Streamflow and Groundwater Conditions in Rhode Island

January 2025– March 2025

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April 08, 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.**

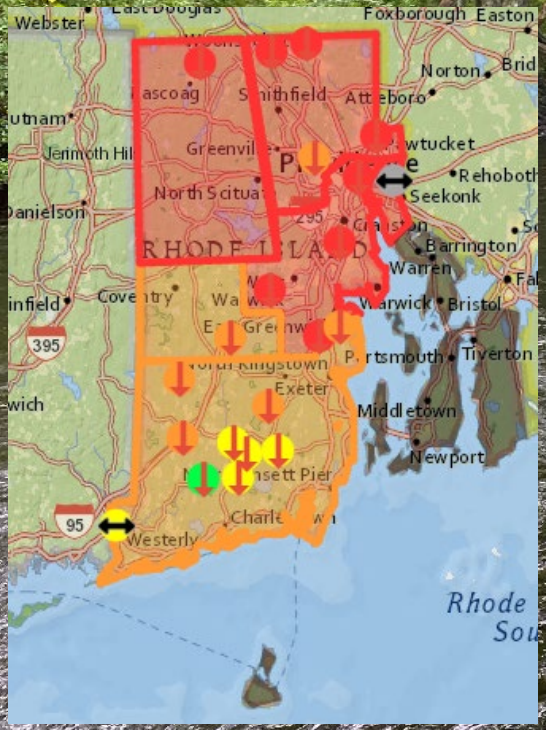
"Normal" is defined as the statistical average of the data for the period of record. Percentages for precipitation are relative to normal.

Table 4
Returning to Normal

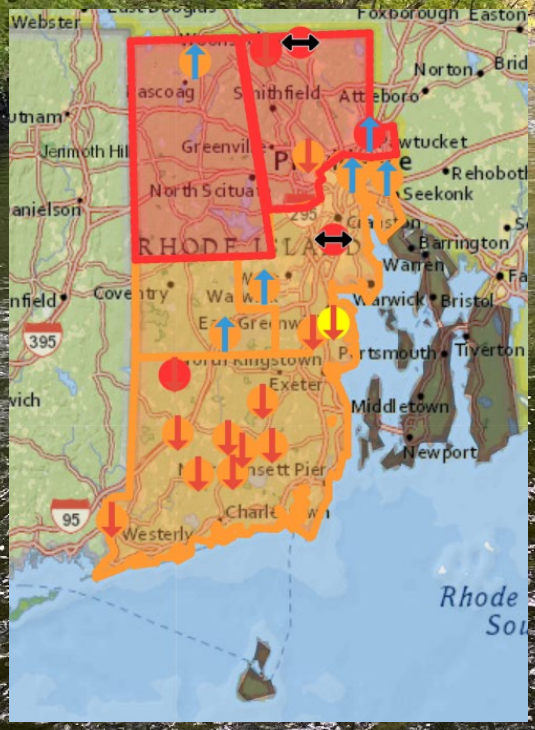
Current Drought Phase	Next Drought Phase	Reduce Drought Phase by one category
Emergency	Emergency-continued below normal conditions	Groundwater levels at or above normal and no precipitation deficit for past 3 months; and/or water resource problems which prompted the emergency have abated
Warning	Emergency-worsening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

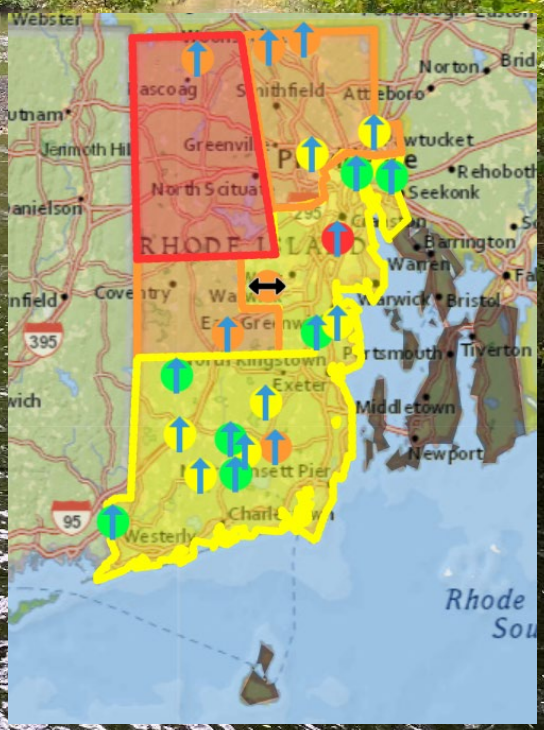
January 2025



February 2025



March 2025



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

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Average Monthly Streamflow Conditions June 2024 – Jan 2025

