

Streamflow and Groundwater Conditions in Rhode Island February 2025– April 2025

Chris Bruet
May 14, 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

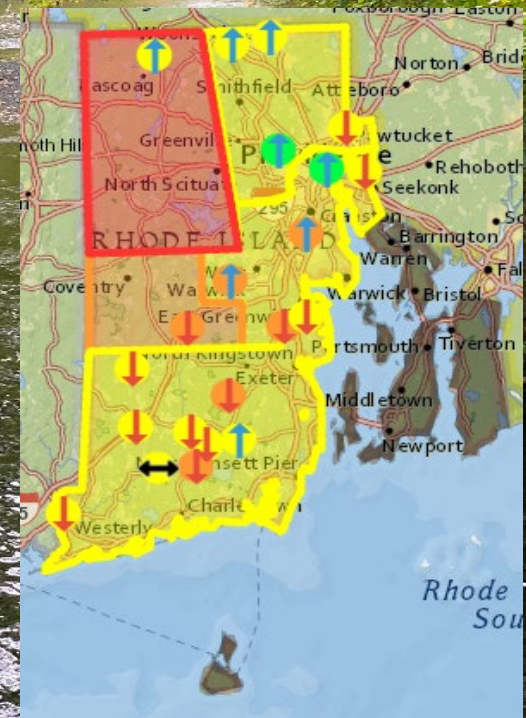
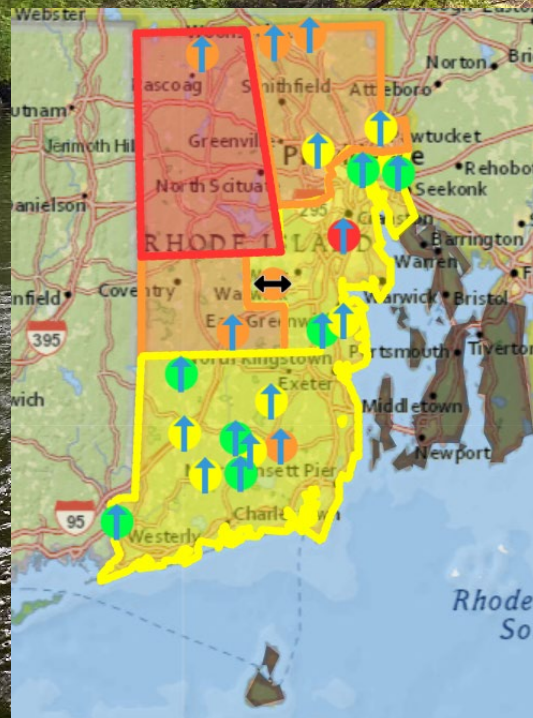
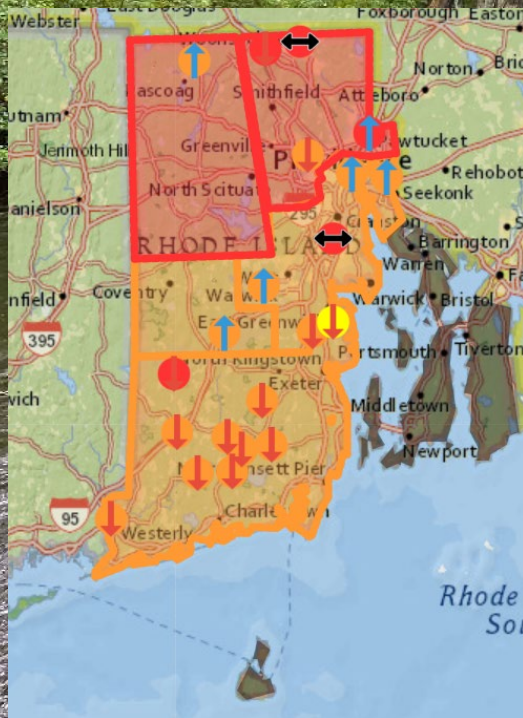
Current Drought Phase	Next Drought Phase	Reduce Drought Phase by one category
Emergency	Emergency-continued below normal conditions	Groundwater levels at or above normal and no precipitation deficit for past 3 months; and/or water resource problems which prompted the emergency have abated
Warning	Emergency-worsening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

February 2025

March 2025

April 2025



	>35% Normal
	25%-35% Approaching Below Normal

	10%-25% Below Normal
	10th Percentile



Average Monthly Streamflow Conditions June 2024 – Jan 2025

Region & Num of Gages	Q 10/2024	Q 11/2024	Q 12/2024	Q 01/2025	Q 02/2025	Q 03/2025	Q 04/2025
North West (1)	5	2	10	3	10	16	34
North East (4)	10	8	27	8	9	24	32
Central West (1)	19	11	41	14	16	24	18
Central East (4)	9	4	23	6	15	25	26
Eastern (0)							
Southern (11)	31	12	43	27	15	31	26
New Shoreham (0)							
Statewide (21)	21	9	32	17	14	29	27

Streamflow =

Watch: 4 out of 5 consecutive months below normal

Warning: 6 out of 7 consecutive months below normal

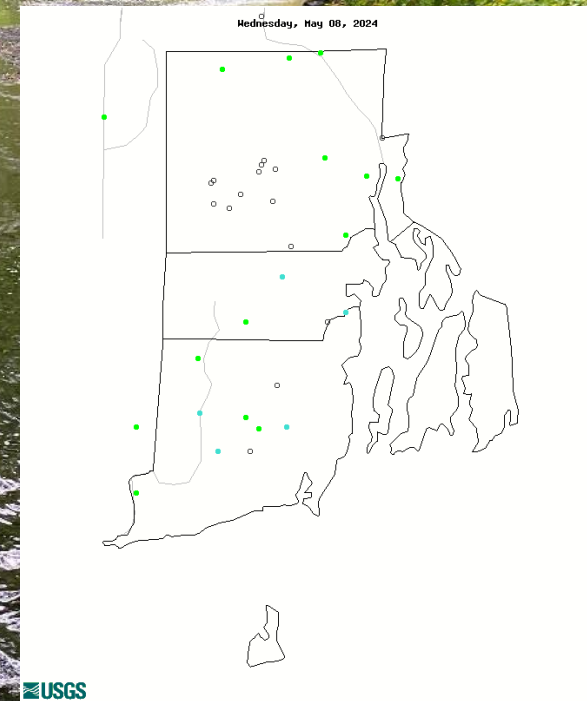
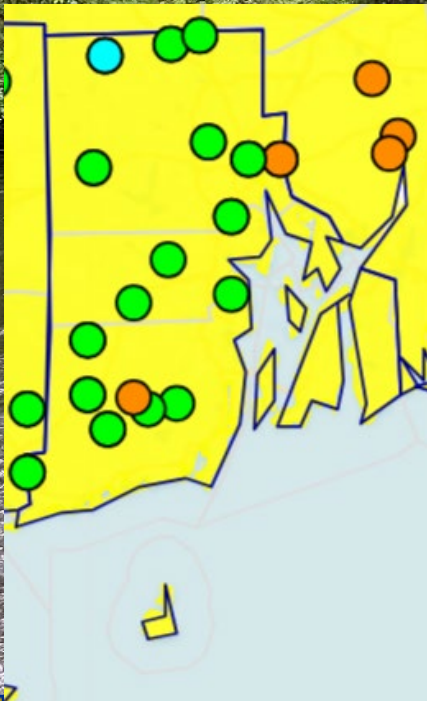


7, 14, 28 - Day Maps (May 8)

7 Day
May 1

14 day
April 24

28 day
April 9



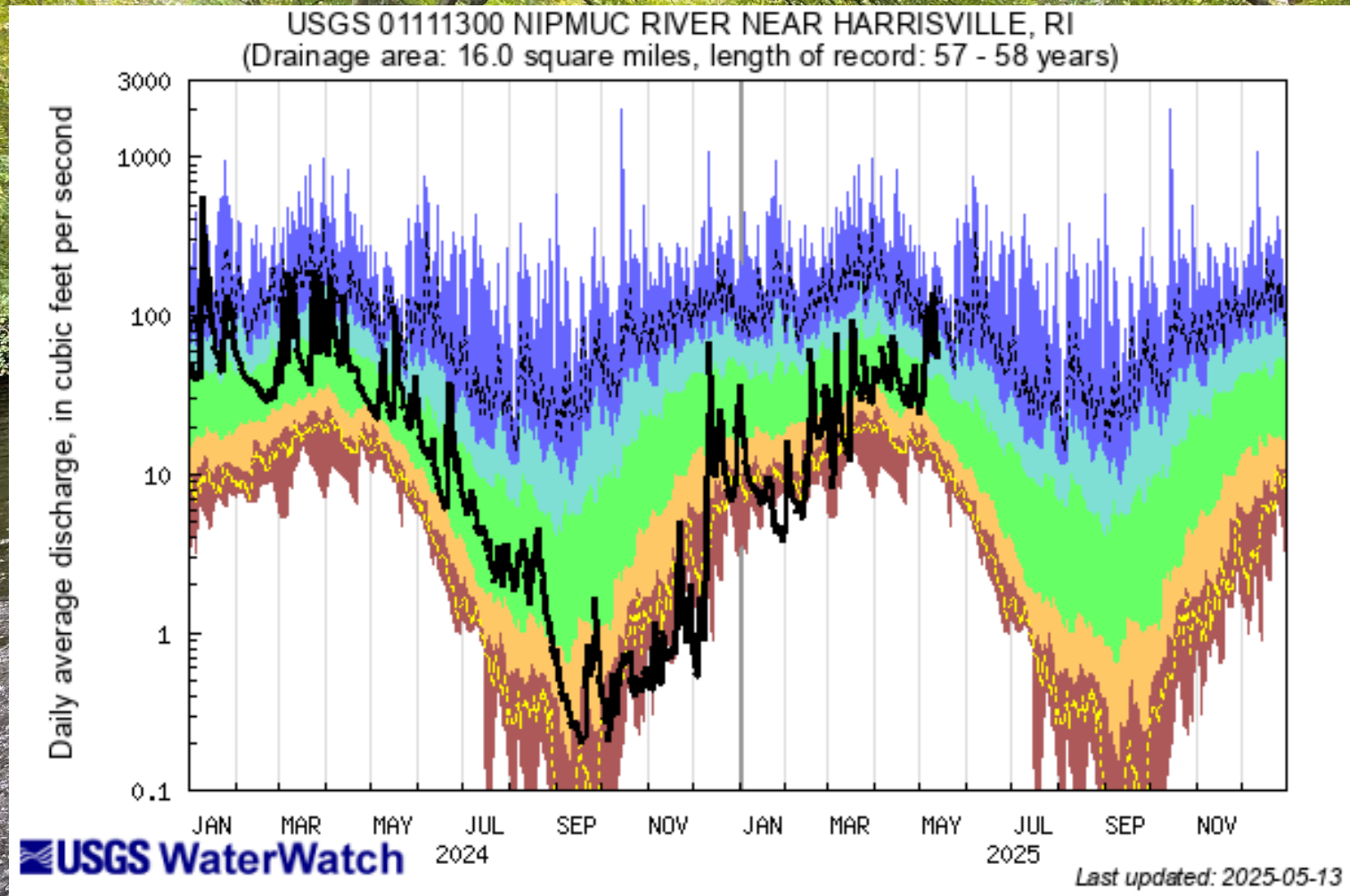
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	








