Streamflow and Groundwater Conditions in Rhode Island

March 2025– May 2025

Chris Bruet
June 18, 2025
U.S. Geological Survey
New England Water Science Center

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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
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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 a 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
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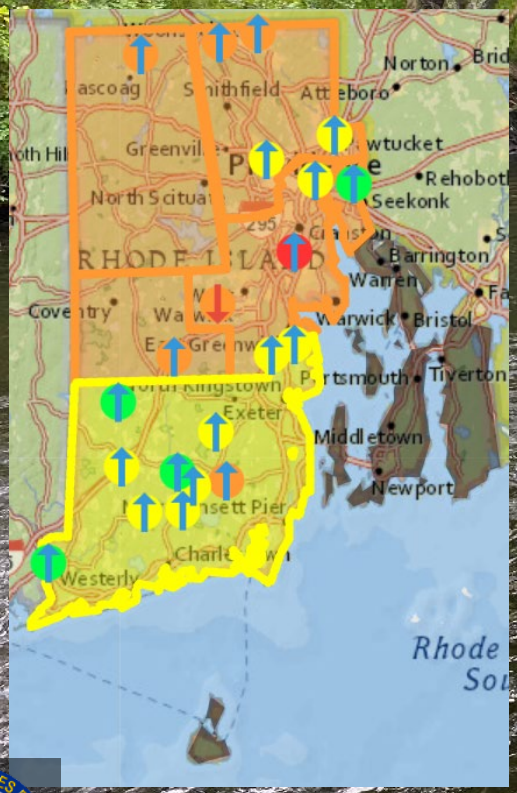
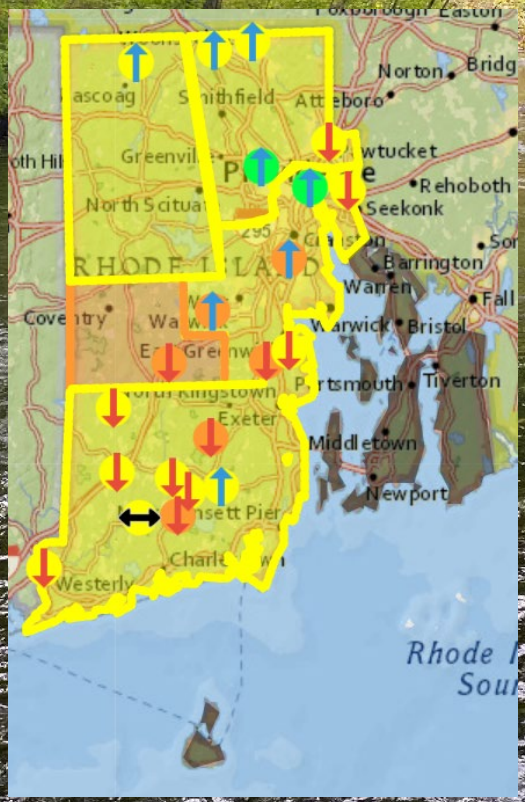
Average Monthly Streamflow Conditions
March - May

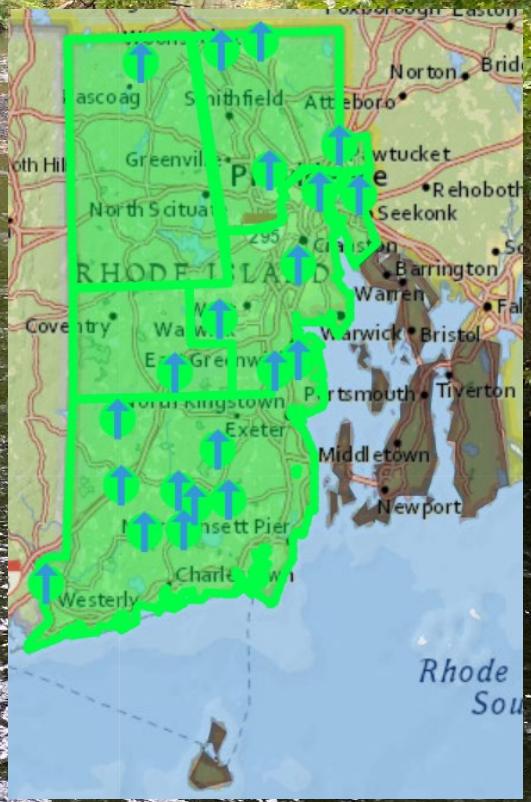
March 2025



April 2025



May 2025



>35% Normal	10%-25% Below Normal
25%-35% Approaching Below Normal	10th Percentile

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Average Monthly Streamflow Conditions November 2024 – May 2025

Region & Num of Gages	Q 11/2024	Q 12/2024	Q 01/2025	Q 02/2025	Q 03/2025	Q 04/2025	Q 05/2025
North West (1)	2	10	3	10	16	34	87
North East (4)	8	27	8	9	24	32	90
Central West (1)	11	41	14	16	24	18	82
Central East (4)	4	23	6	15	25	26	86
Eastern (0)							
Southern (11)	12	43	27	15	31	26	74
New Shoreham (0)							
Statewide (21)	9	32	17	14	29	27	80

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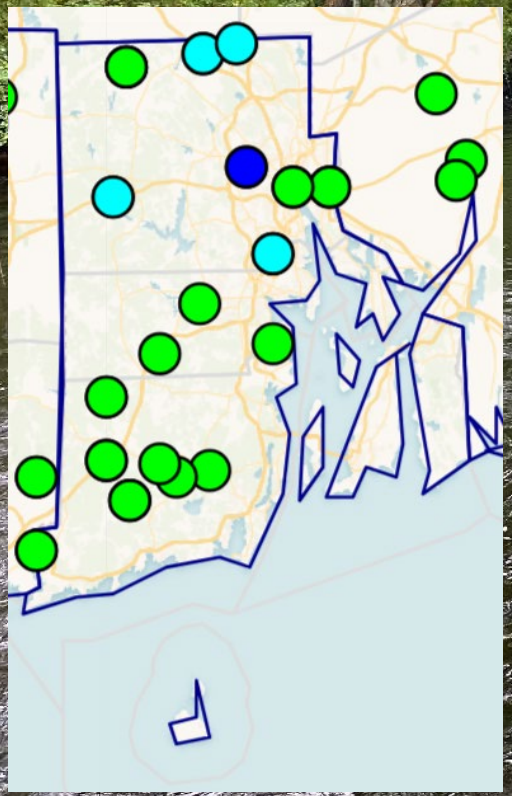
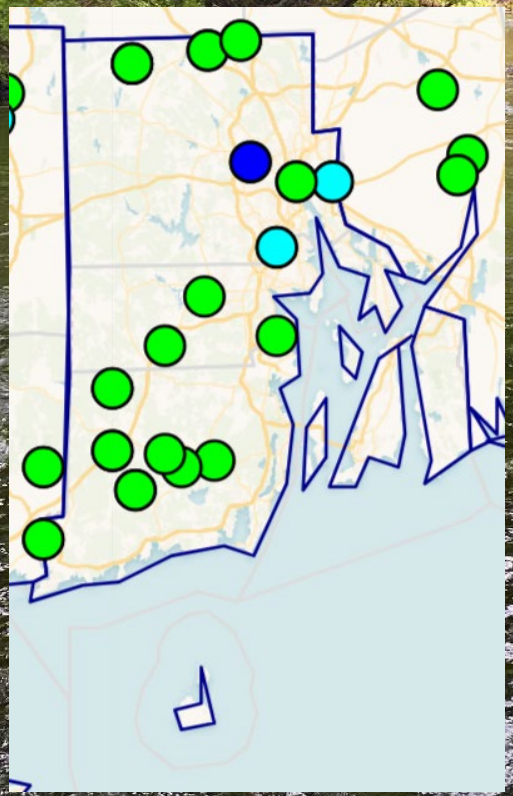
7, 14, 28 - Day Maps (June 16)