Region & Num of Gages	Q 9/2024	Q 10/2024	Q 11/2024	Q 12/2024	Q 01/2025	Q 02/2025	Q 03/2025
North West (1)	5	5	2	10	3	10	20
North East (4)	14	10	8	27	8	9	24
Central West (1)	38	19	11	41	14	16	24
Central East (4)	19	9	4	23	6	15	26
Eastern (0)							
Southern (11)	52	31	12	43	27	15	34
New Shoreham (0)							
Statewide (21)	36	21	9	32	17	14	29

Streamflow =

Watch: 4 out of 5 consecutive months below normal

Warning: 6 out of 7 consecutive months below normal

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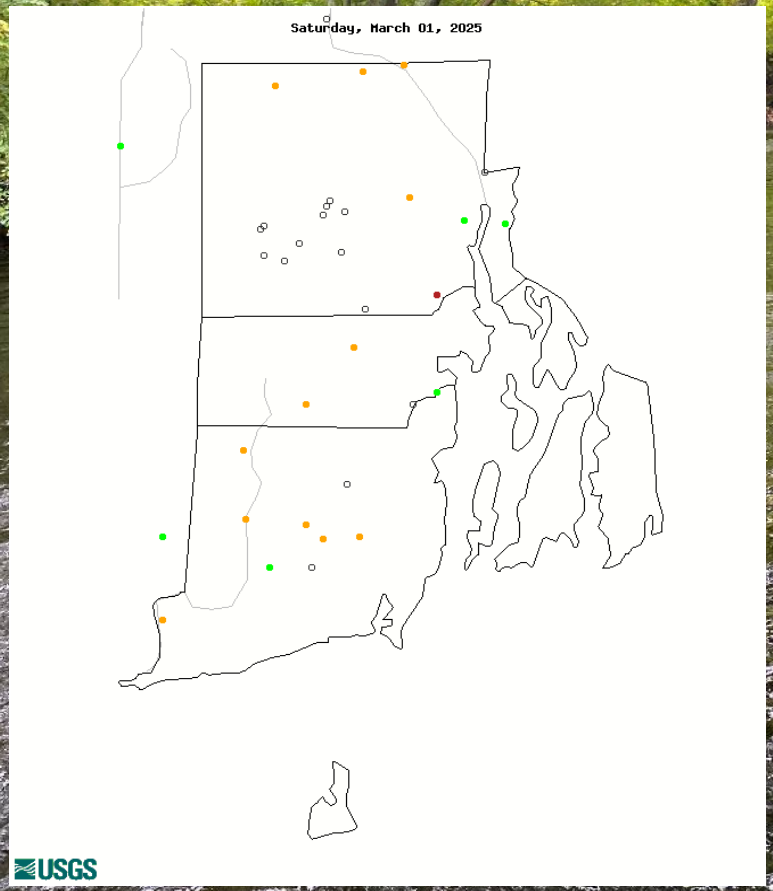
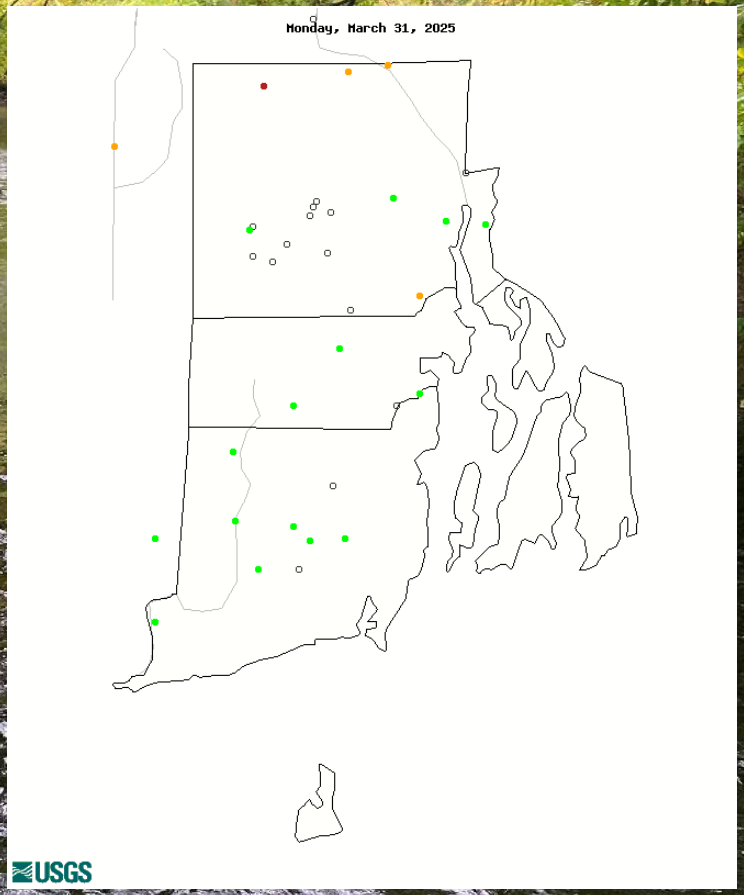
7 - Day Maps

