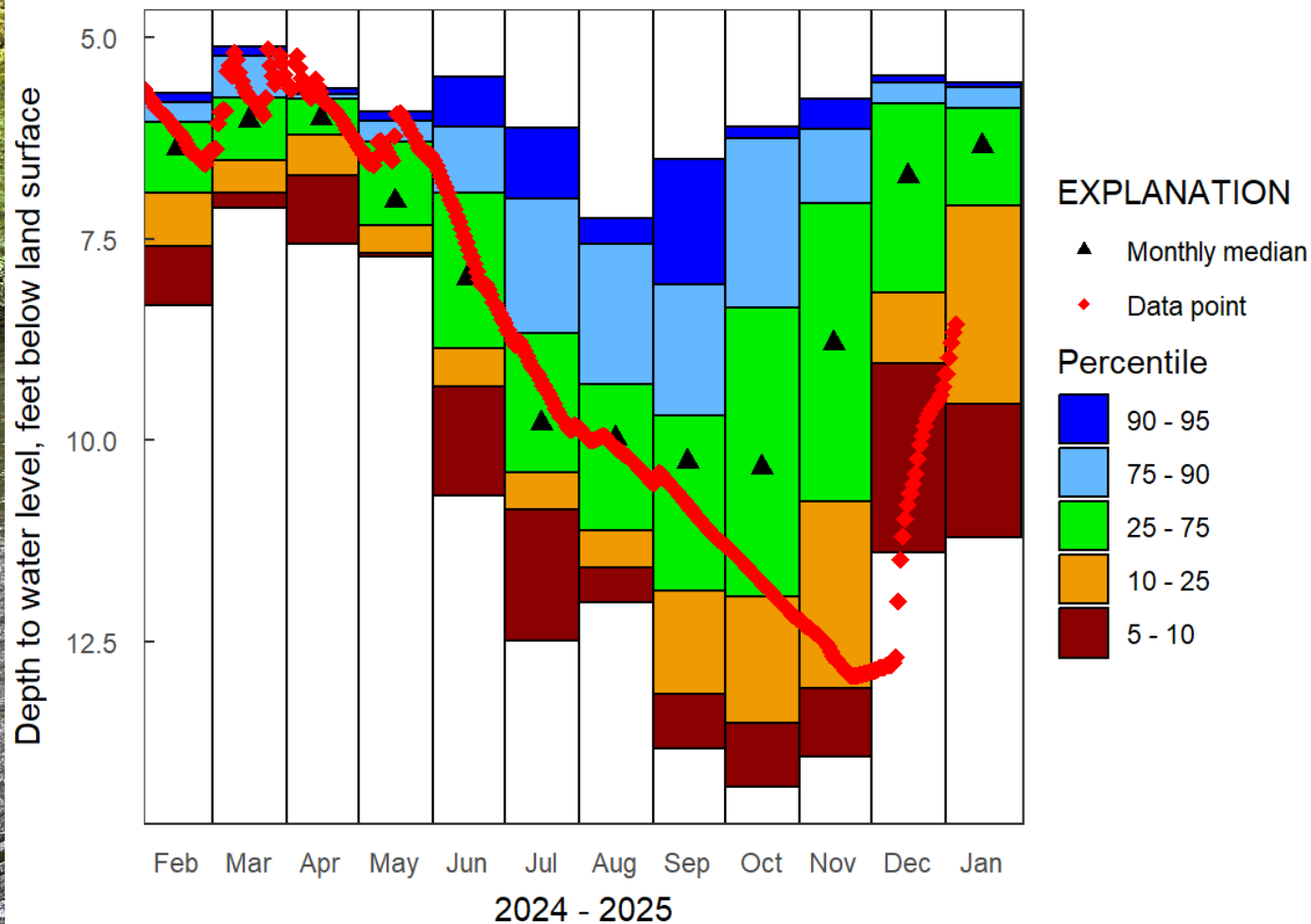
Current Groundwater Conditions



Northwest

415546071474701 RI-BUW 395 BURRILLVILLE, RI

U.S. Geological Survey

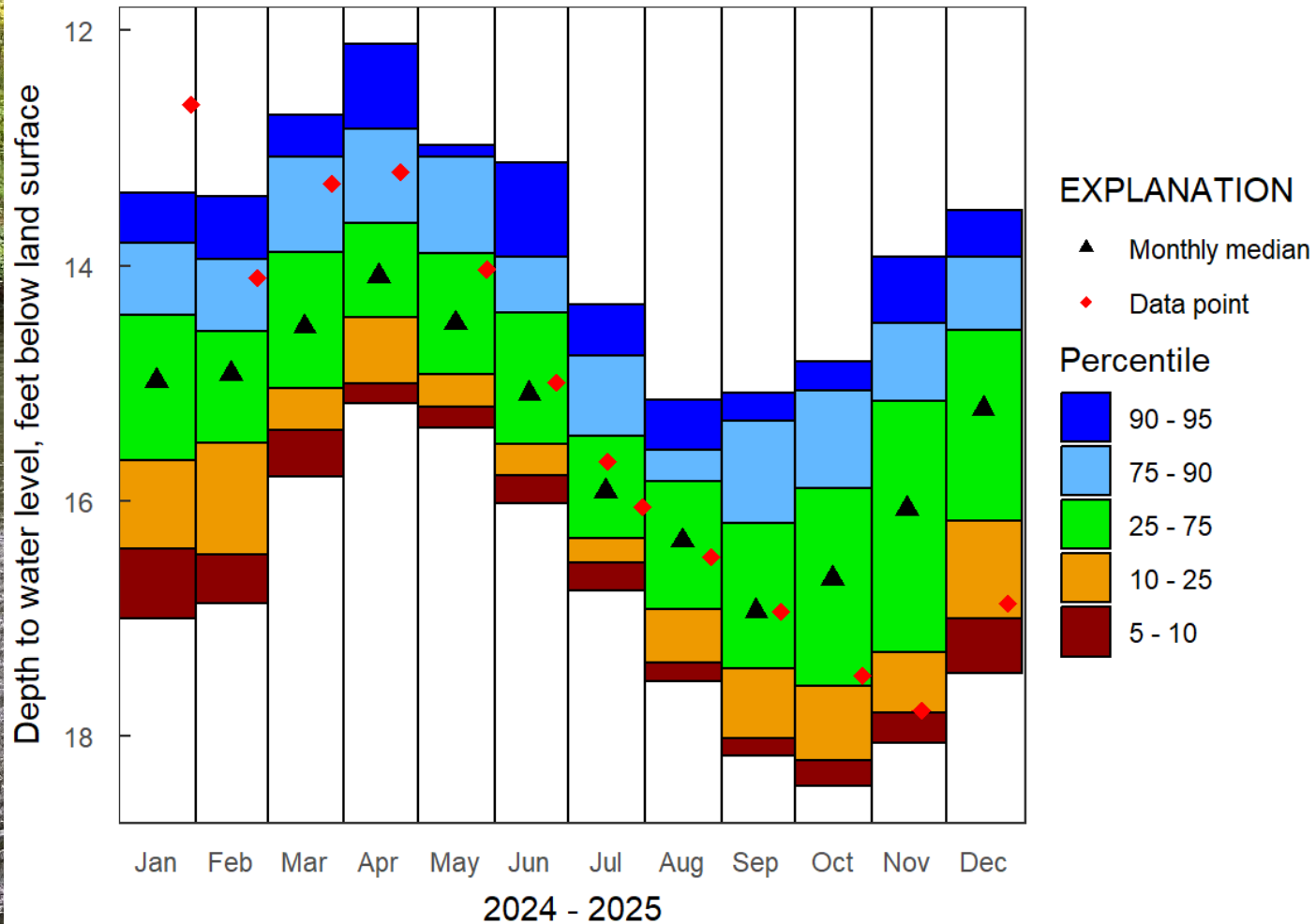


Plot created: 2025-01-06

Northwest

415710071402201 RI-BUW 187