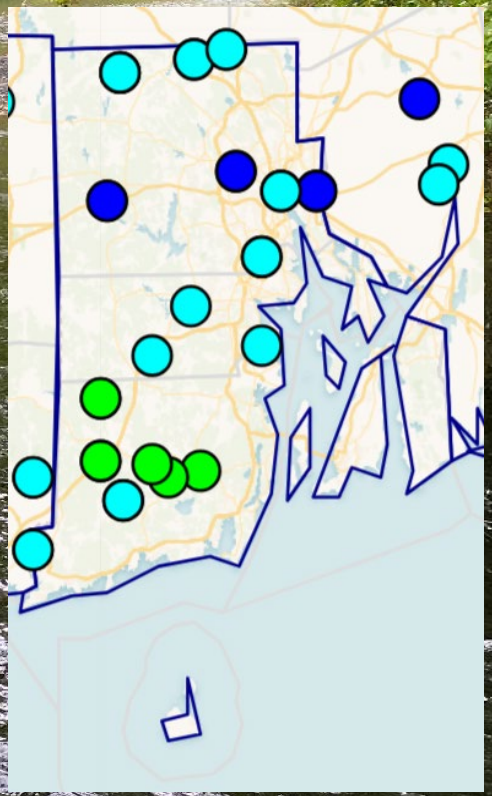
7 Day
June 9

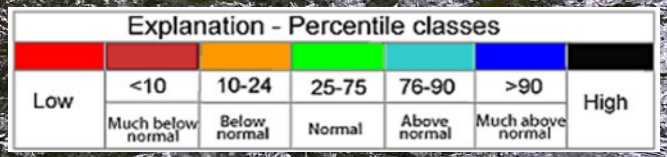


14 day
June 2



28 day
May 19





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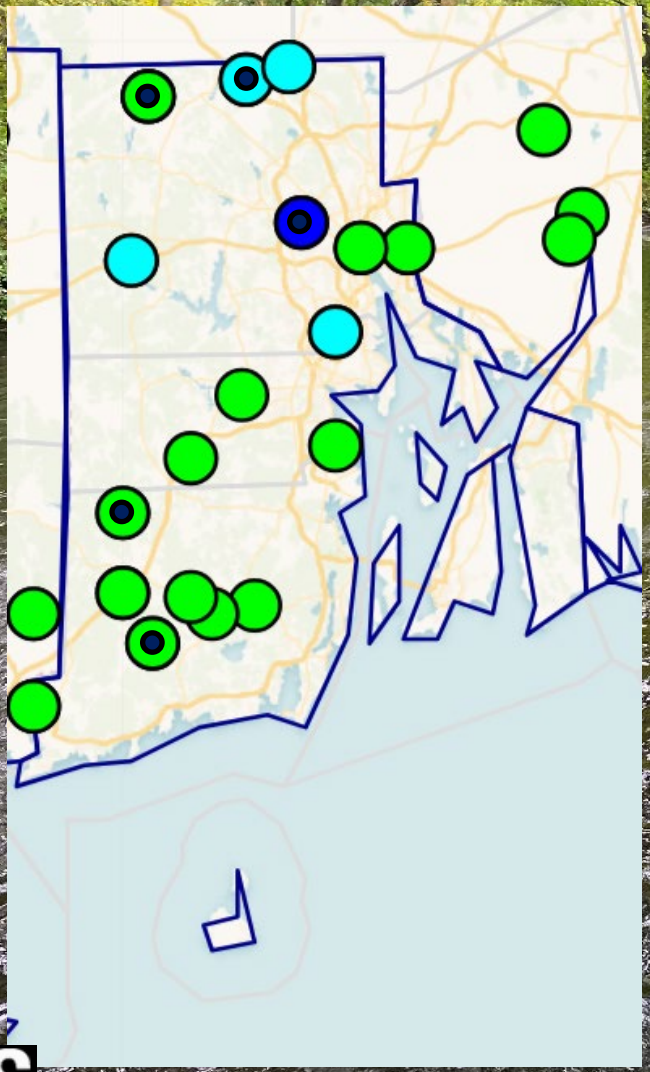
Current Streamflow Conditions – June 16, 2025



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

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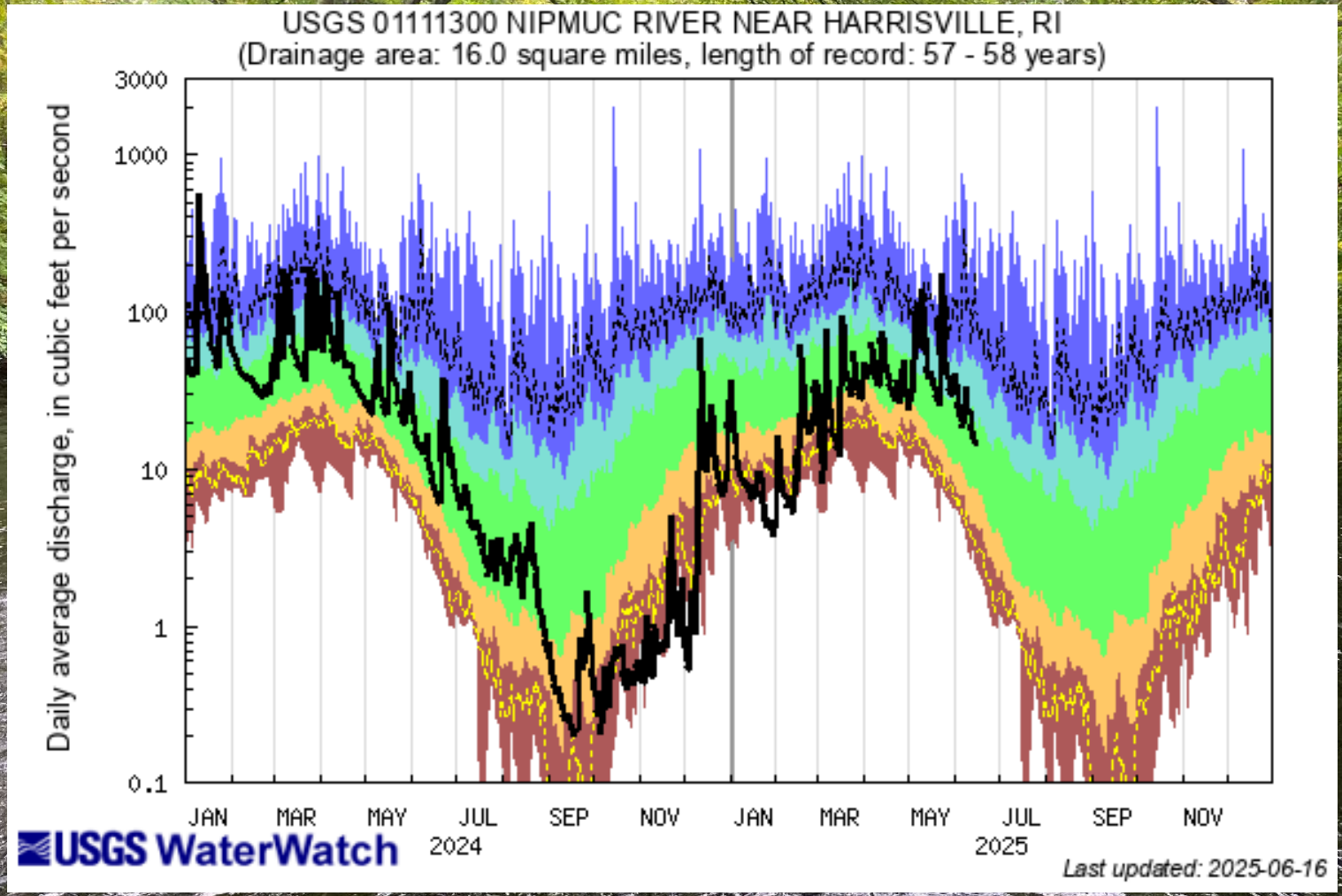
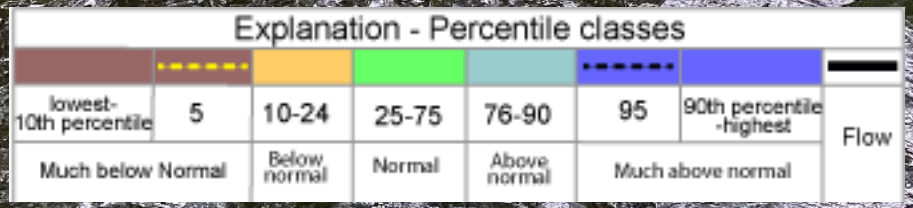
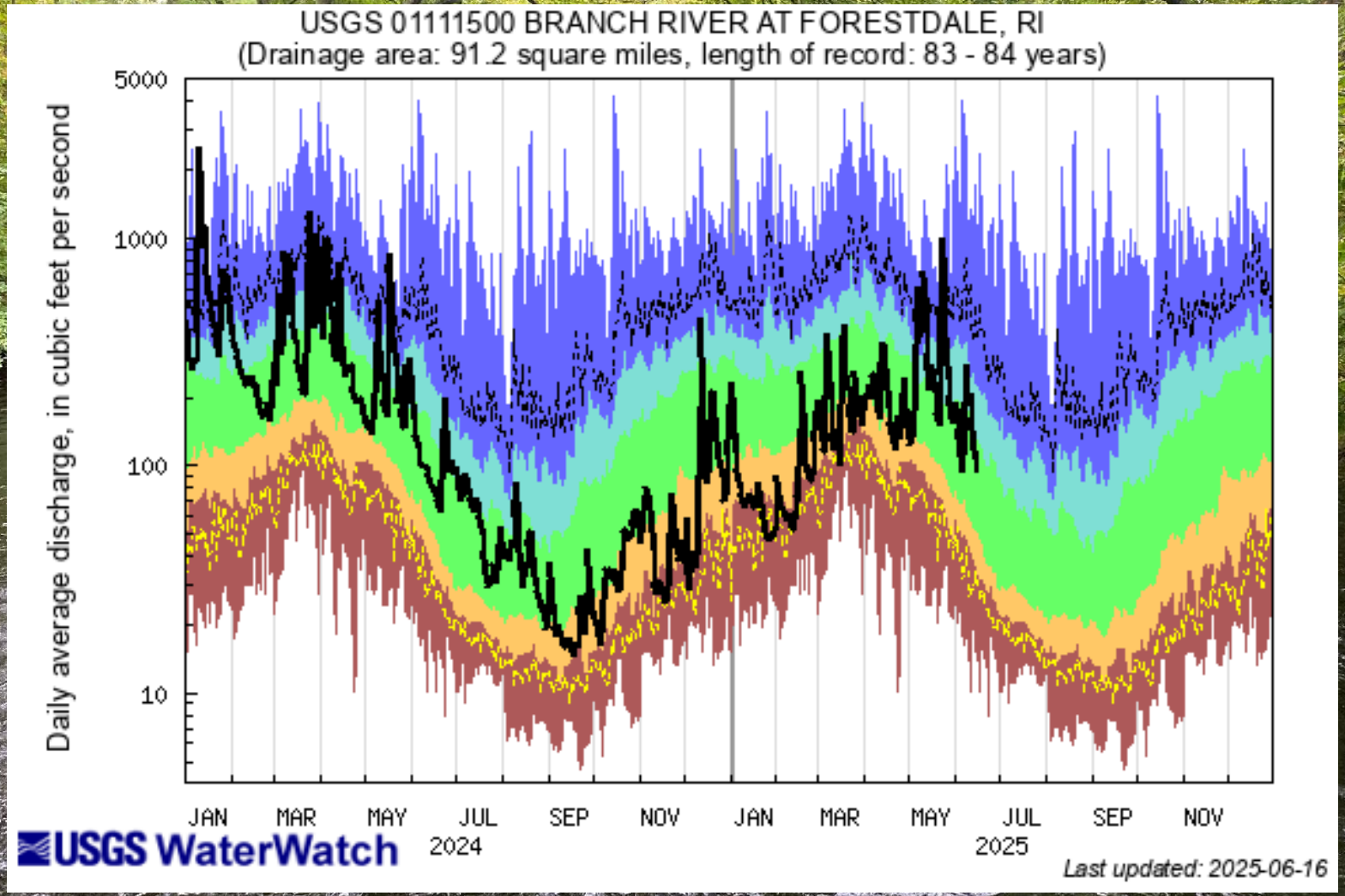
Northwest