Current Streamflow Conditions – May 08, 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	

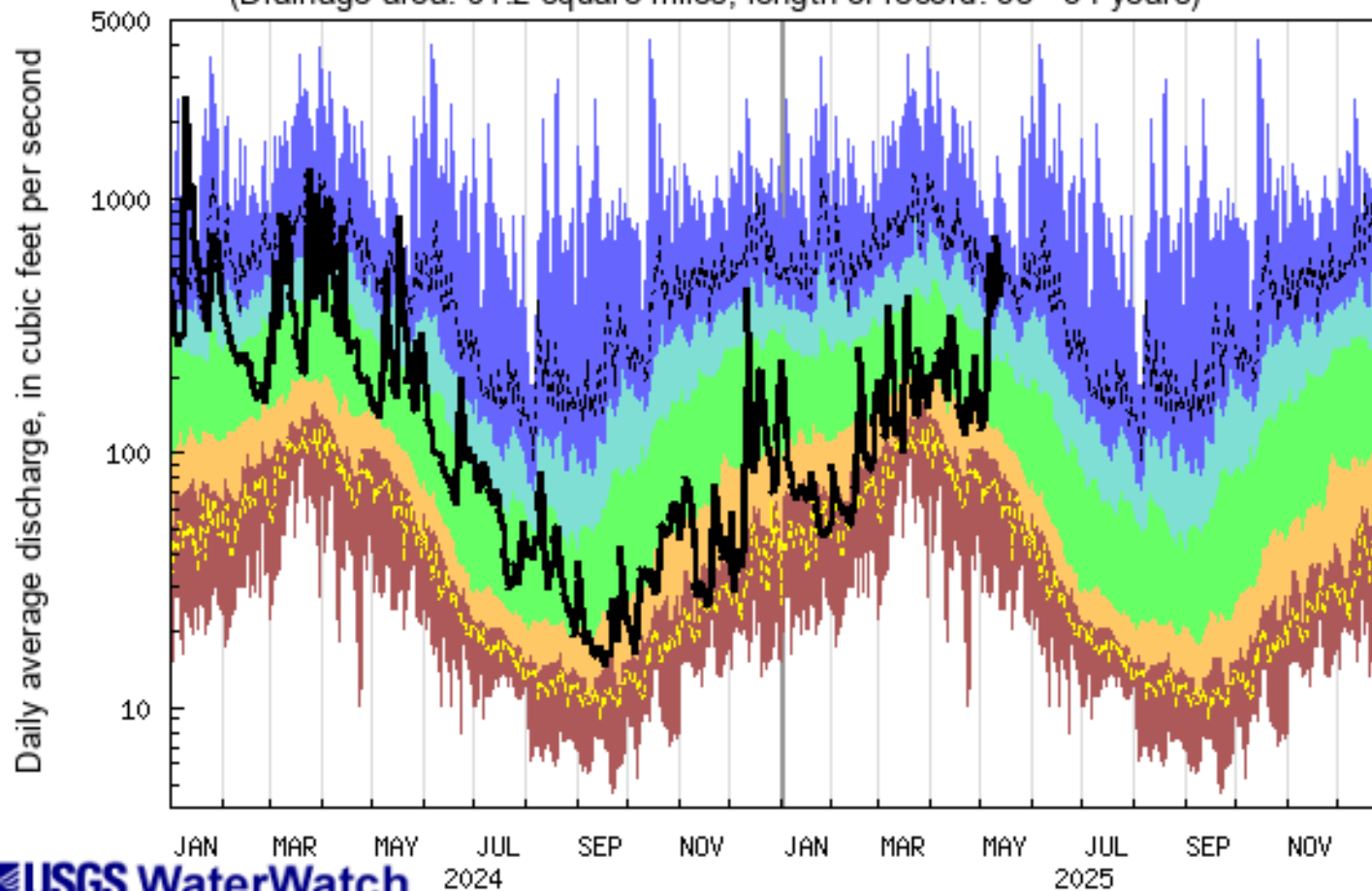
Northwest



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

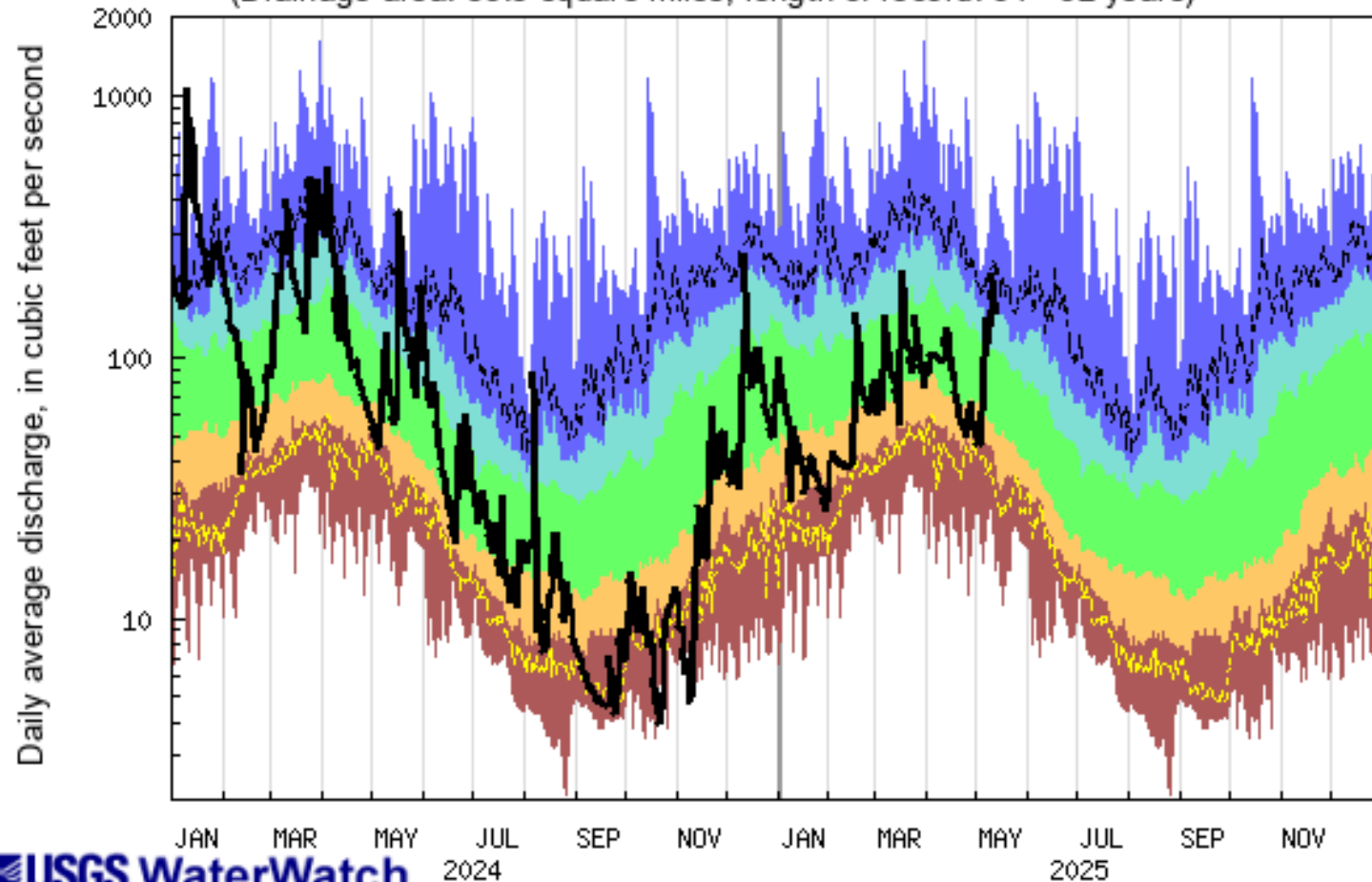
USGS 01111500 BRANCH RIVER AT FORESTDALE, RI
(Drainage area: 91.2 square miles, length of record: 83 - 84 years)