March 01, 2025



March 31, 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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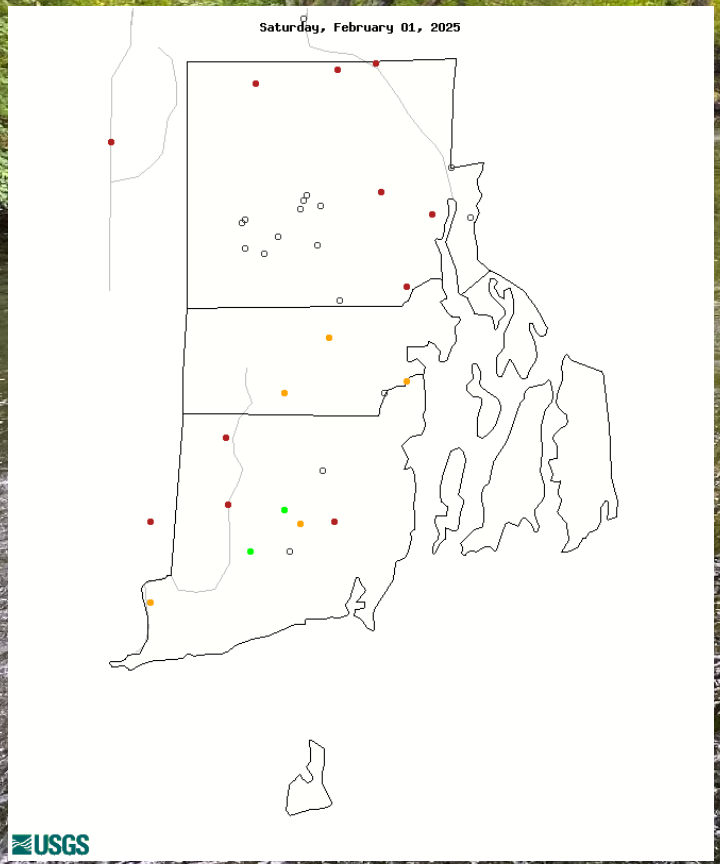
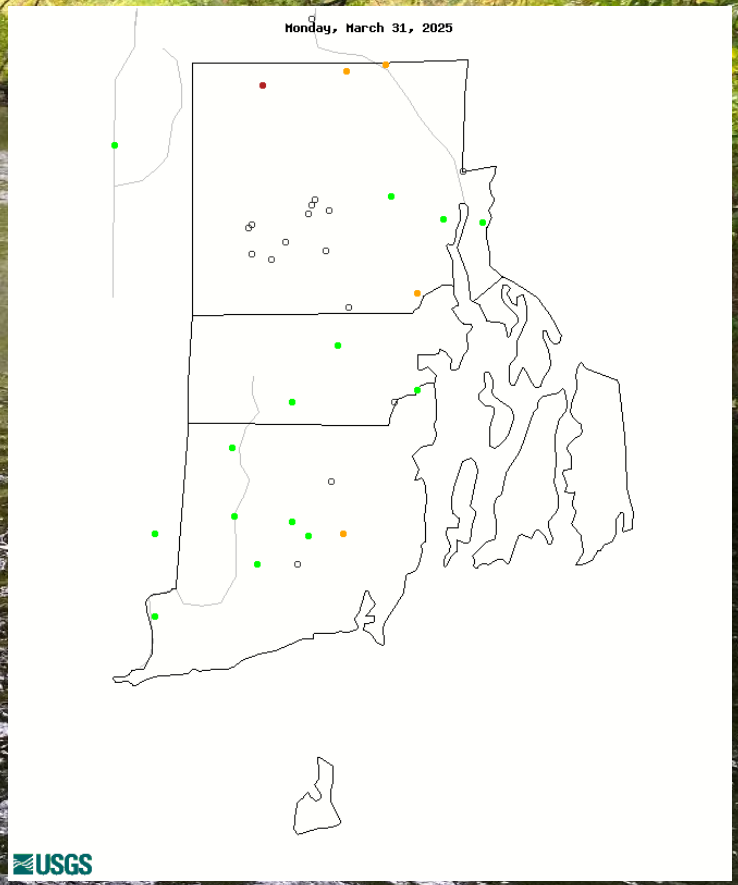
28 - Day Maps