USGS 01111300 NIPMUC RIVER NEAR HARRISVILLE, RI
(Drainage area: 16.0 square miles, length of record: 57 - 58 years)
Daily average discharge, in cubic feet per second
3000
1000
100
10
1
0.1
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2024
2025
USGS WaterWatch
Last updated: 2025-06-16


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

Northeast



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		

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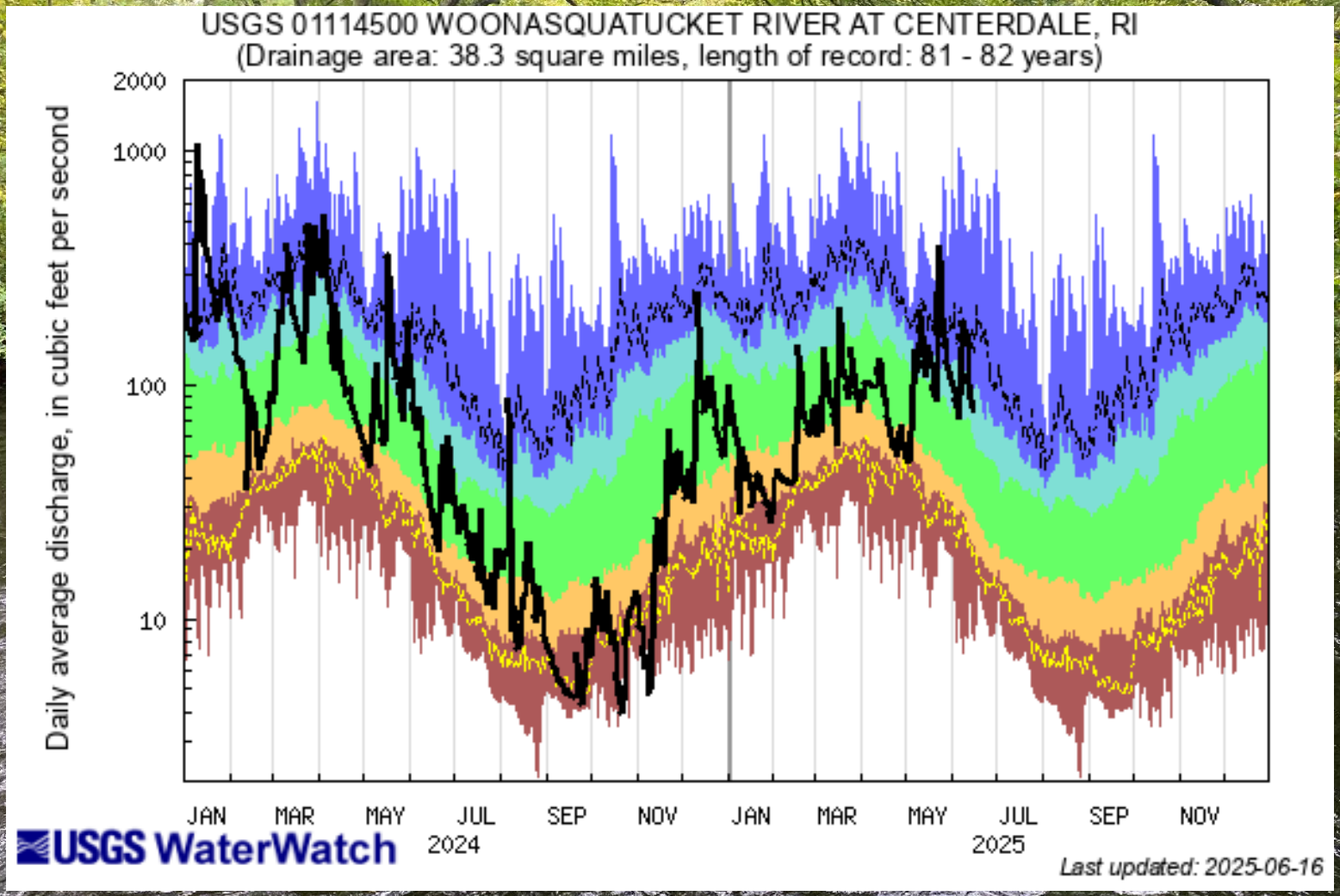
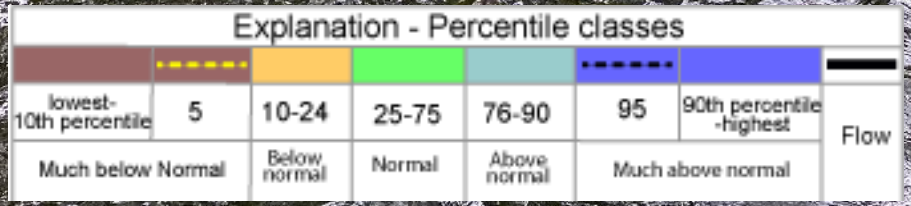
Northeast





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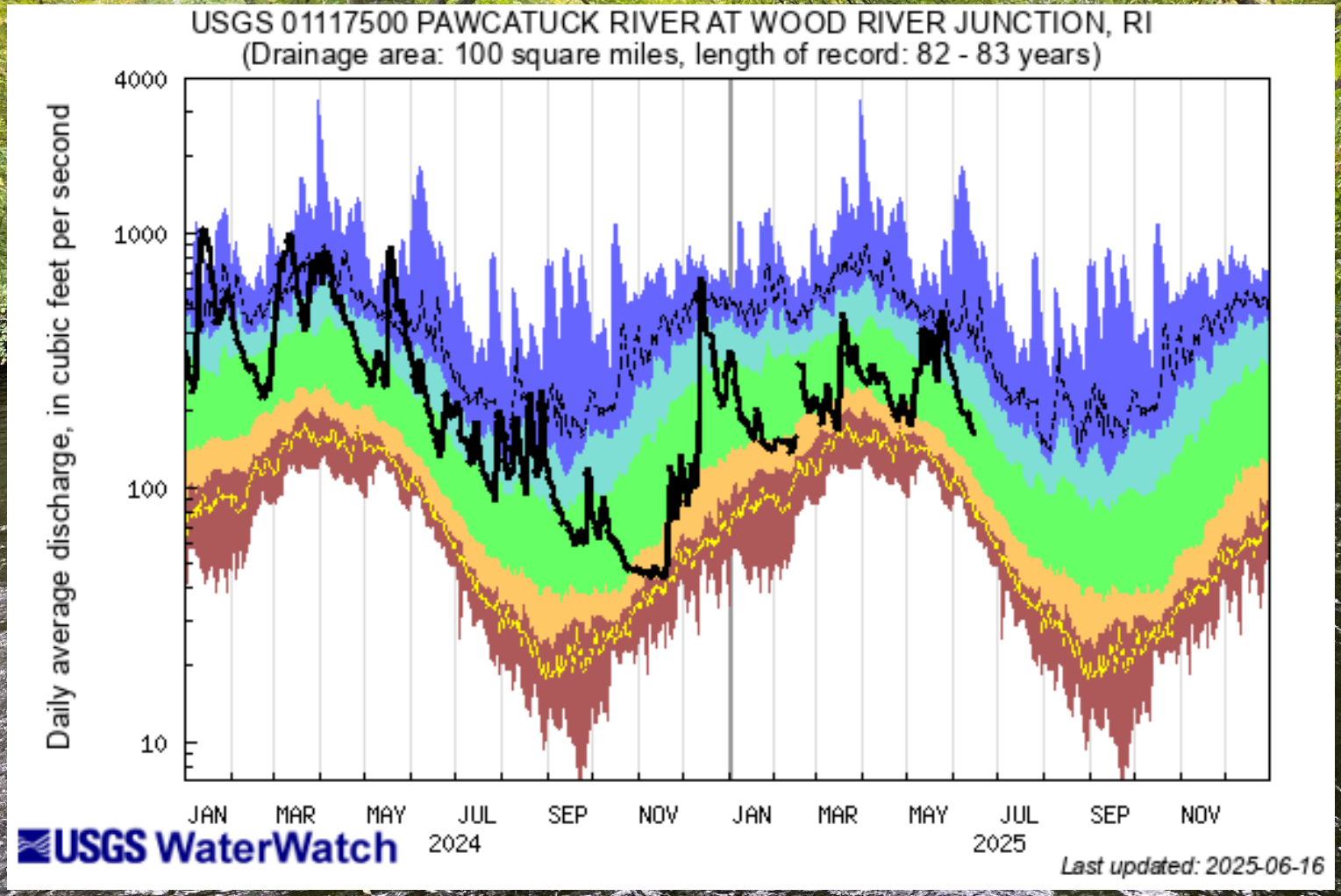
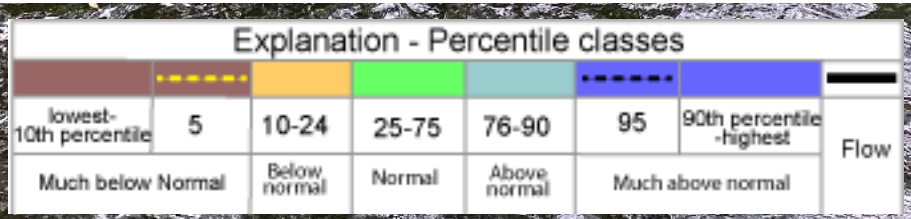
Southern