U.S. Geological Survey

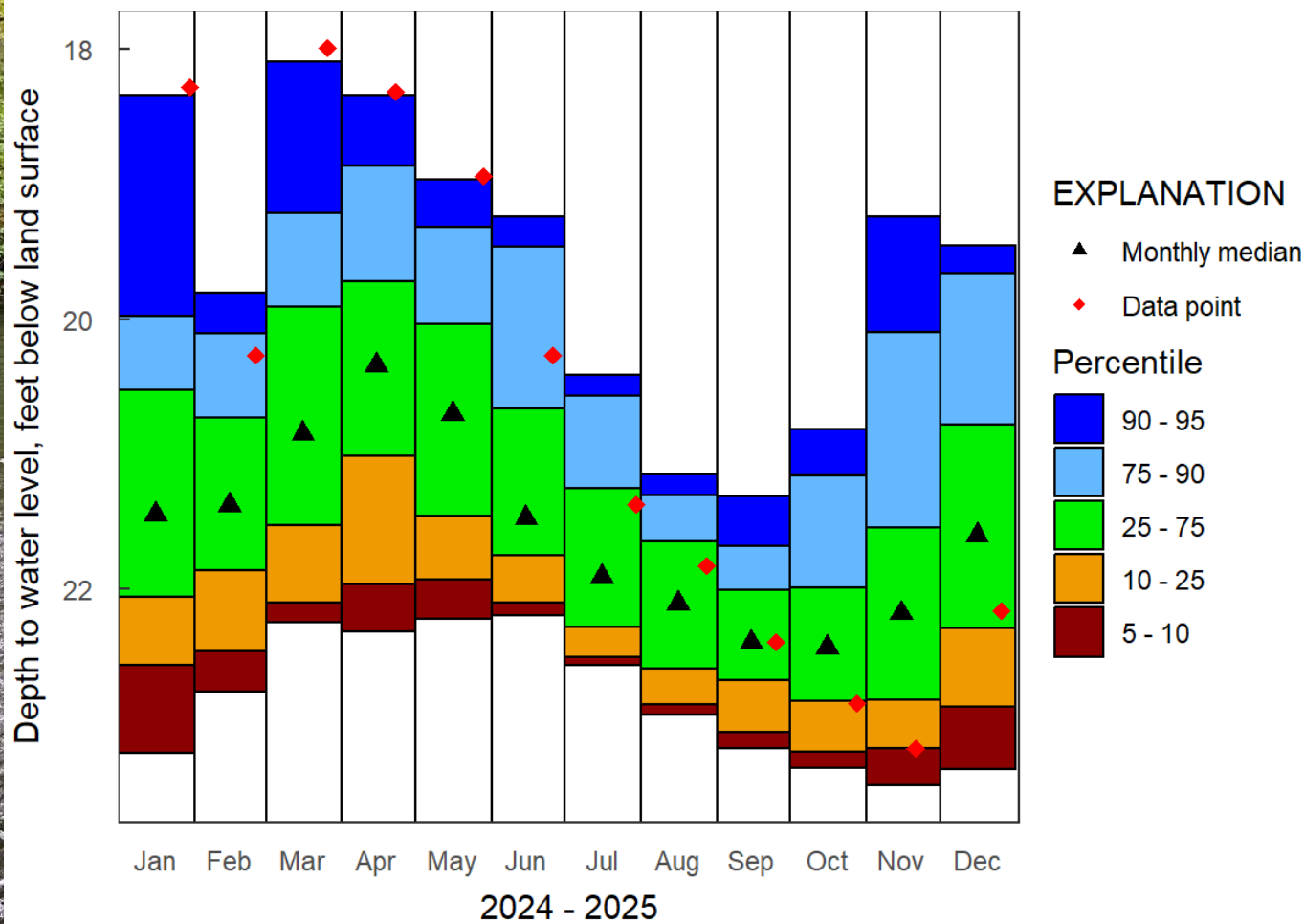


Plot created: 2025-01-06

Central East

414022071332801 RI-COW 411

U.S. Geological Survey

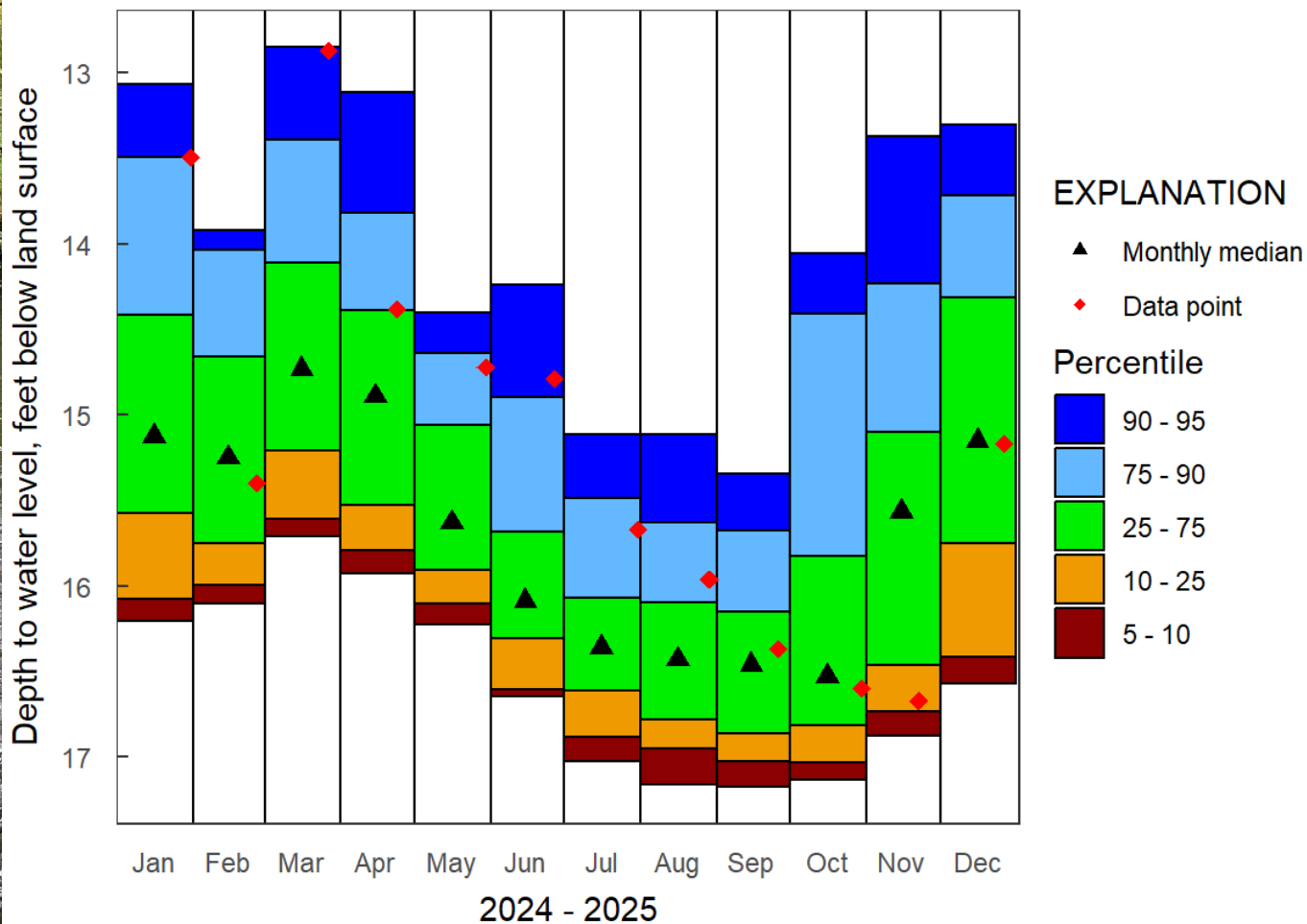


Plot created: 2025-01-06

Central West