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

Northeast

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

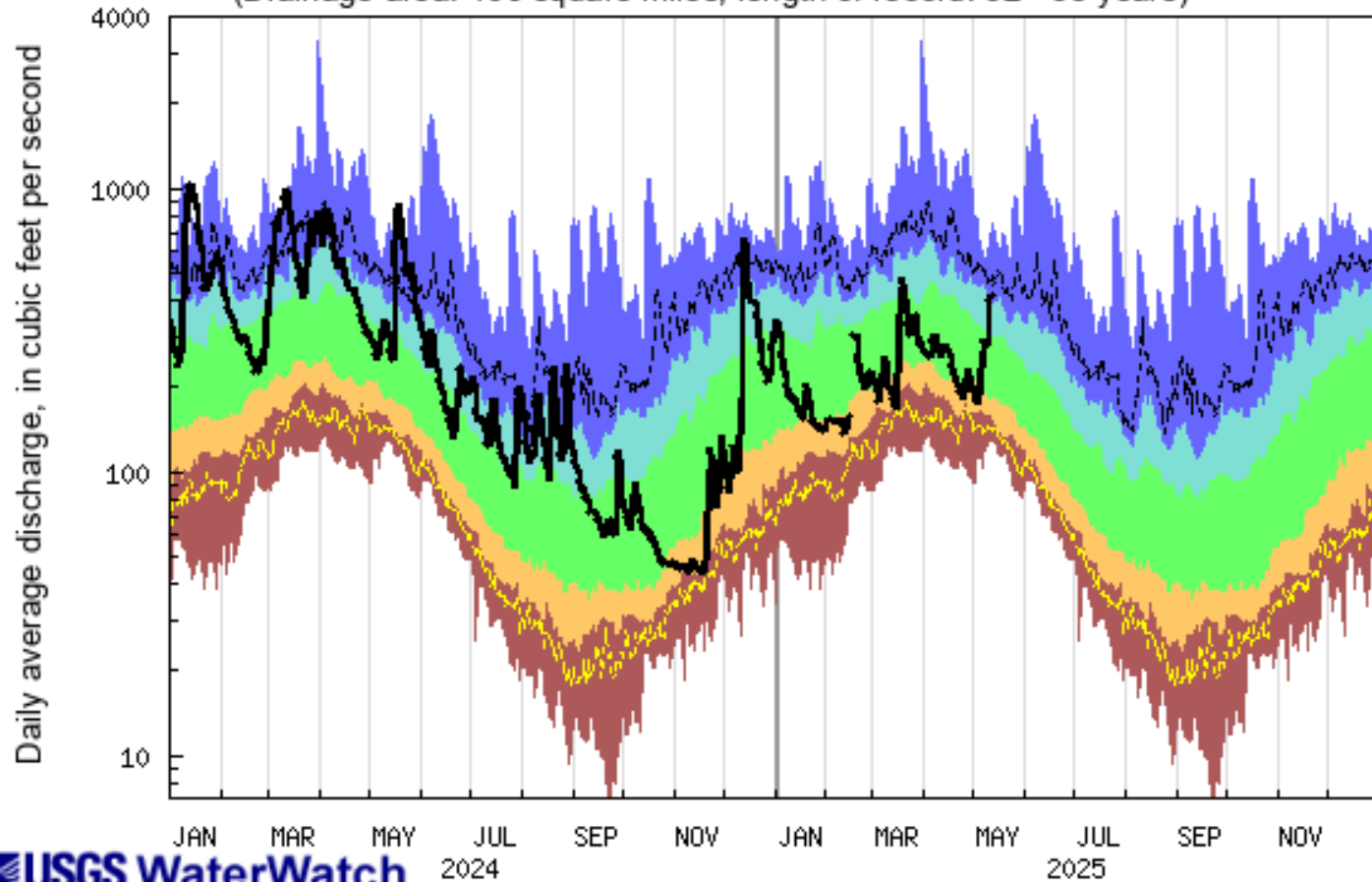


Explanation - Percentile classes

							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		

Southern

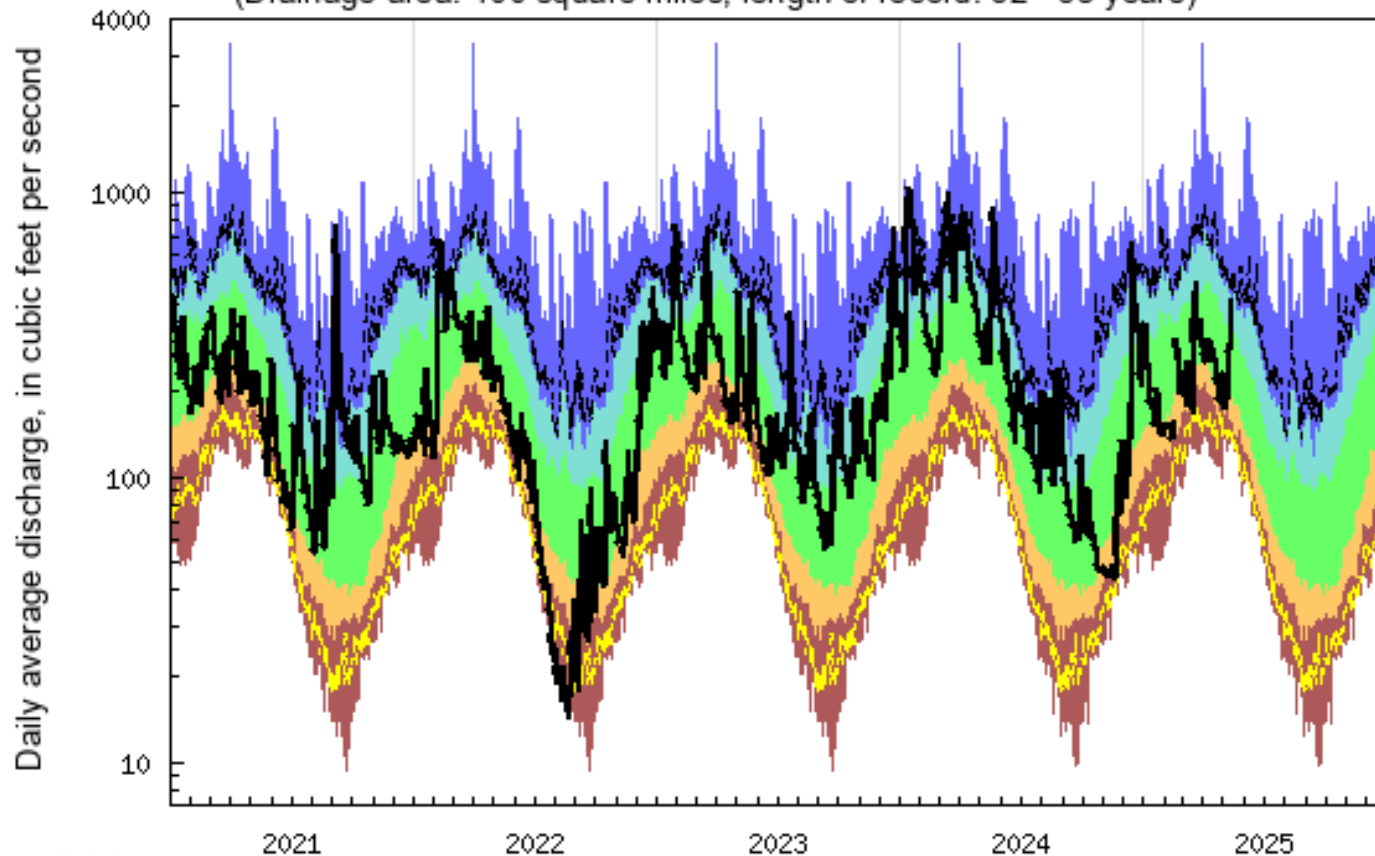
USGS 01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI
(Drainage area: 100 square miles, length of record: 82 - 83 years)



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

USGS 01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI
(Drainage area: 100 square miles, length of record: 82 - 83 years)