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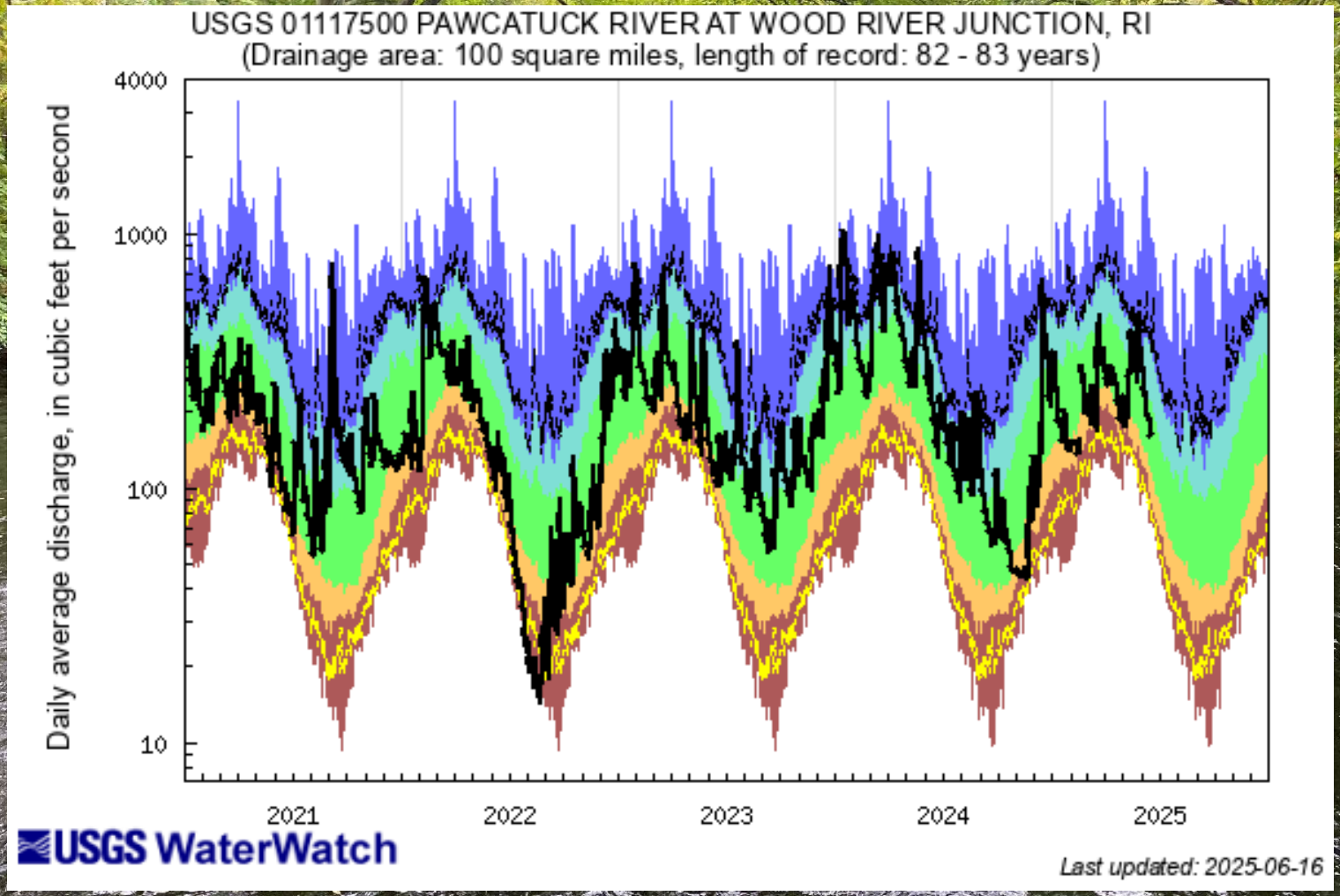
Southern



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		

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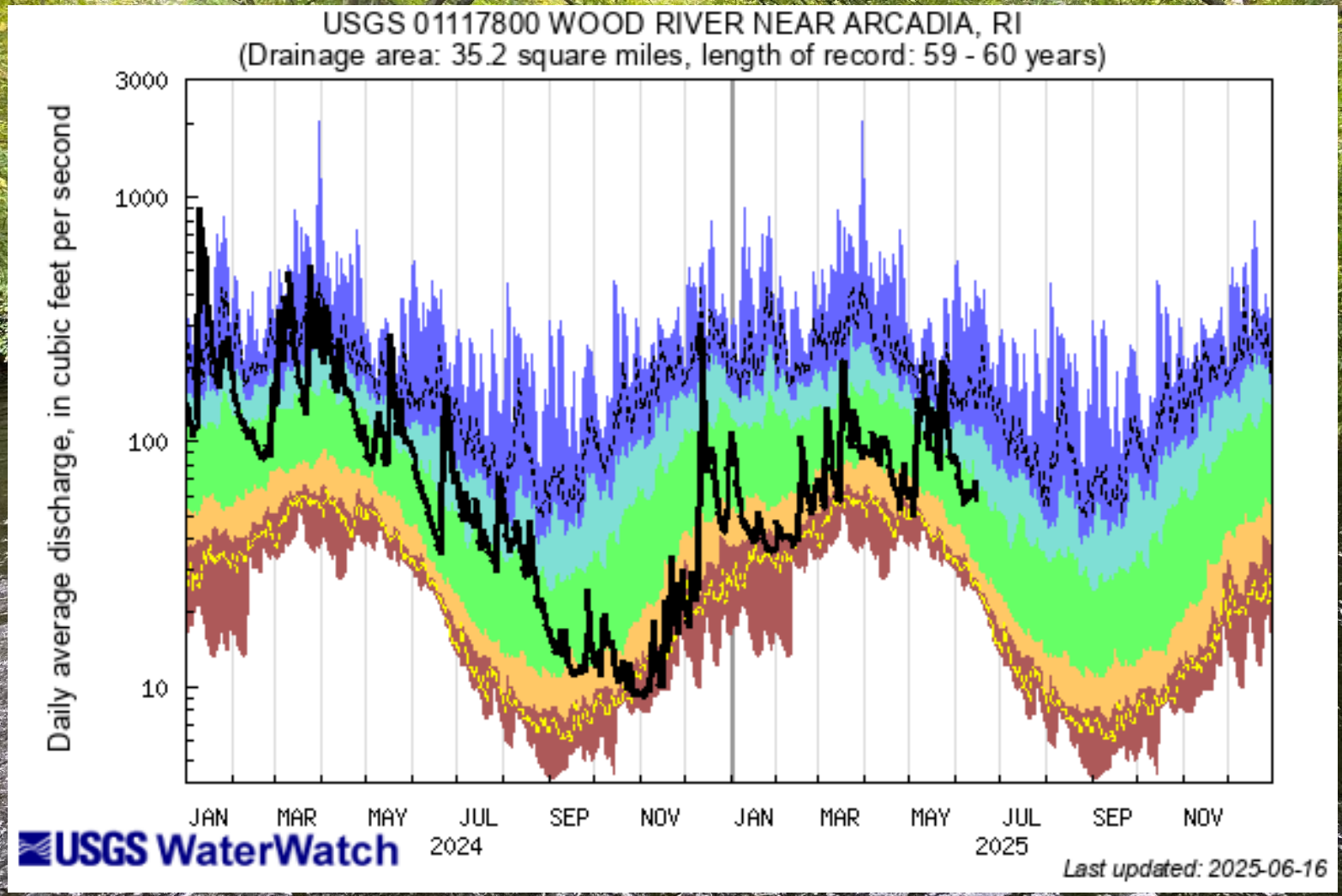
Southern



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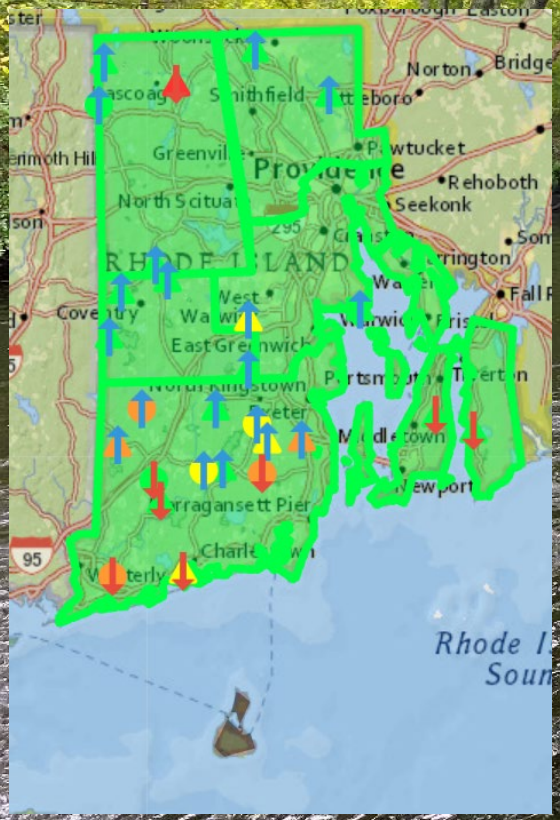
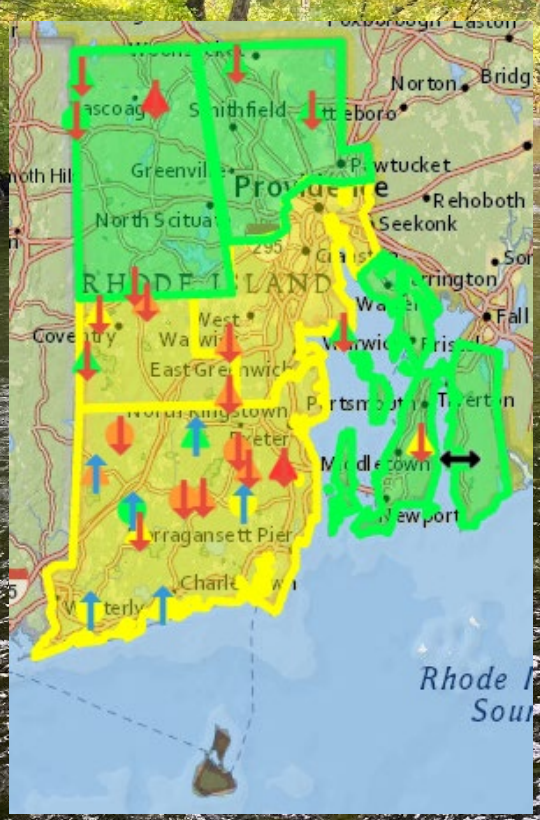
Groundwater Conditions