413907071465001 RI-WGW 181

U.S. Geological Survey

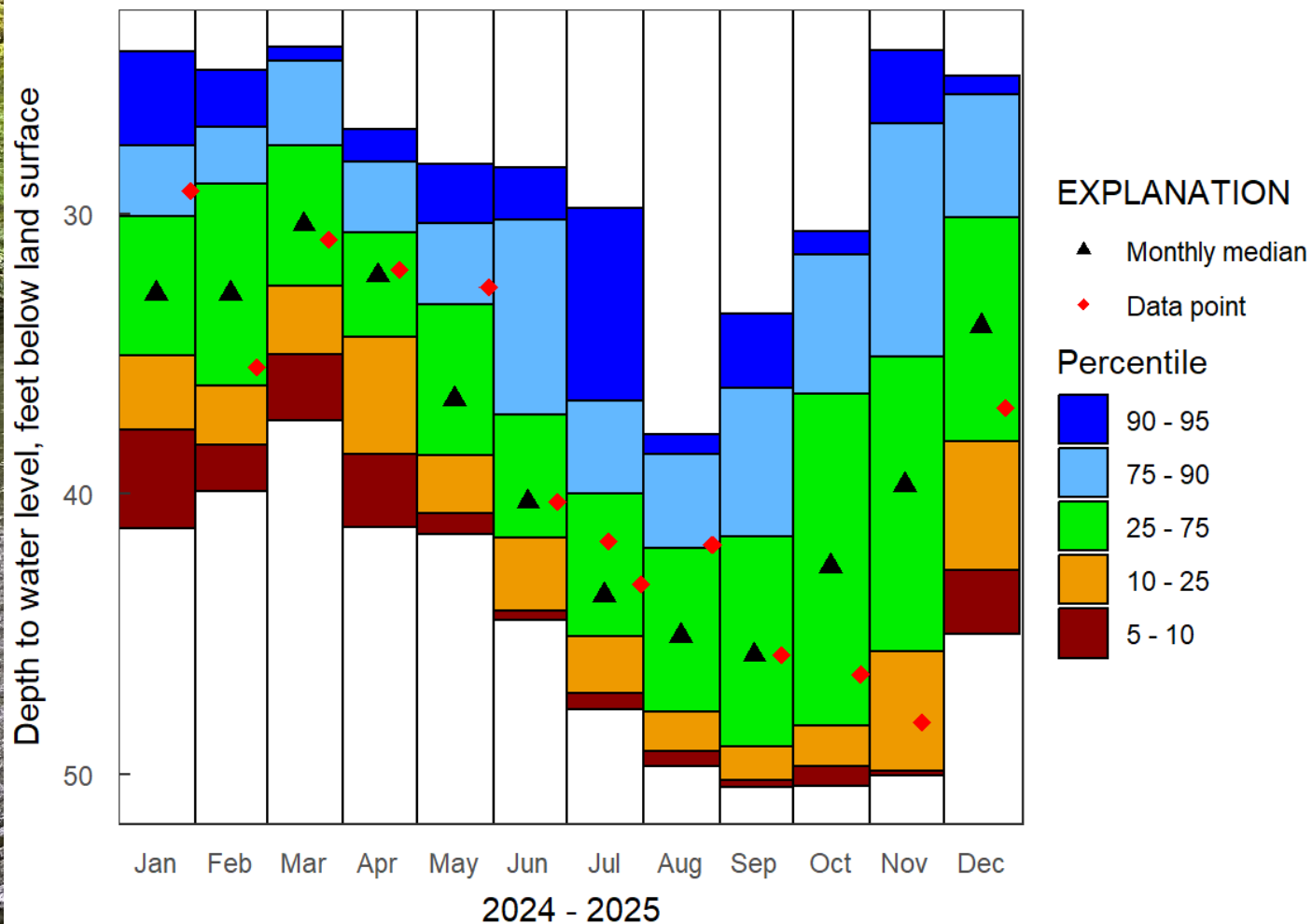


Plot created: 2025-01-06

Eastern

413325071152401 RI-POW 551

U.S. Geological Survey

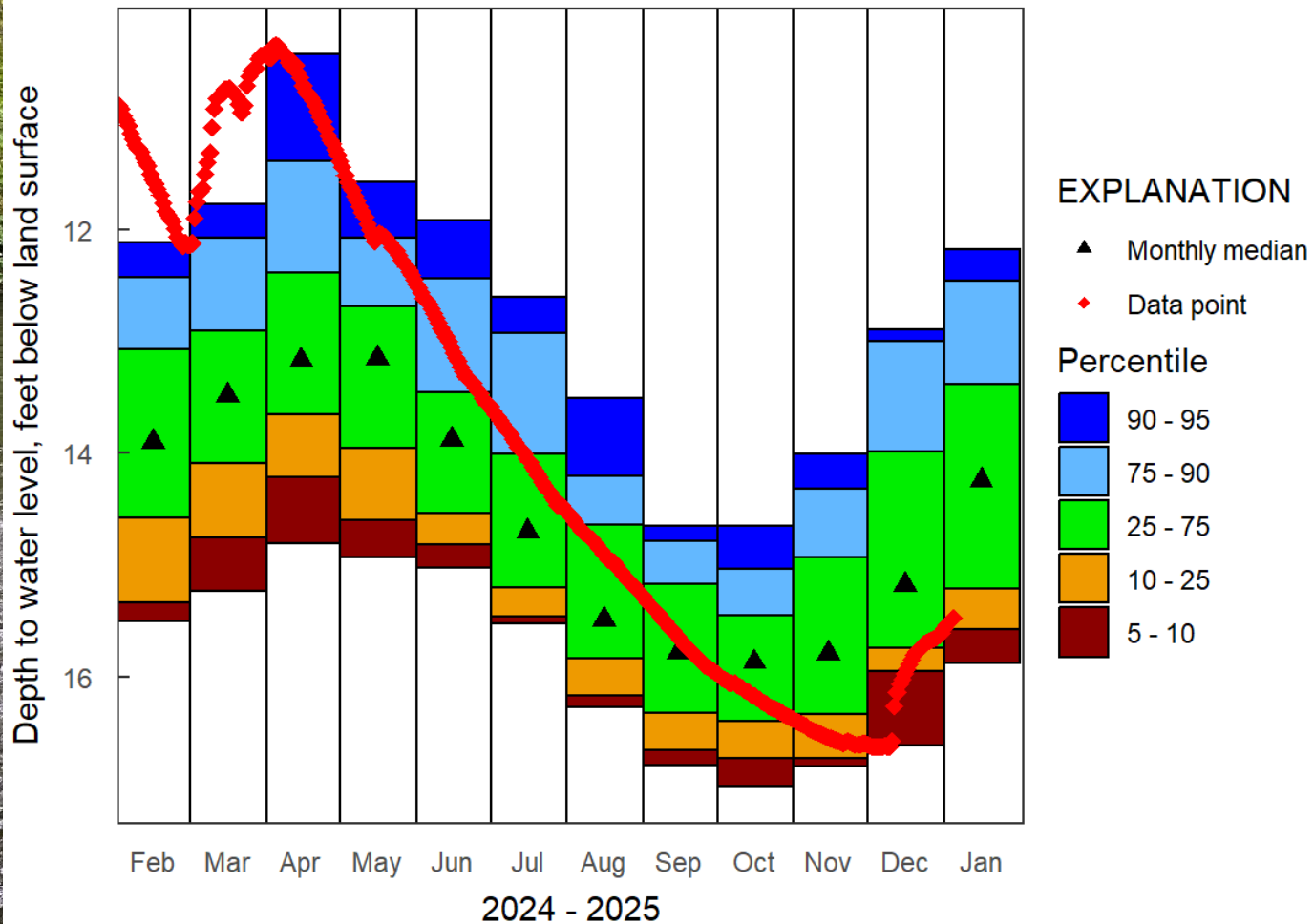


Plot created: 2025-01-06

Southern