USGS WaterWatch

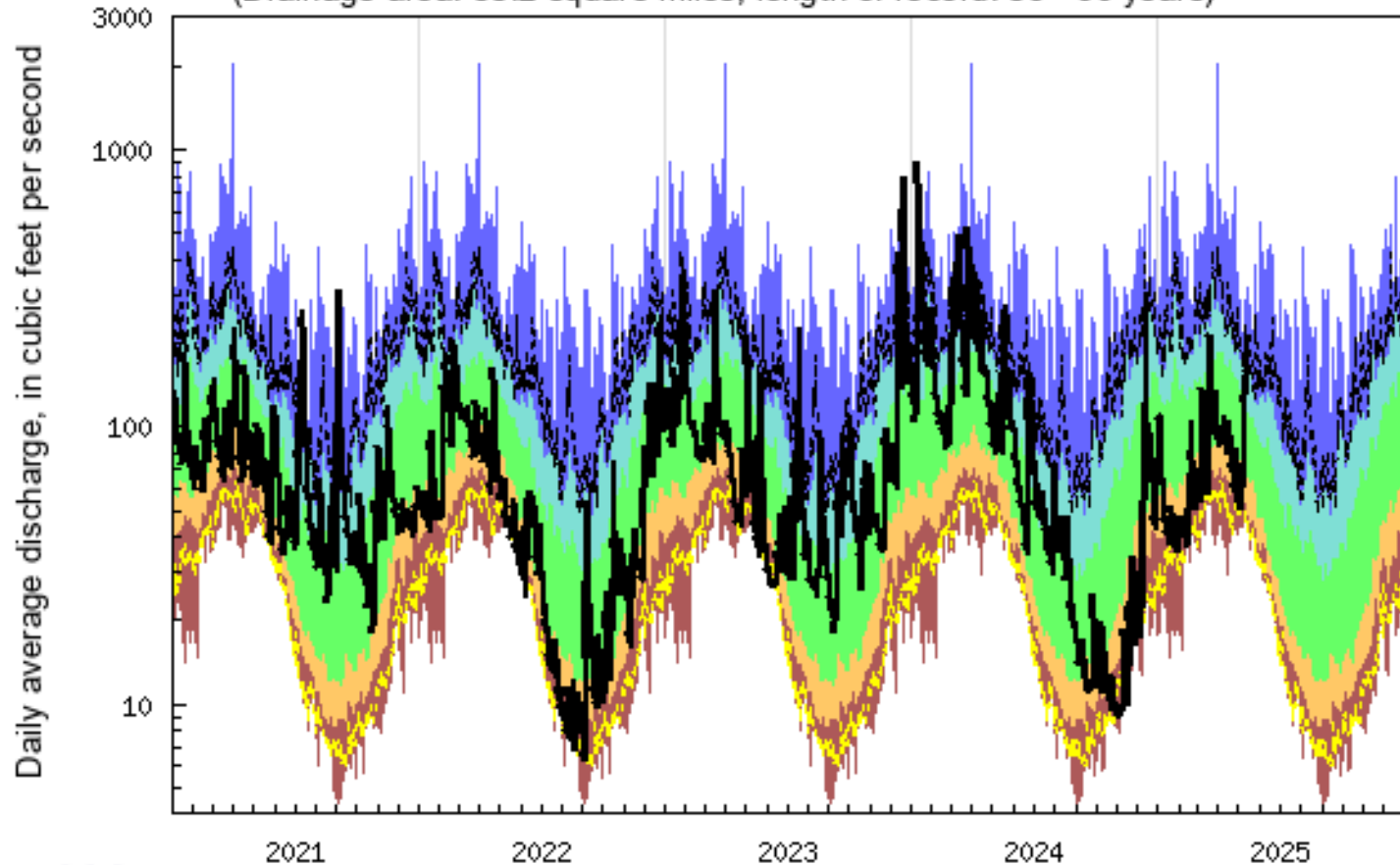
Last updated: 2025-05-13

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

USGS 0117800 WOOD RIVER NEAR ARCADIA, RI
(Drainage area: 35.2 square miles, length of record: 59 - 60 years)



USGS WaterWatch

Last updated: 2025-05-13

Explanation - Percentile classes

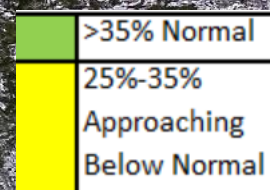
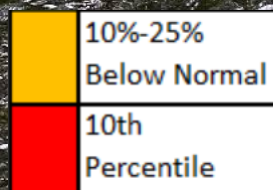
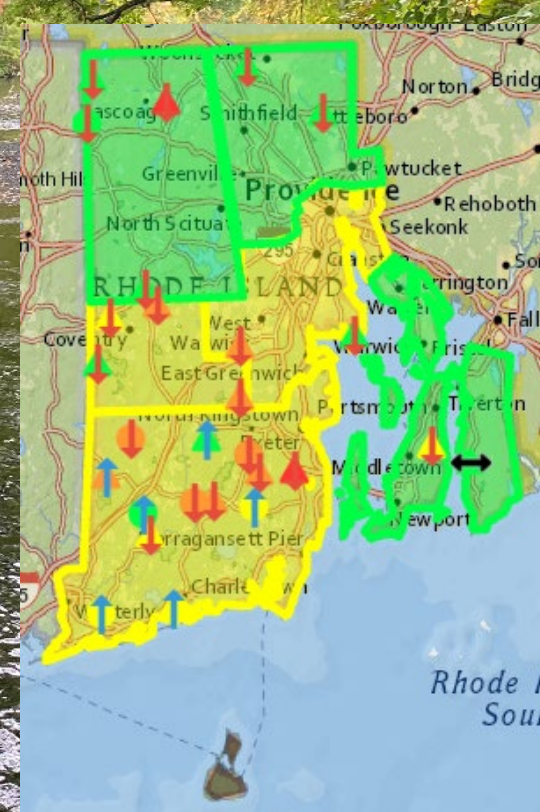
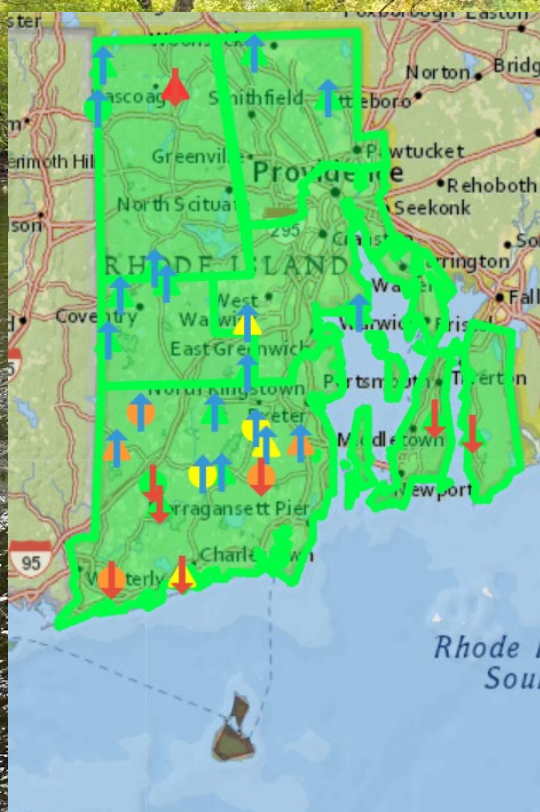
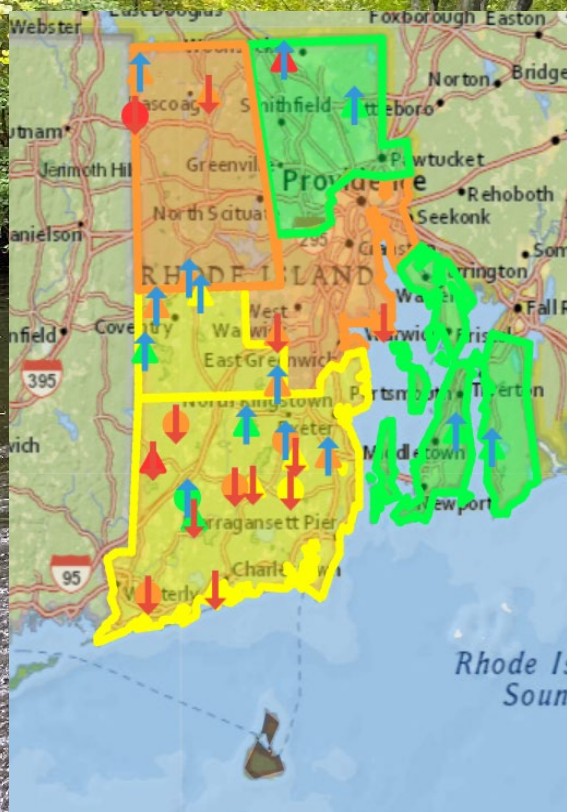
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal			

Groundwater Conditions

February 2025

March 2025

April 2025



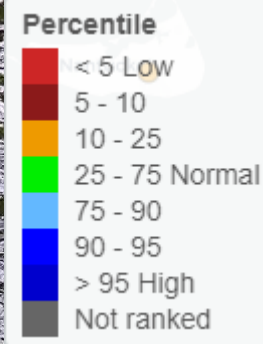
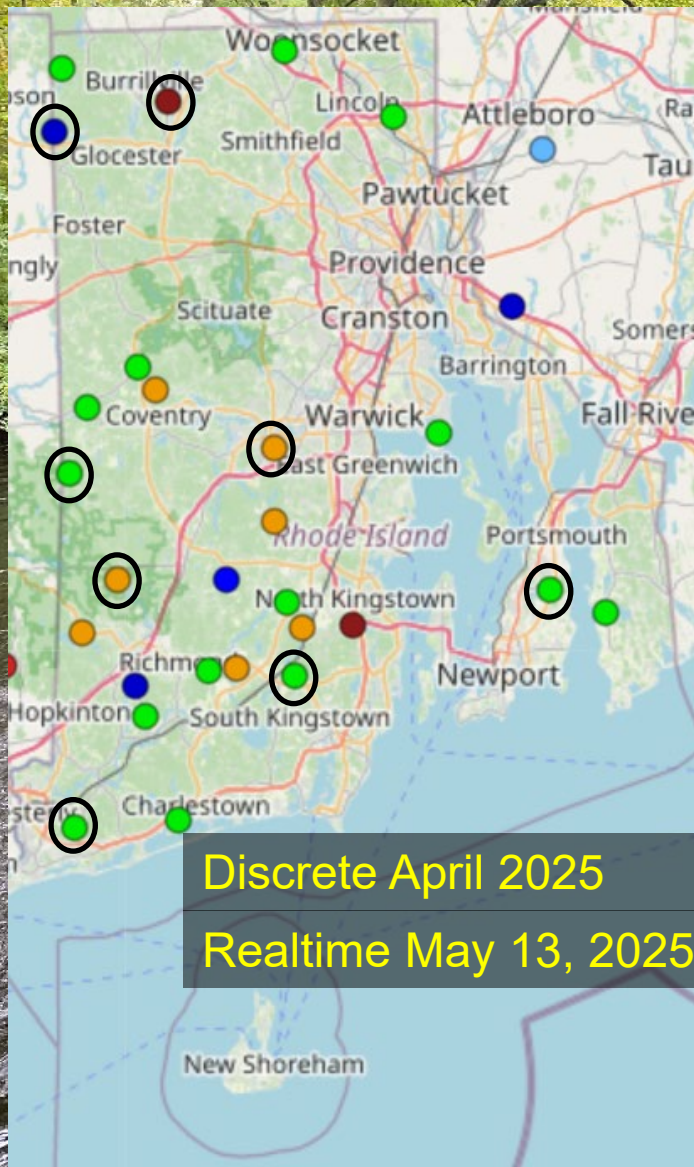
Average Monthly Groundwater Conditions June – December