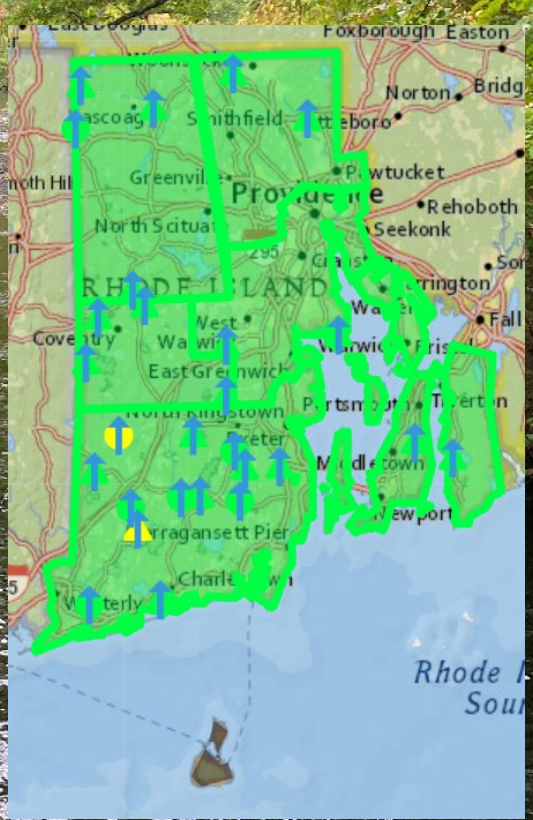
March 2025



April 2025



May 2025



	10%-25% Below Normal
	10th Percentile

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

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Average Monthly Groundwater Conditions November - May

Region & Num of Gages	GW 11/2024	GW 12/2024	GW 01/2025	GW 02/2025	GW 03/2025	GW 04/2025	GW 05/2025
North West (4)	10	16	11	14	53	39	79
North East (2)	3	38	26	42	64	48	95
Central West (4)	12	28	10	26	64	26	78
Central East (2)	17	42	19	17	51	32	81
Eastern (2)	14	38	17	72	39	37	89
Southern (13)	36	54	38	34	35	31	70
New Shoreham (0)							
Statewide (27)	15	41	26	32	46	33	76

Groundwater = Recovery (Two consecutive months normal)

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Current Groundwater Conditions

Discrete May 2025

Realtime June 16, 2025

Percentile

- < 5 Low
- 5 - 10
- 10 - 25
- 25 - 75 Normal
- 75 - 90
- 90 - 95
- > 95 High
- Not ranked

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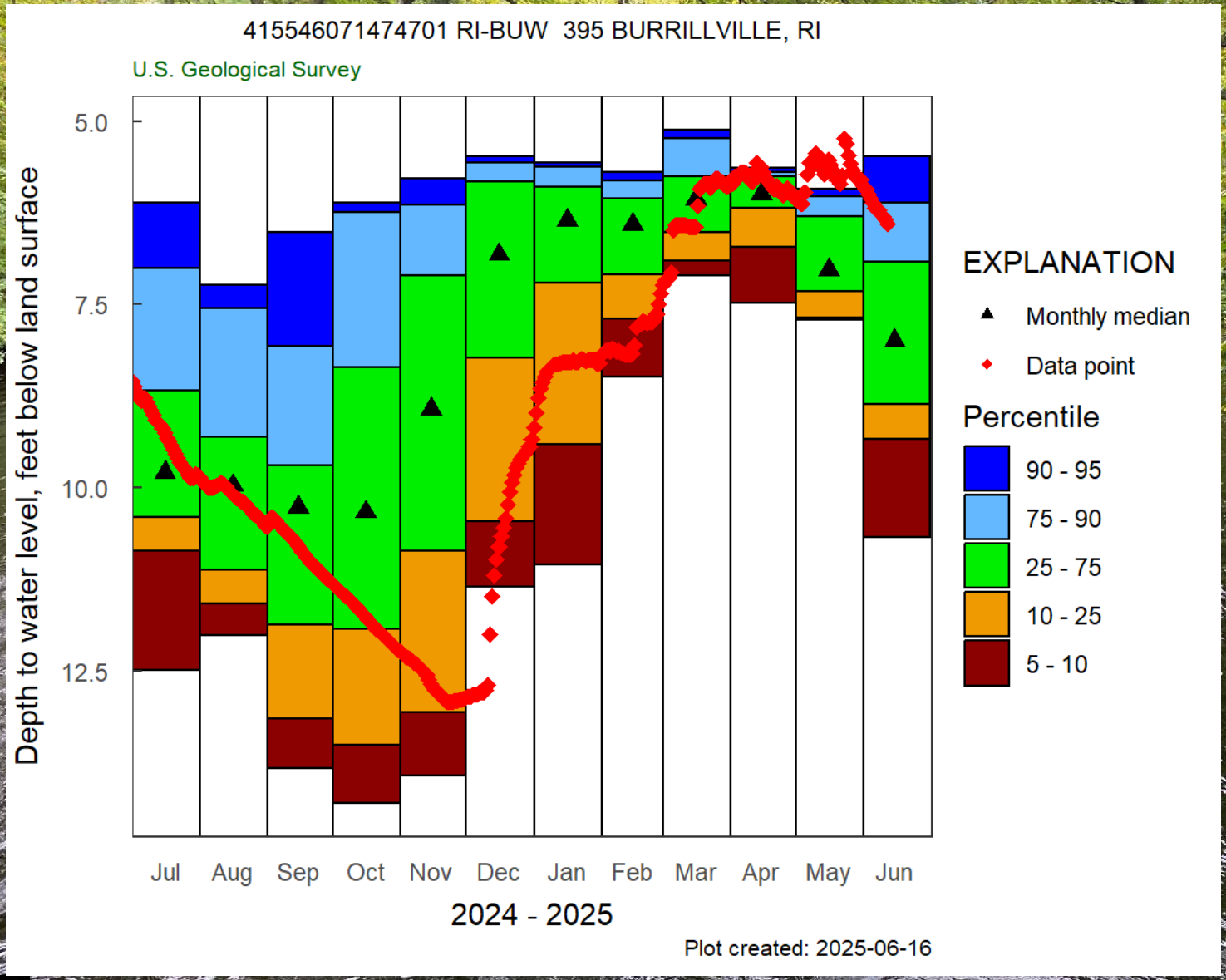
Northwest



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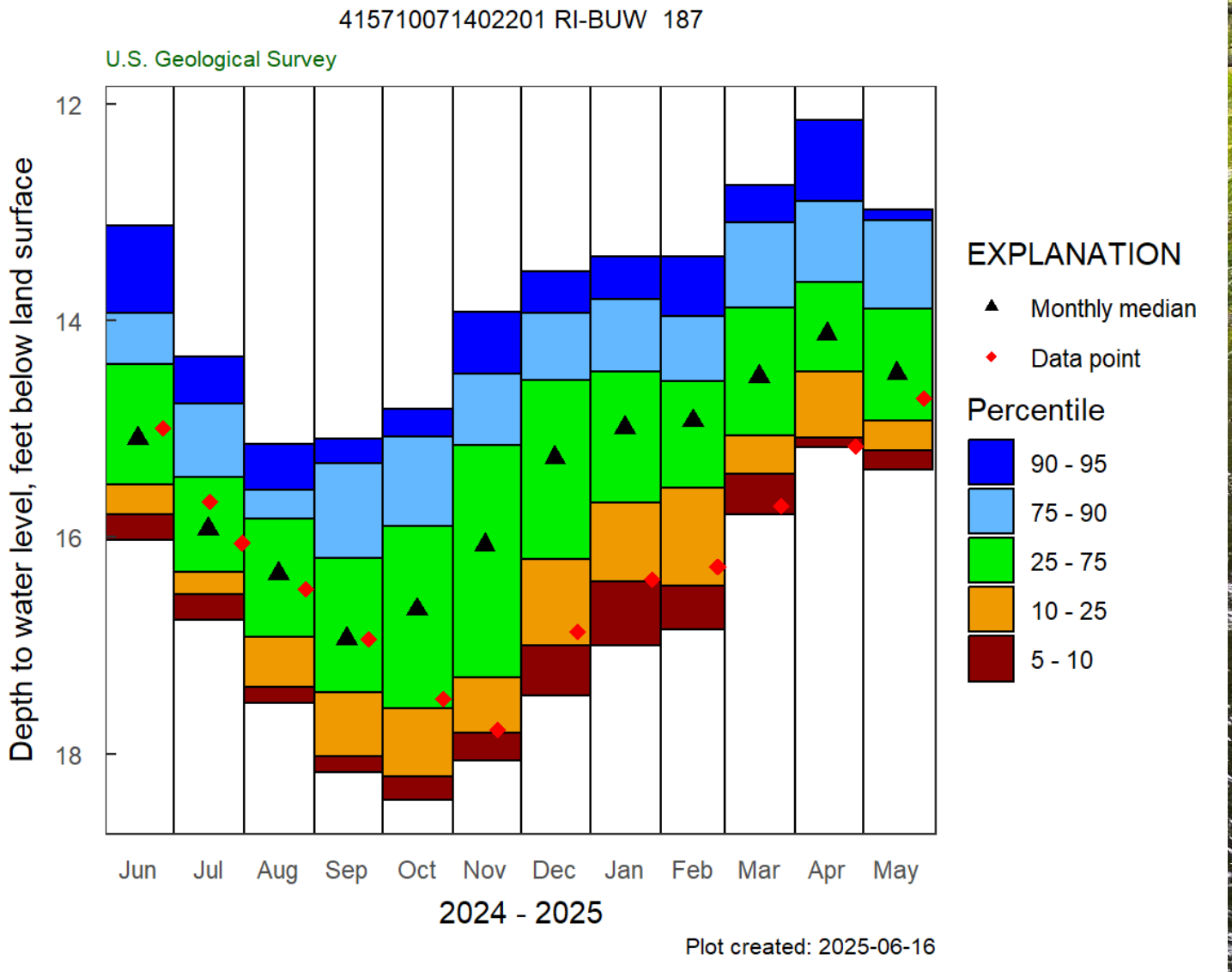