February 01, 2025



March 31, 2025



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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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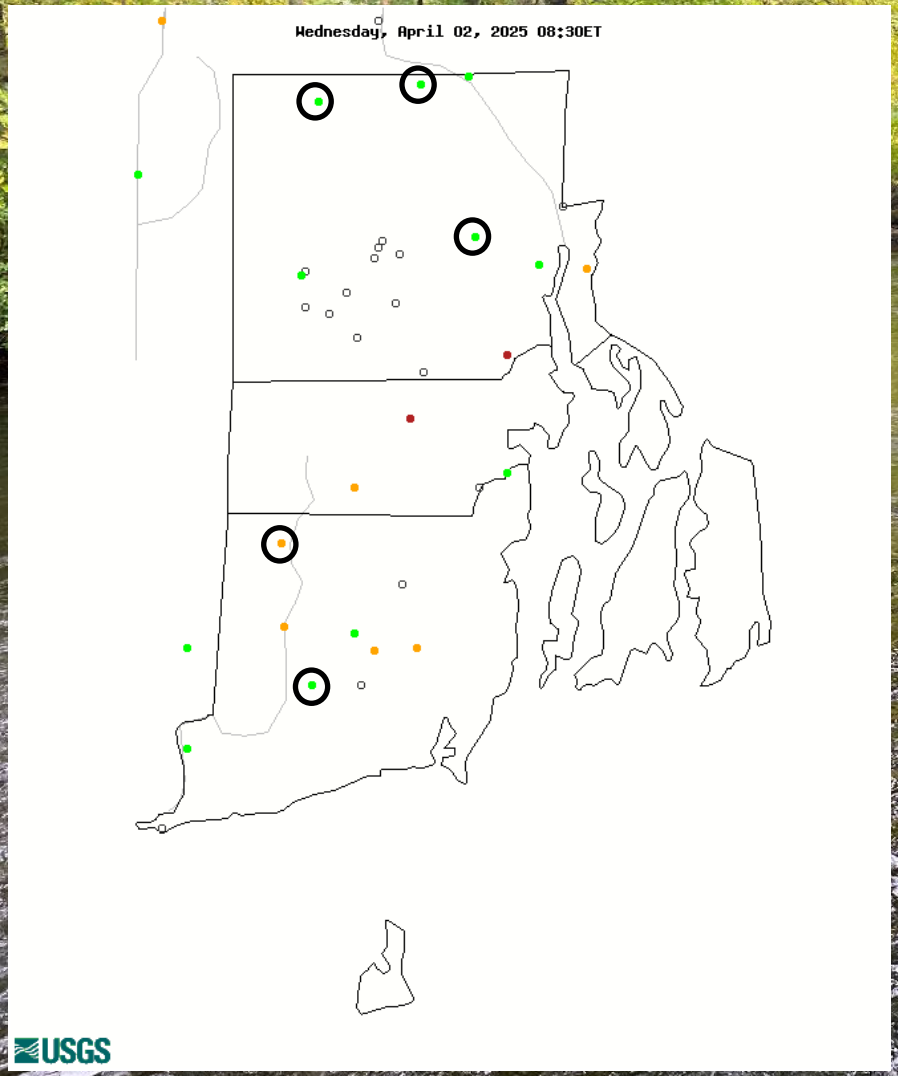
Current Streamflow Conditions – April 02, 2025