Region & Num of Gages	GW 10/2024	GW 11/2024	GW 12/2024	GW 01/2025	GW 02/2025	GW 03/2025	GW 04/2025
North West (4)	24	10	16	11	14	53	39
North East (2)	12	3	38	26	42	64	48
Central West (4)	28	12	28	10	26	64	26
Central East (2)	38	17	42	19	17	51	32
Eastern (2)	30	14	38	17	72	39	37
Southern (13)	51	36	54	38	34	35	31
New Shoreham (0)							
Statewide (27)	38	15	41	26	32	46	33

Groundwater = Recovery (Two consecutive months normal)
Watch: 4 out of 5 consecutive months below normal



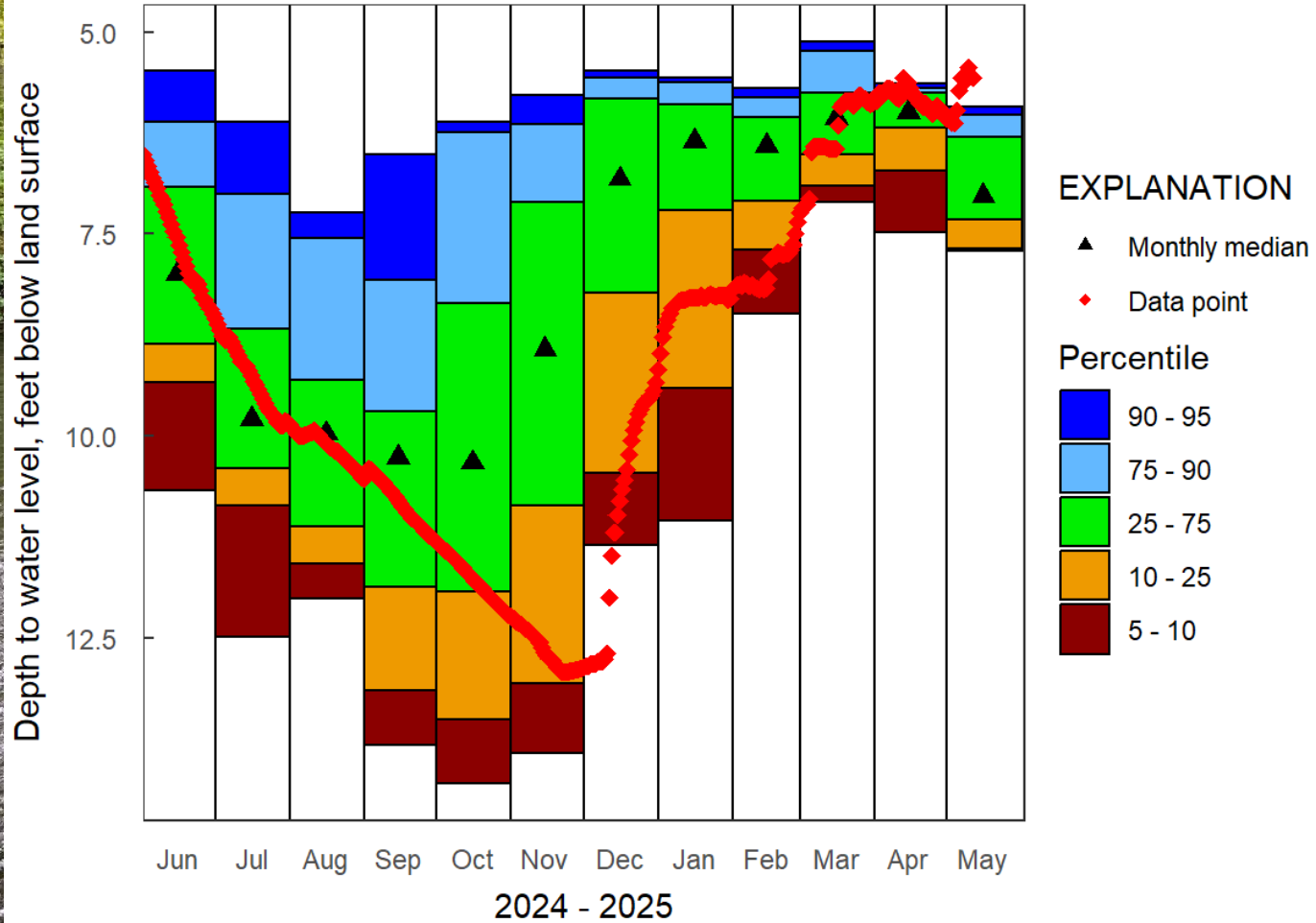
Current Groundwater Conditions



Northwest

415546071474701 RI-BUW 395 BURRILLVILLE, RI

U.S. Geological Survey

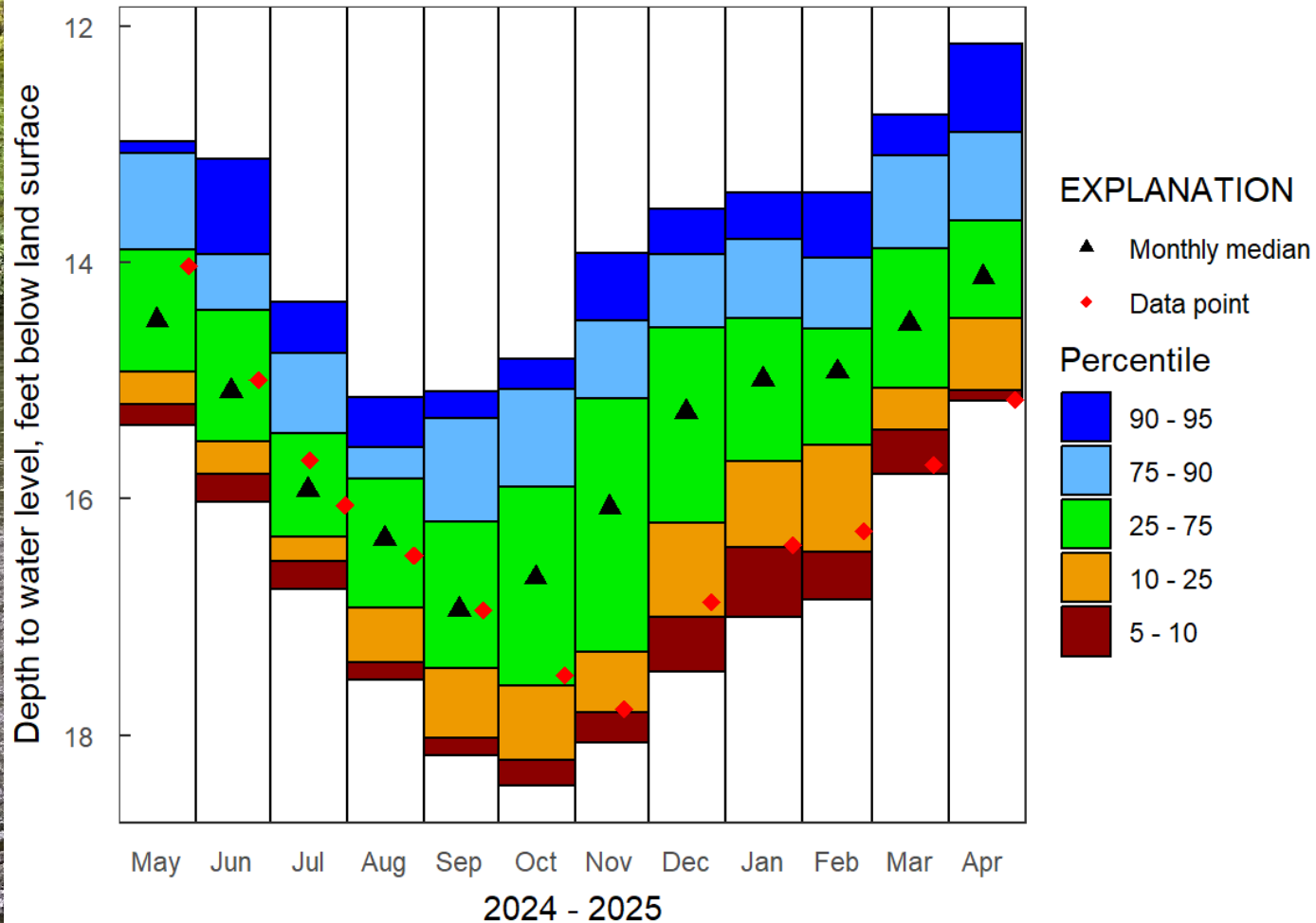


Plot created: 2025-05-13

Northwest

415710071402201 RI-BUW 187