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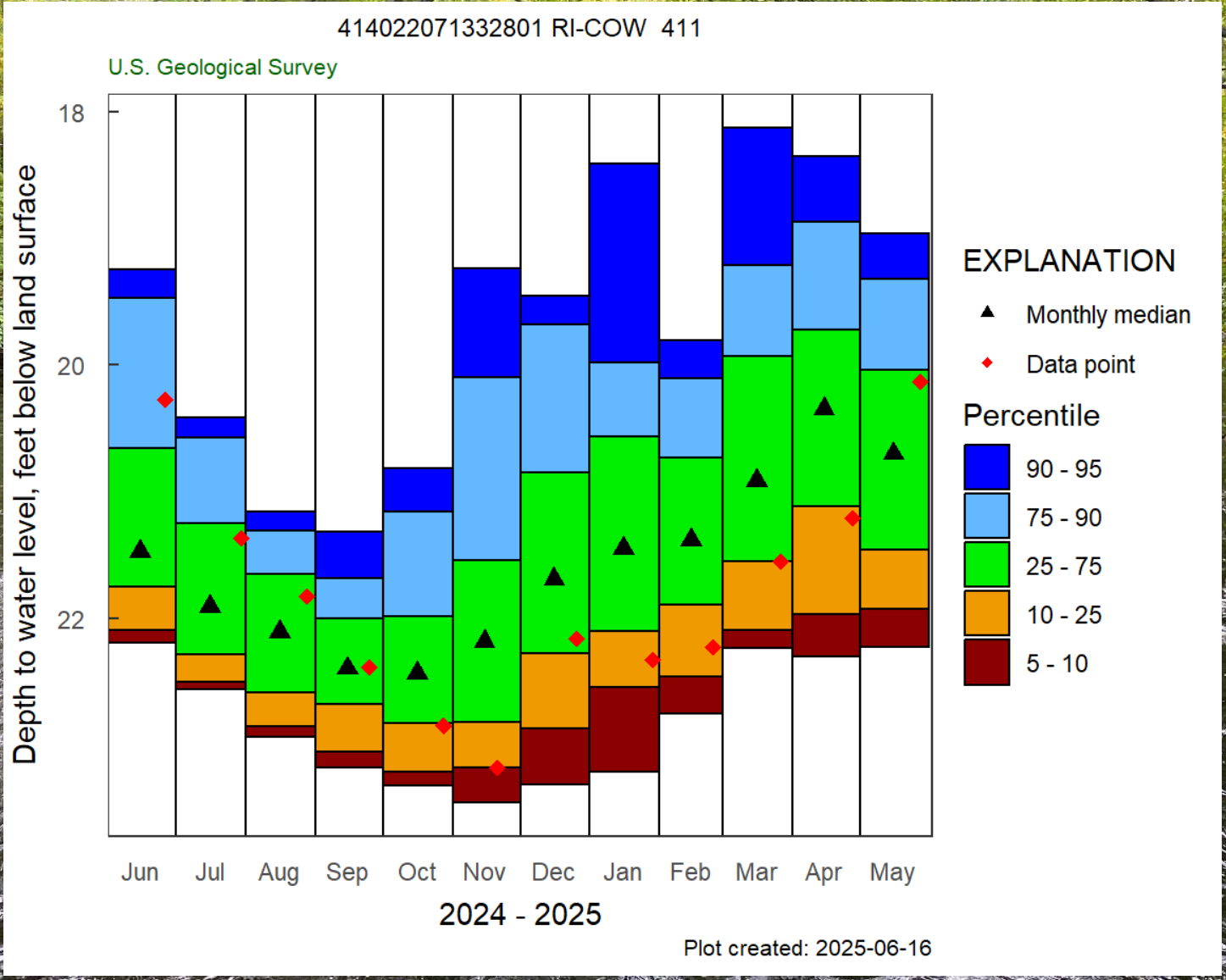
Central East



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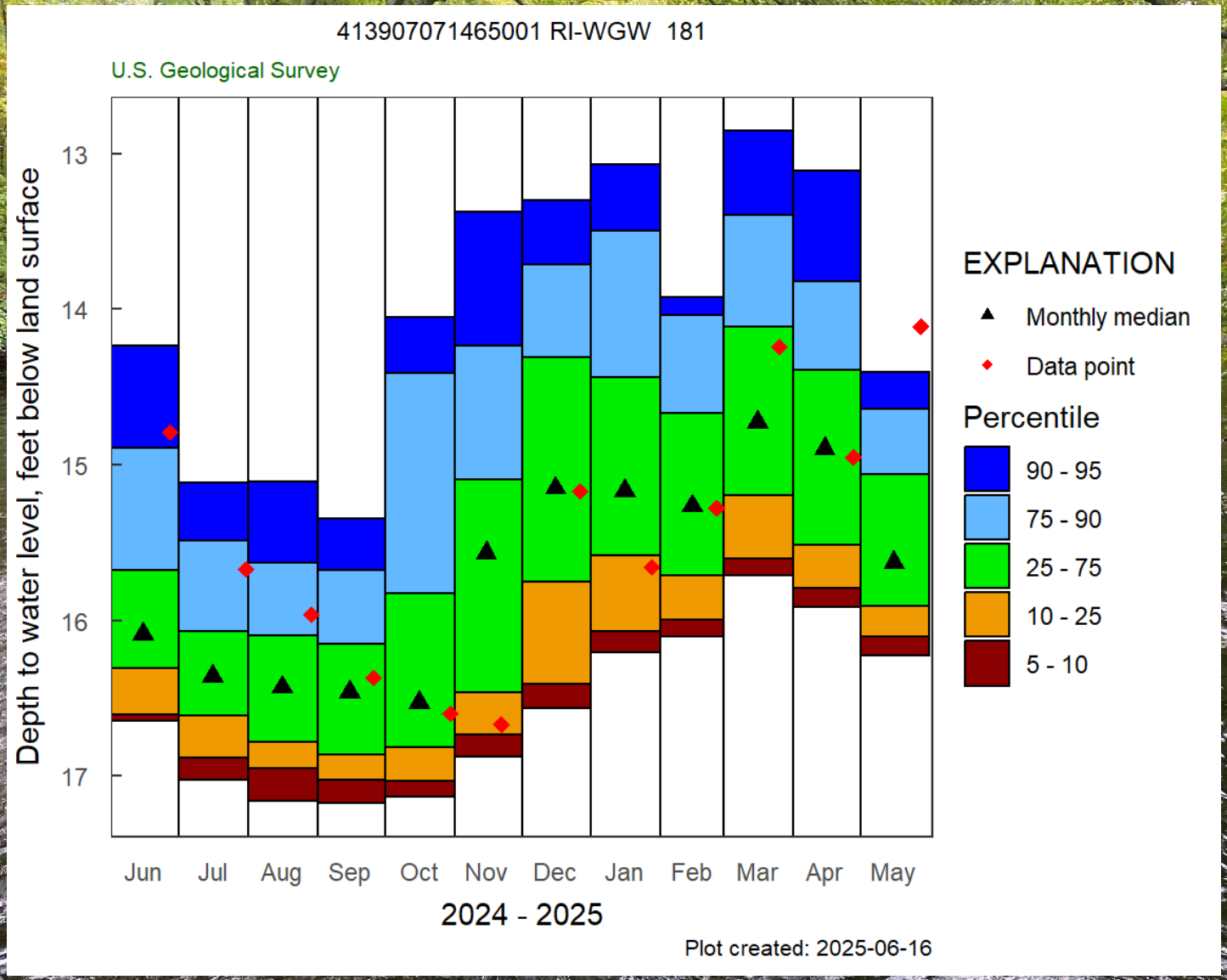
Central West