413358071433801 RI-EXW 475 EXETER, RI

U.S. Geological Survey

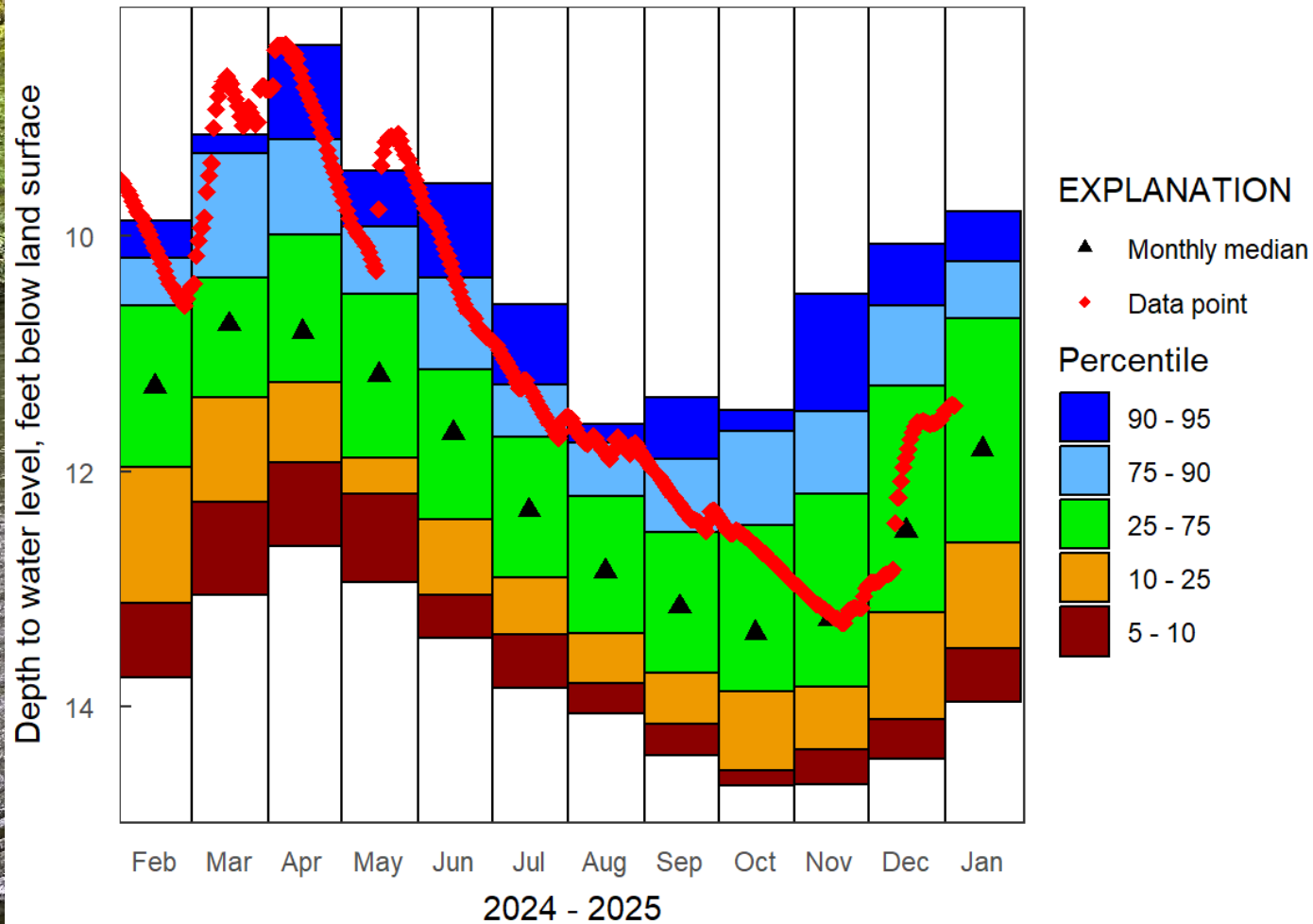


Plot created: 2025-01-06

Southern

412918071321001 RI-SNW 6 SOUTH KINGSTOWN, RI

U.S. Geological Survey

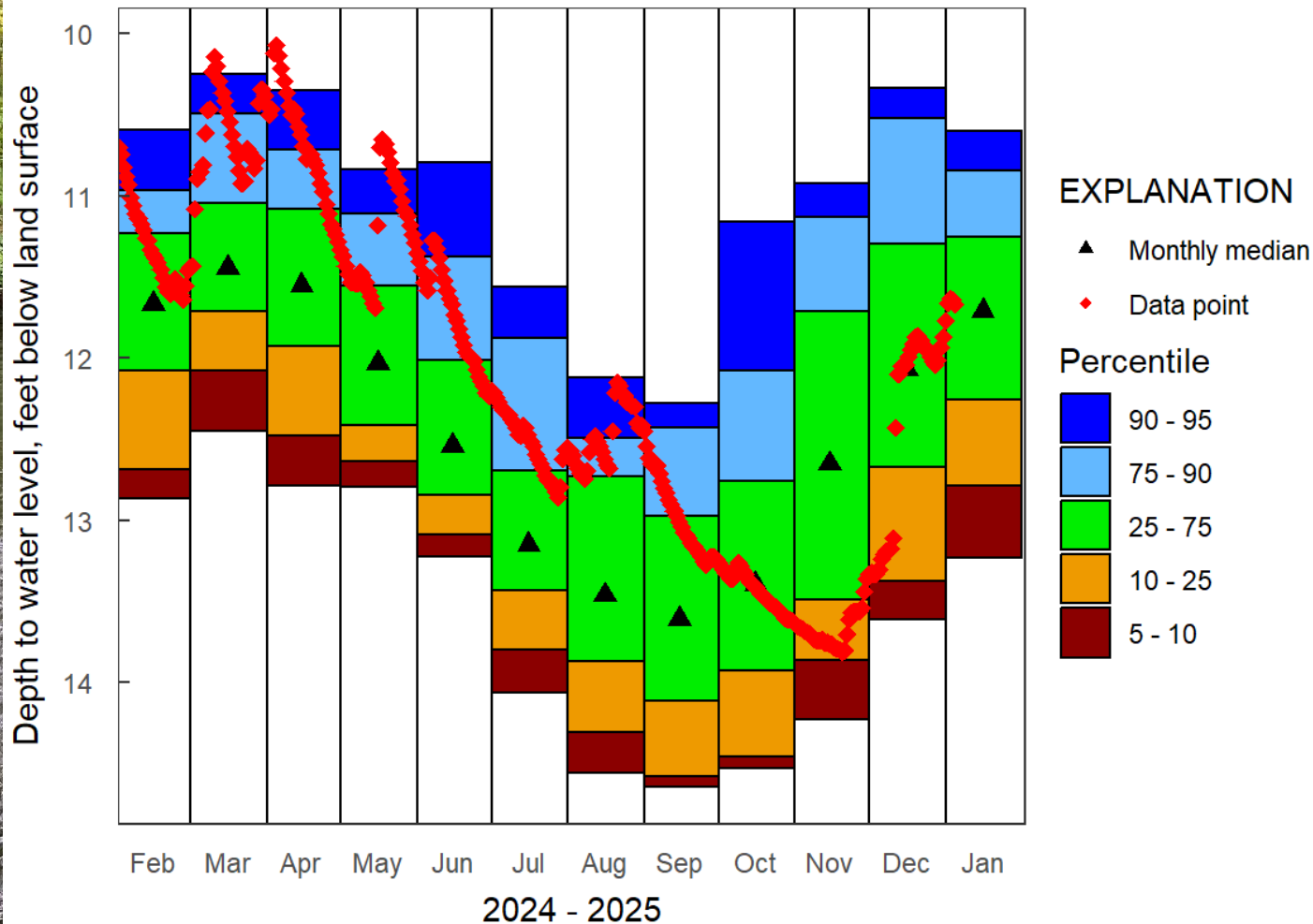


Plot created: 2025-01-06

Southern

412154071462901 RI-WEW 522 WESTERLY, RI

U.S. Geological Survey



Plot created: 2025-01-06

Table 4
Returning to Normal

Current Drought Phase	Next Drought Phase	Reduce Drought Phase by one category
Emergency	Emergency-continued below normal conditions	Groundwater levels at or above normal and no precipitation deficit for past 3 months; and/or water resource problems which prompted the emergency have abated
Warning	Emergency-worsening conditions or continued below normal conditions	2 consecutive months of groundwater levels at or above normal and near normal precipitation for past 6 months
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Groundwater - Recap

- Return to normal based on State Guide Plan
 - Drought recovery criteria 2 consecutive months at or above normal.
 - 2 month summary state averages - 1 month at or above normal
 - November 15%
 - December 41%
 - Northern regions have experienced less recovery.
 - November 7%
 - December 27%



Questions?