U.S. Geological Survey

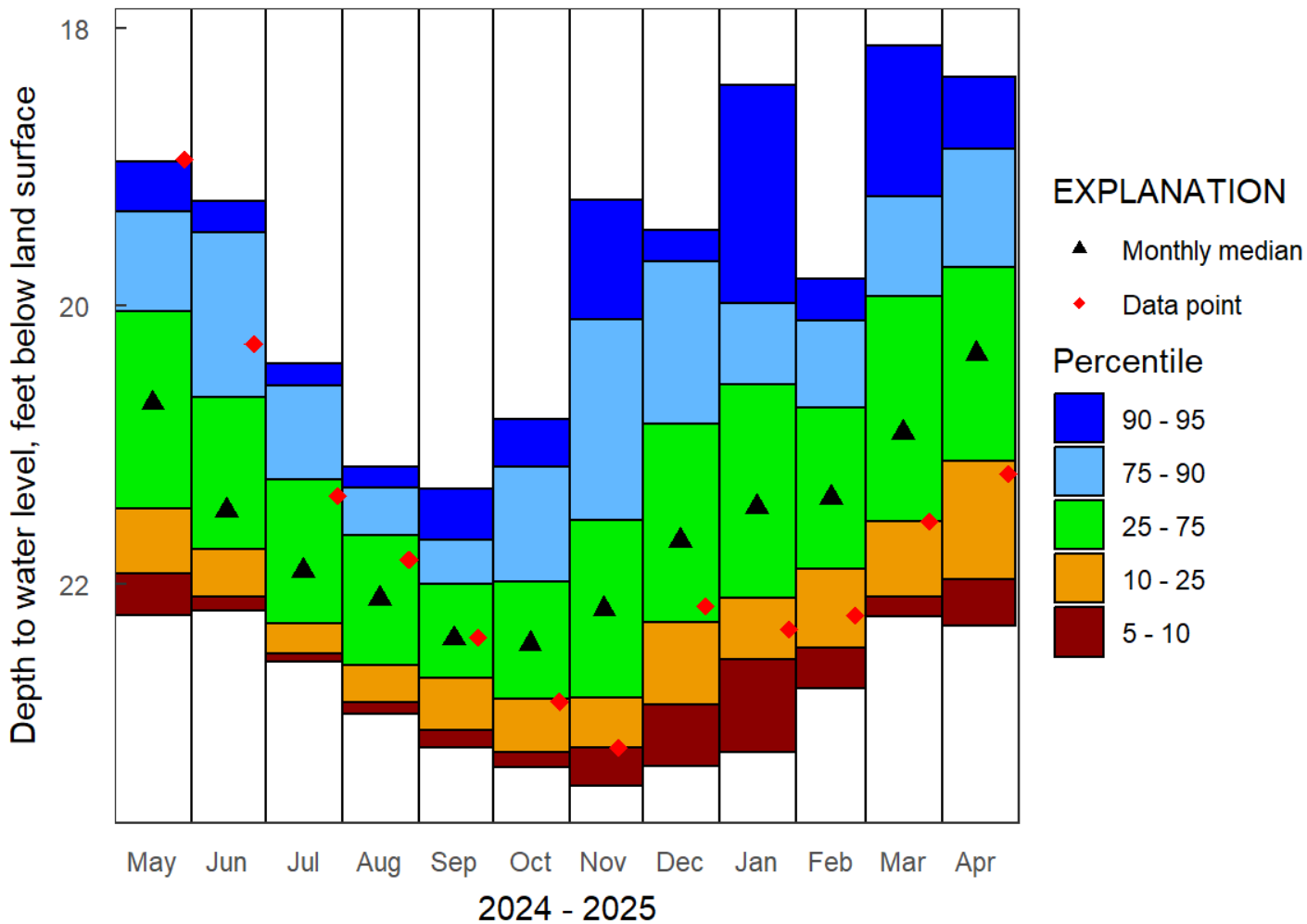


Plot created: 2025-05-13

Central East

414022071332801 RI-COW 411

U.S. Geological Survey

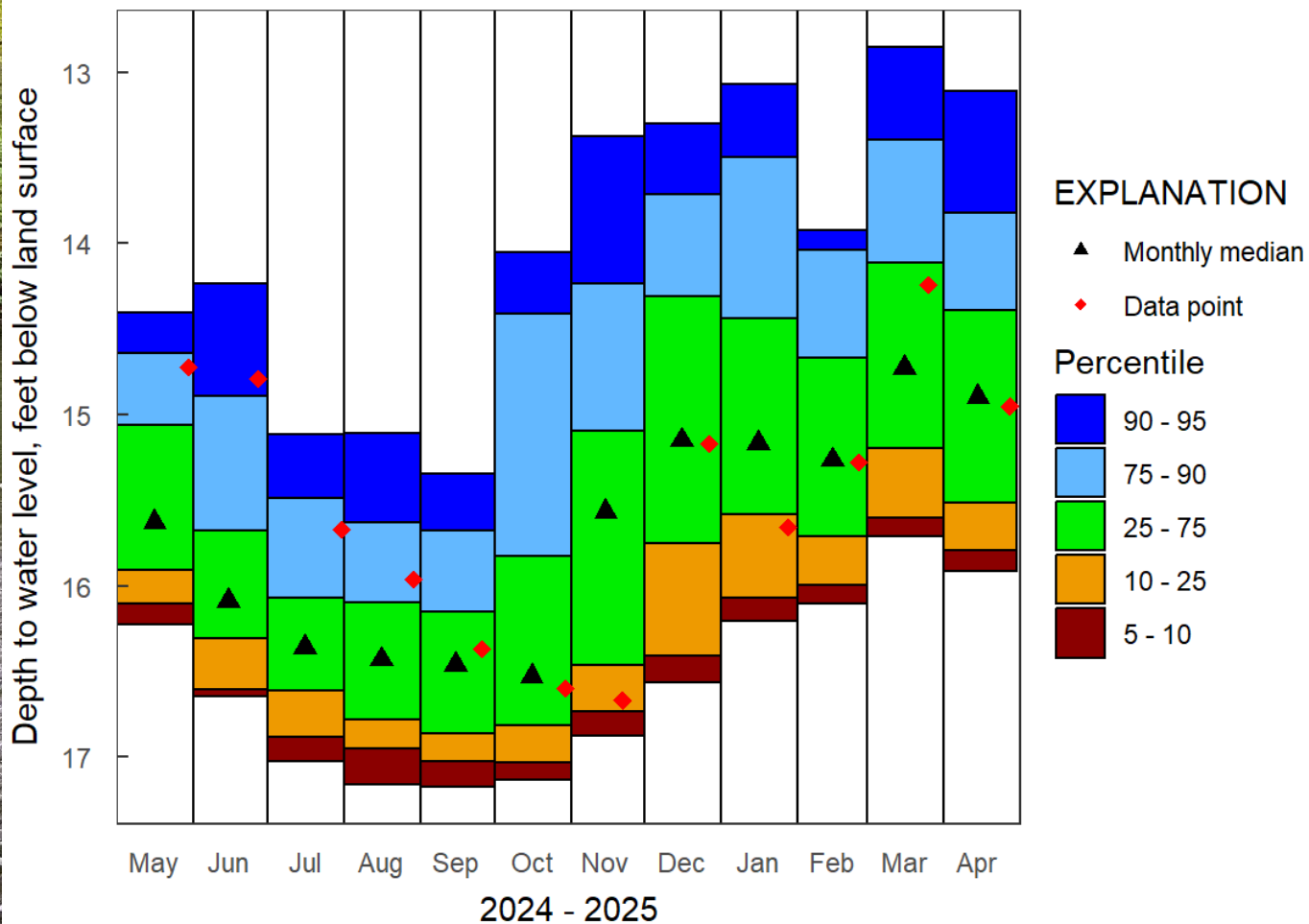


Plot created: 2025-05-13

Central West

413907071465001 RI-WGW 181

U.S. Geological Survey

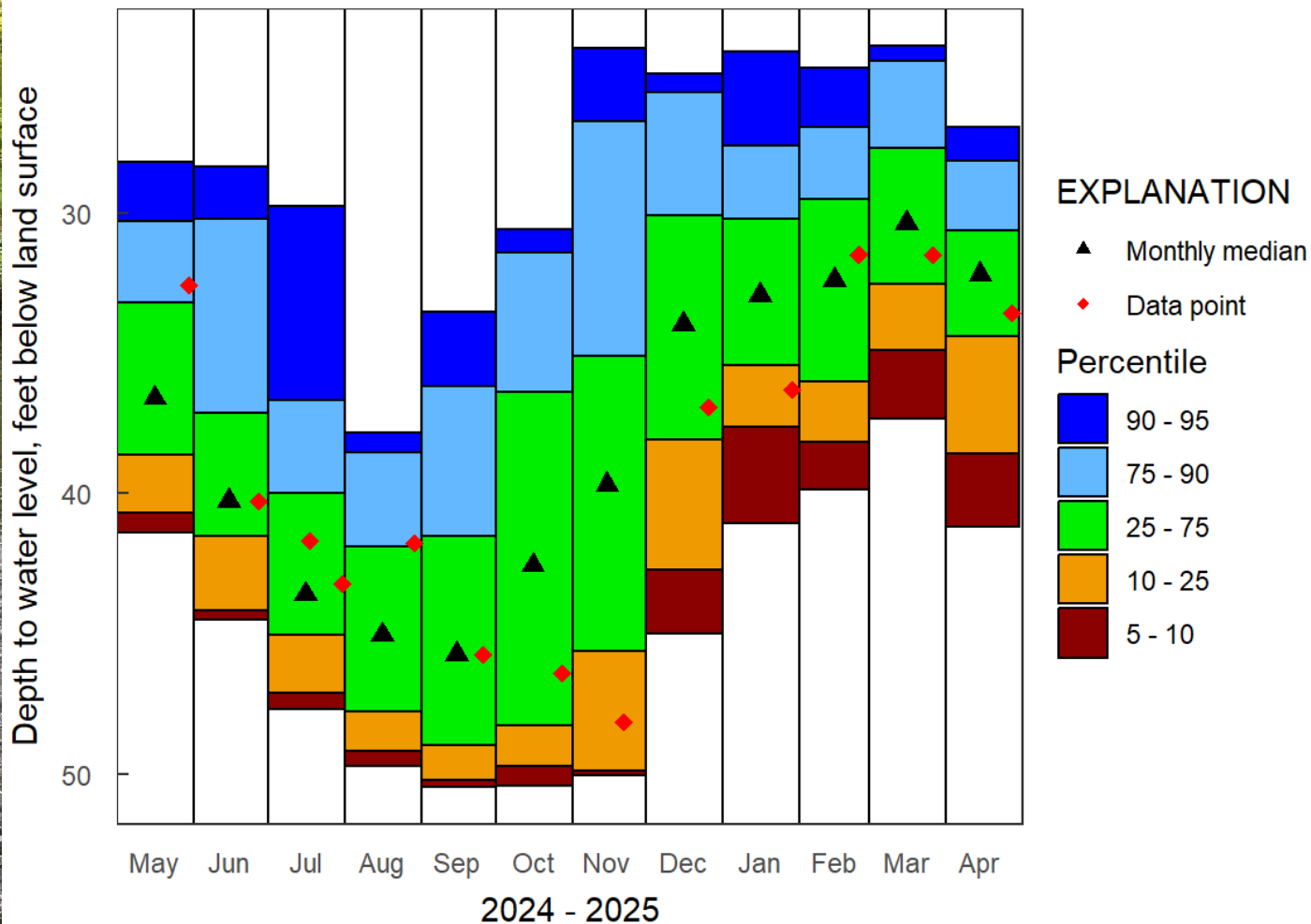


Plot created: 2025-05-13

Eastern

413325071152401 RI-POW 551

U.S. Geological Survey

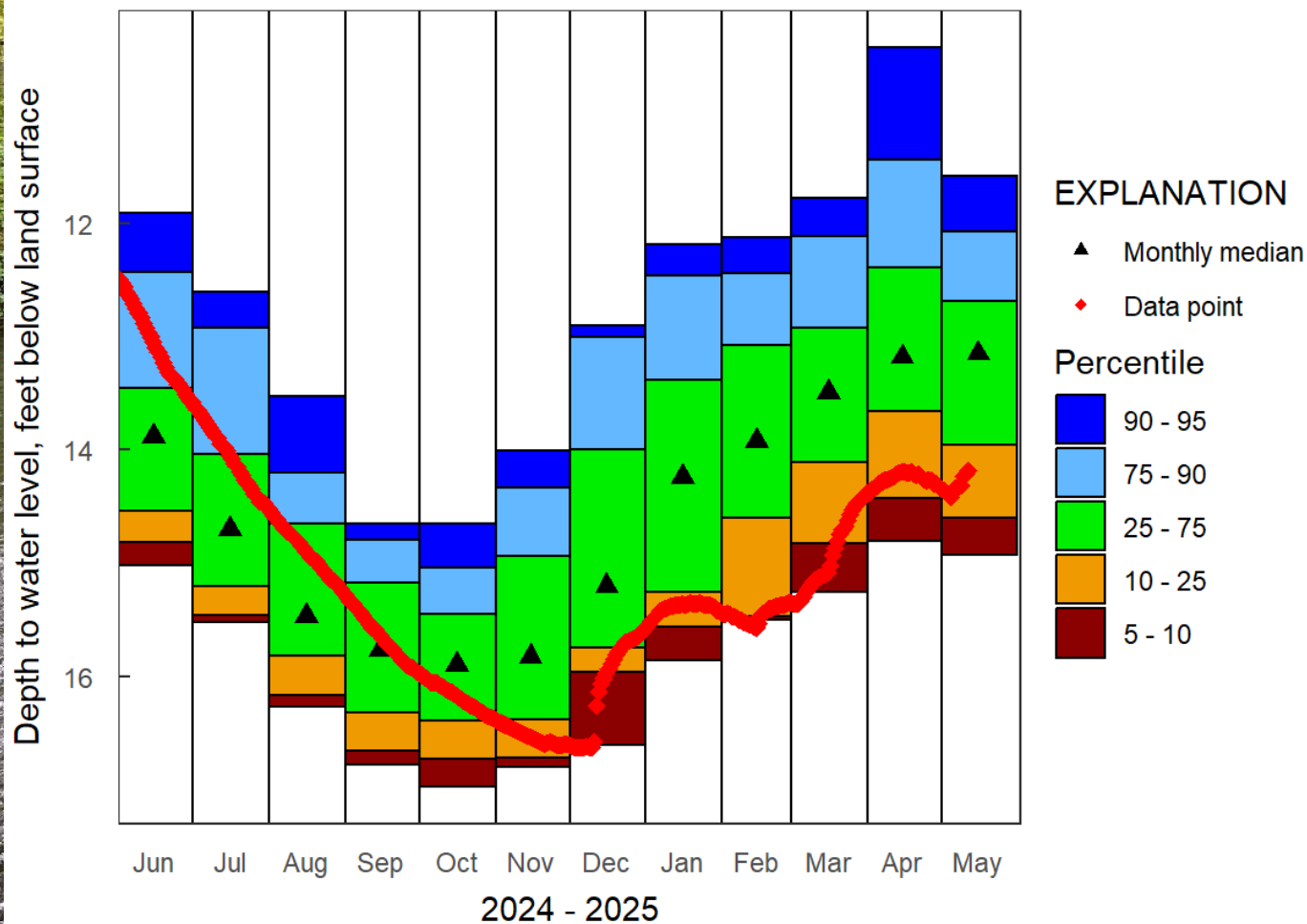


Plot created: 2025-05-13

Southern

413358071433801 RI-EXW 475 EXETER, RI

U.S. Geological Survey

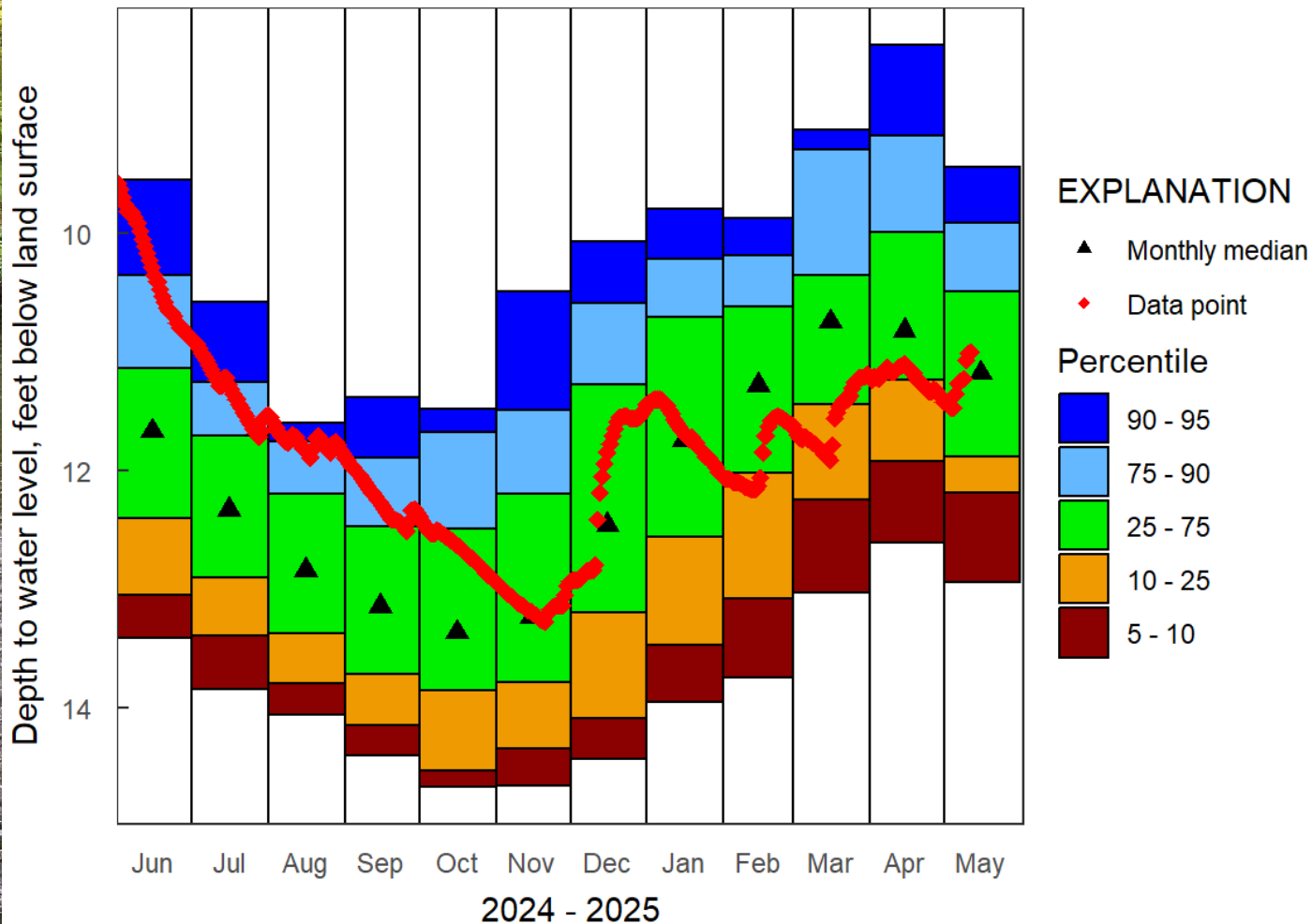


Plot created: 2025-05-13

Southern

412918071321001 RI-SNW 6 SOUTH KINGSTOWN, RI

U.S. Geological Survey

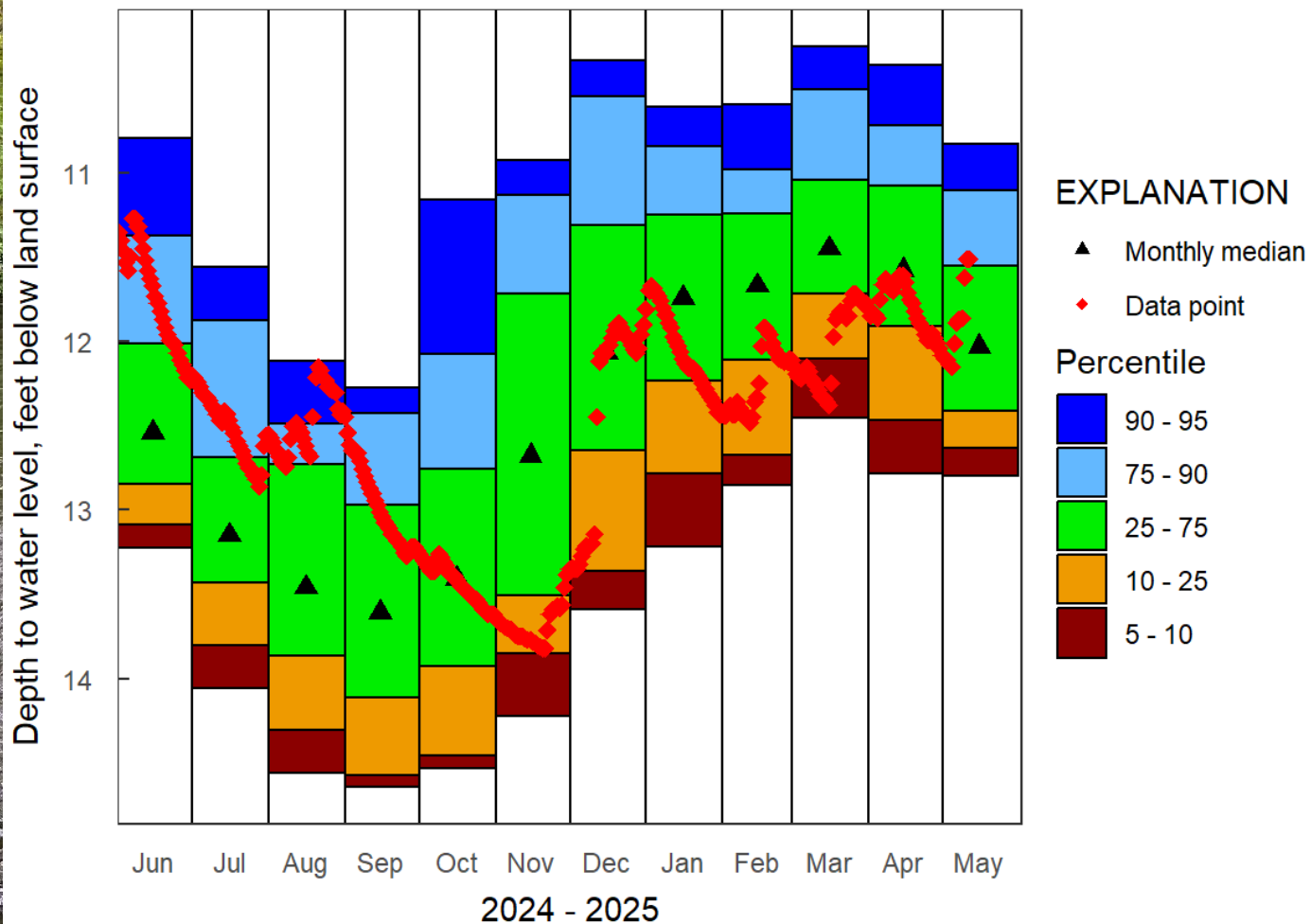