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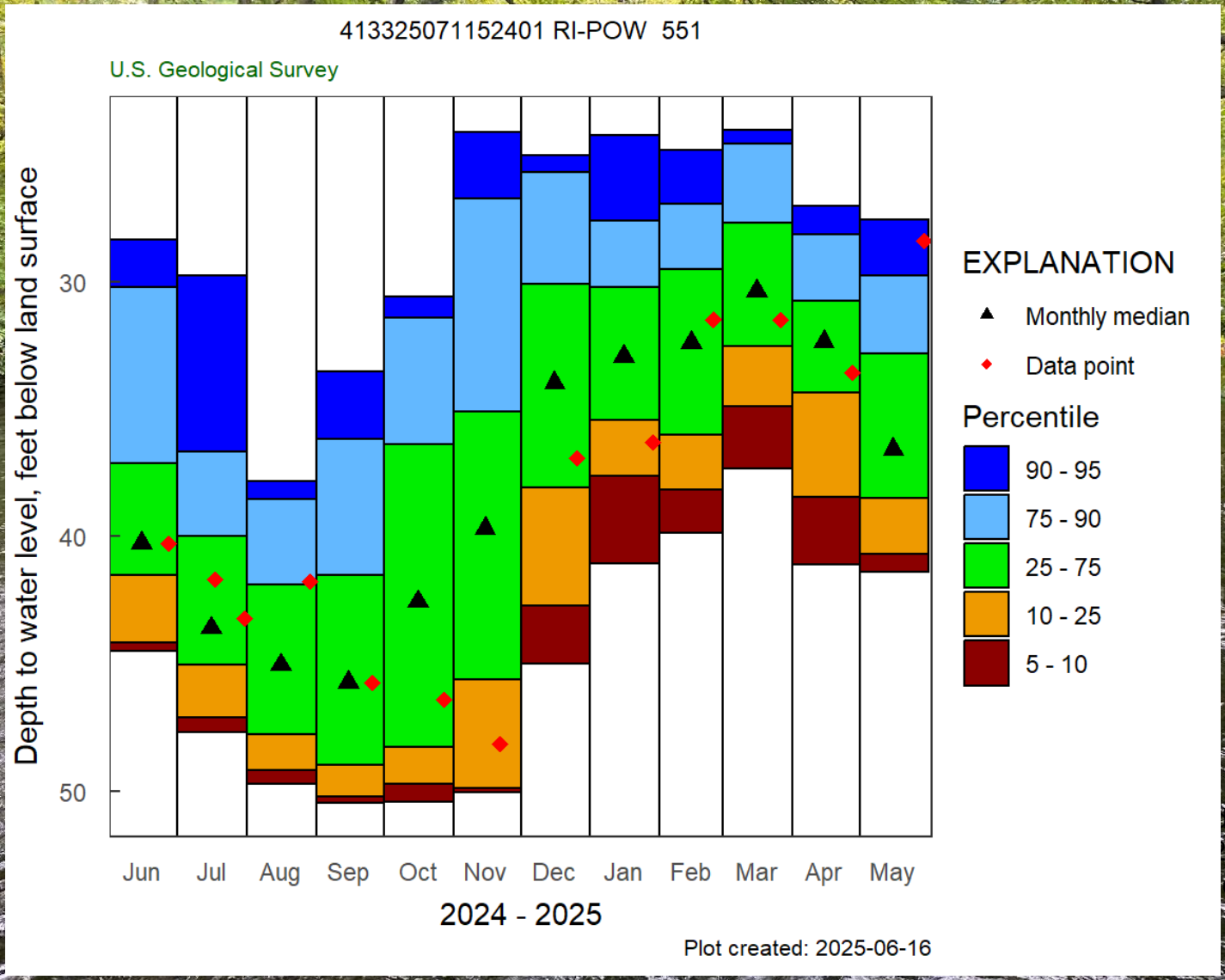
Eastern



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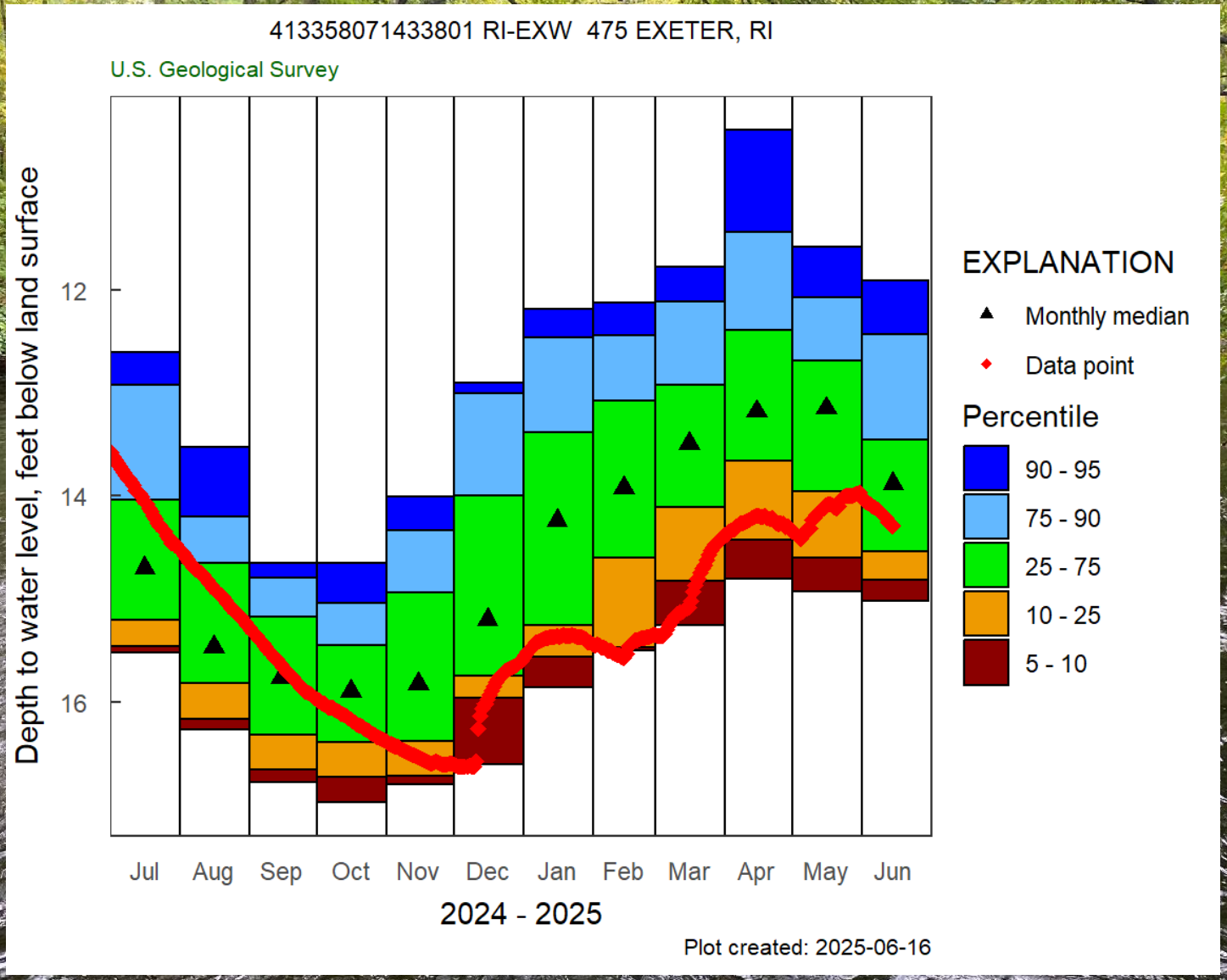
Southern



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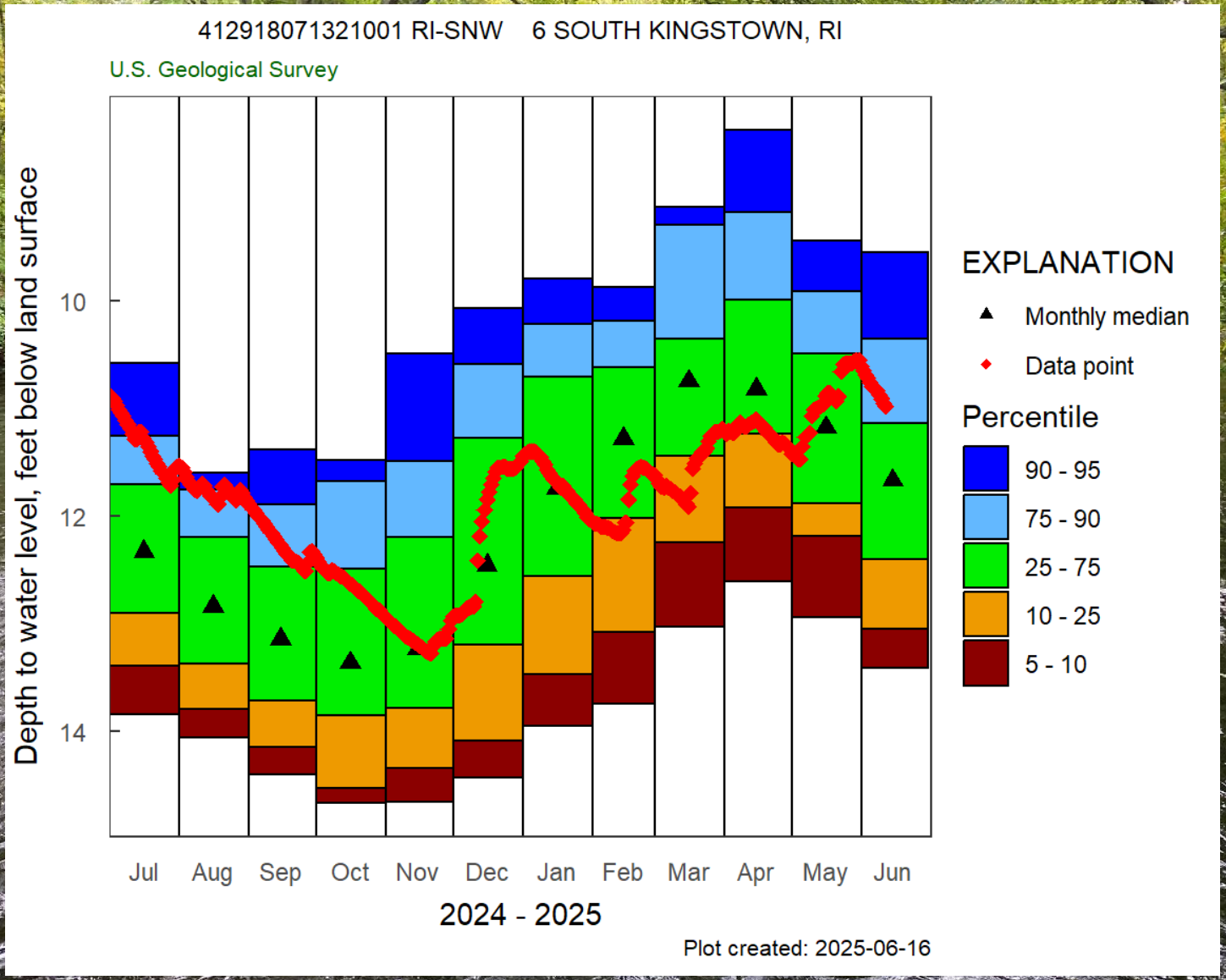

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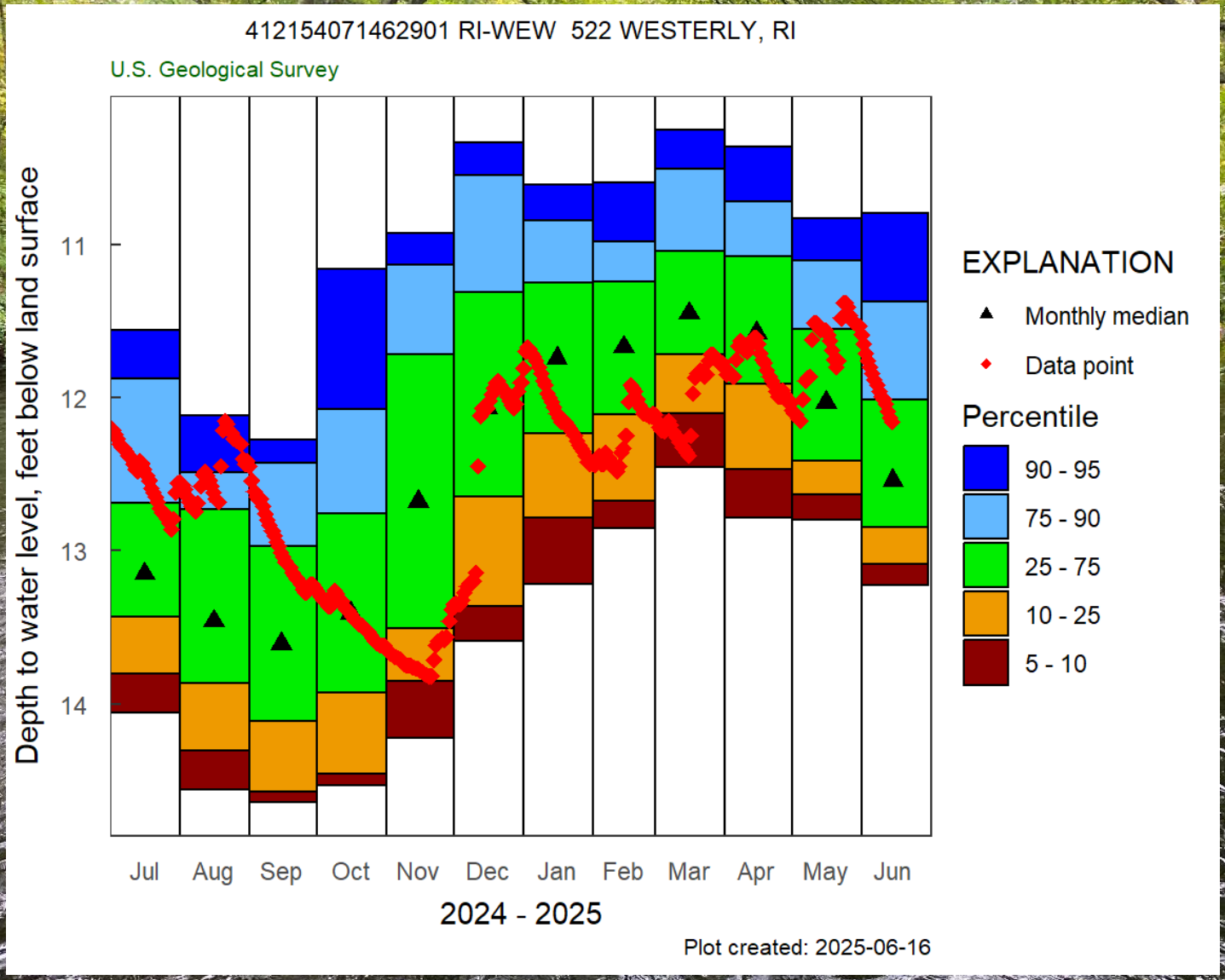

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Statewide/Regional SW Recap

- 5 regions are measured
- All regions in normal or above normal ranges for May
- Statewide averages increased significantly
  - April 27%
  - May 80%

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Returning to Normal

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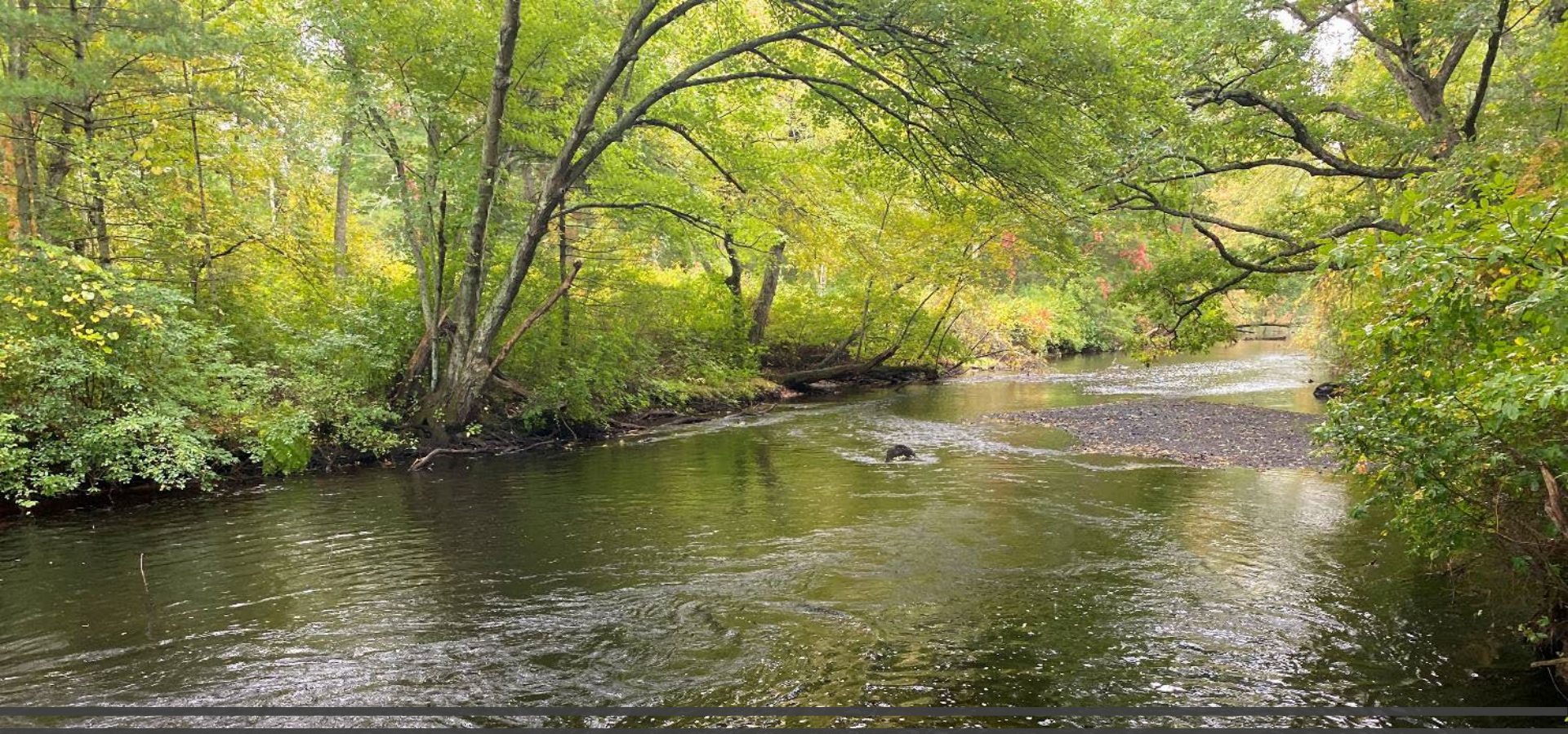
Statewide/Regional GW Recap

- Recovery from advisory to normal is two consecutive months of normal groundwater.
- Ground Water Statewide Averages
  - March 46%, April 33, May 76%
- All measured regions meet recovery
  - All regions have been at or above normal for 3 months
  - April conditions were normal but declined from March levels, recovery hinged on May precipitation



Questions?

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