Plot created: 2025-05-13

Southern

412154071462901 RI-WEW 522 WESTERLY, RI

U.S. Geological Survey



Plot created: 2025-05-13

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
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Statewide/Regional SW Recap

- 5 regions are measured
- 3 regions have improved from below normal to normal
 - North West, North East, Central East
- 1 region below normal
 - Central West
 - March 24%, April 18%

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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Advisory	Watch-worsening conditions	2 consecutive months of groundwater levels at or above normal and near normal precipitation for past 3 months

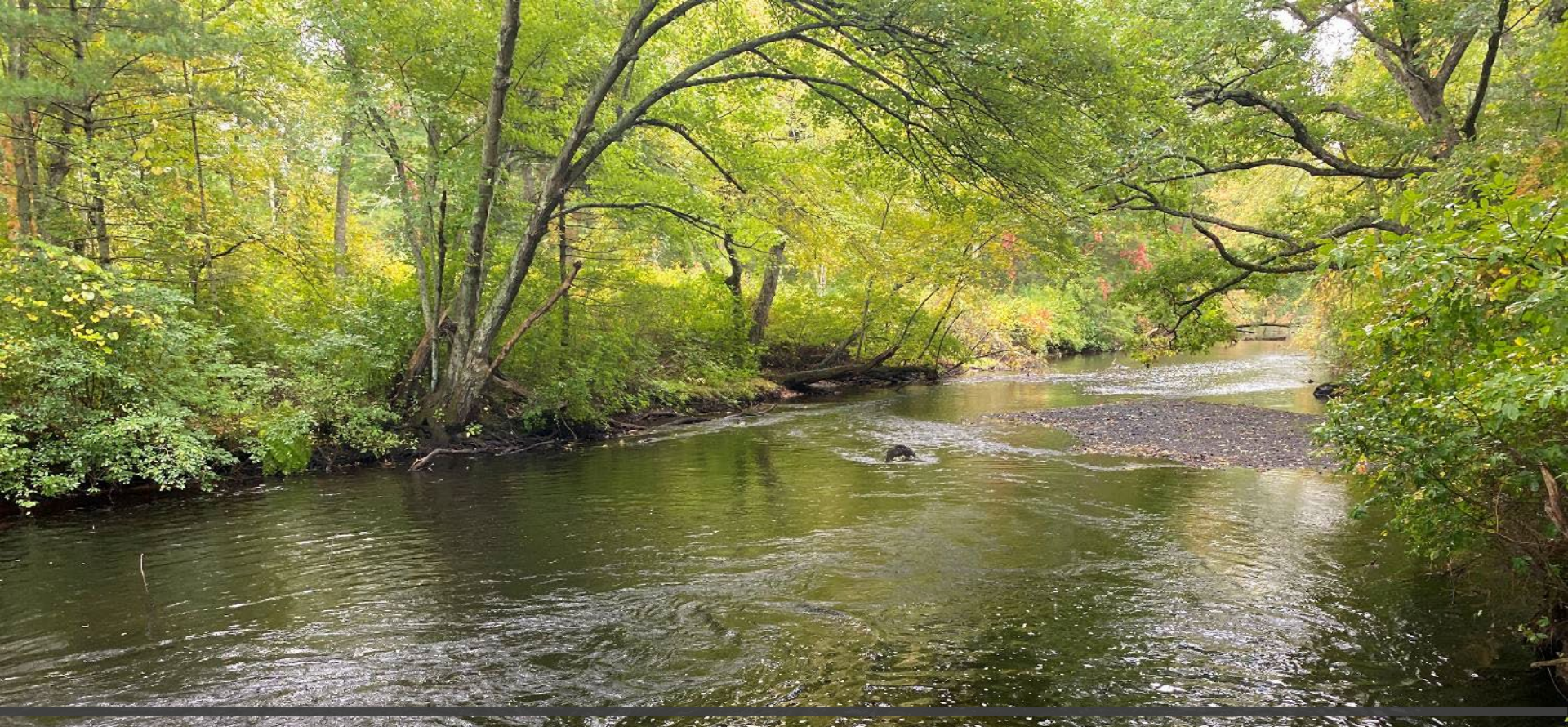
Statewide/Regional GW Recap

- Recovery from advisory to normal is two consecutive months of normal groundwater.
- Ground Water Statewide Average
 - Feb 32% March 29% April 33%
- All measured regions meet recovery
 - All regions are between 26% – 39% except for North East, at 48%.
 - 3 out of 6 regions approaching below normal
 - Central East, Central West, Southern

Bonus Recap

	Drought Phase of Indices		
Region	Precipitation	Groundwater	Streamflow
North West			
North East			
Central West			
Central East			Warning
Eastern			
Southern			
New Shoreham	Advisory		
Statewide			

Drought Phase	Precipitation +	Ground Water** +	Stream flow +
Watch	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
Warning	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



Questions?