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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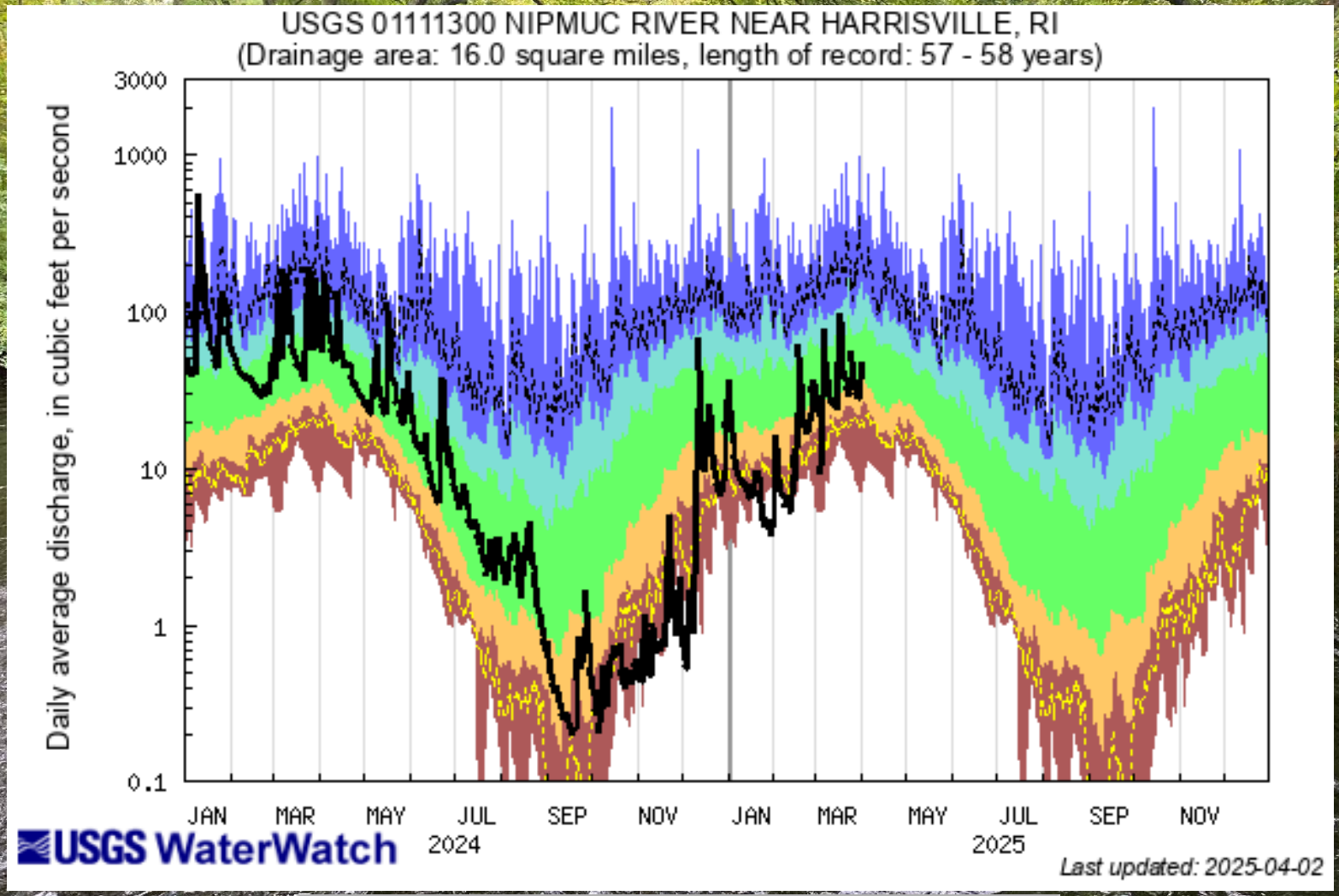
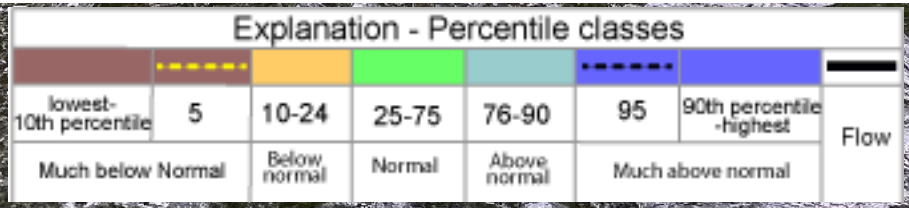
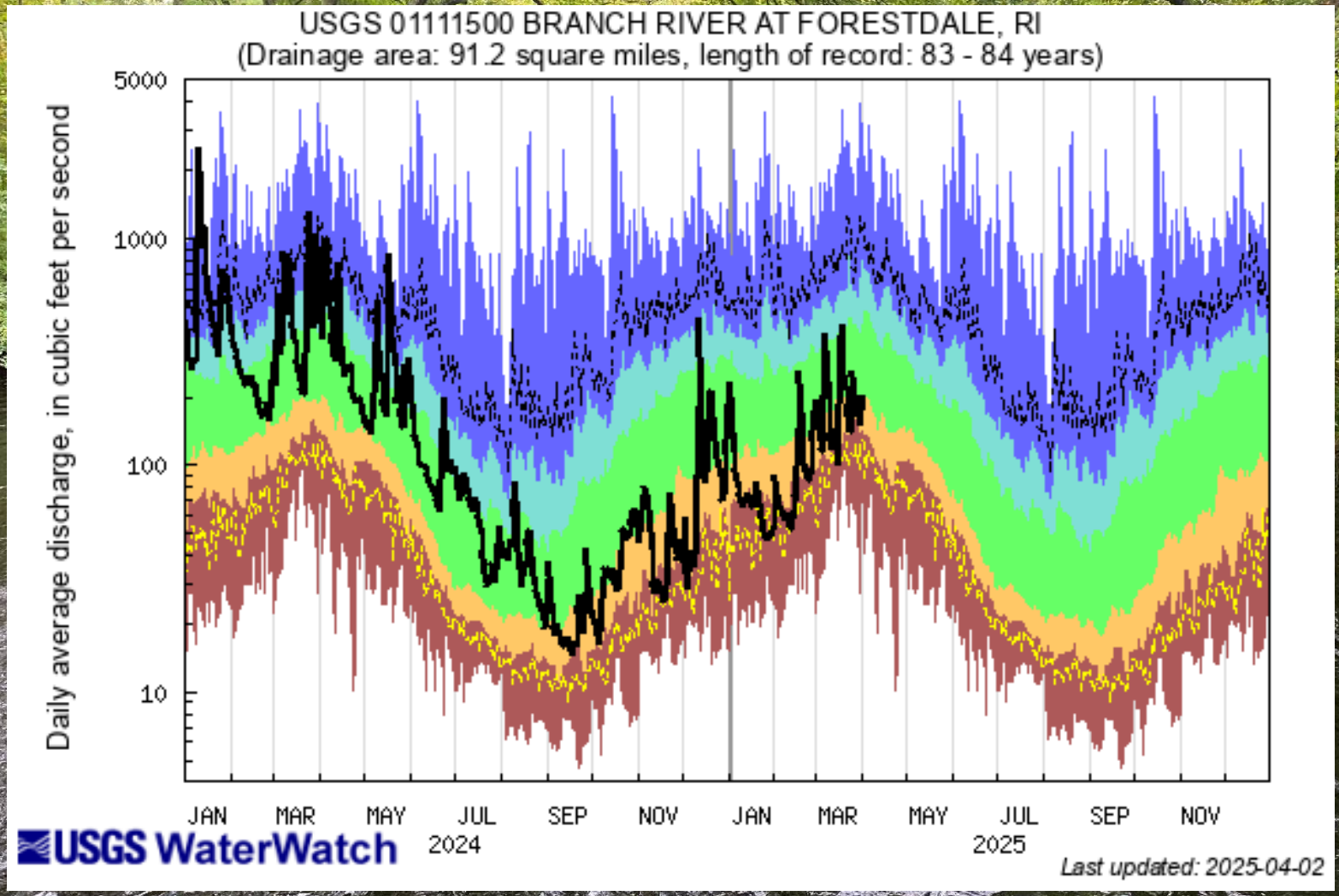
Northwest


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: 2025-04-02


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

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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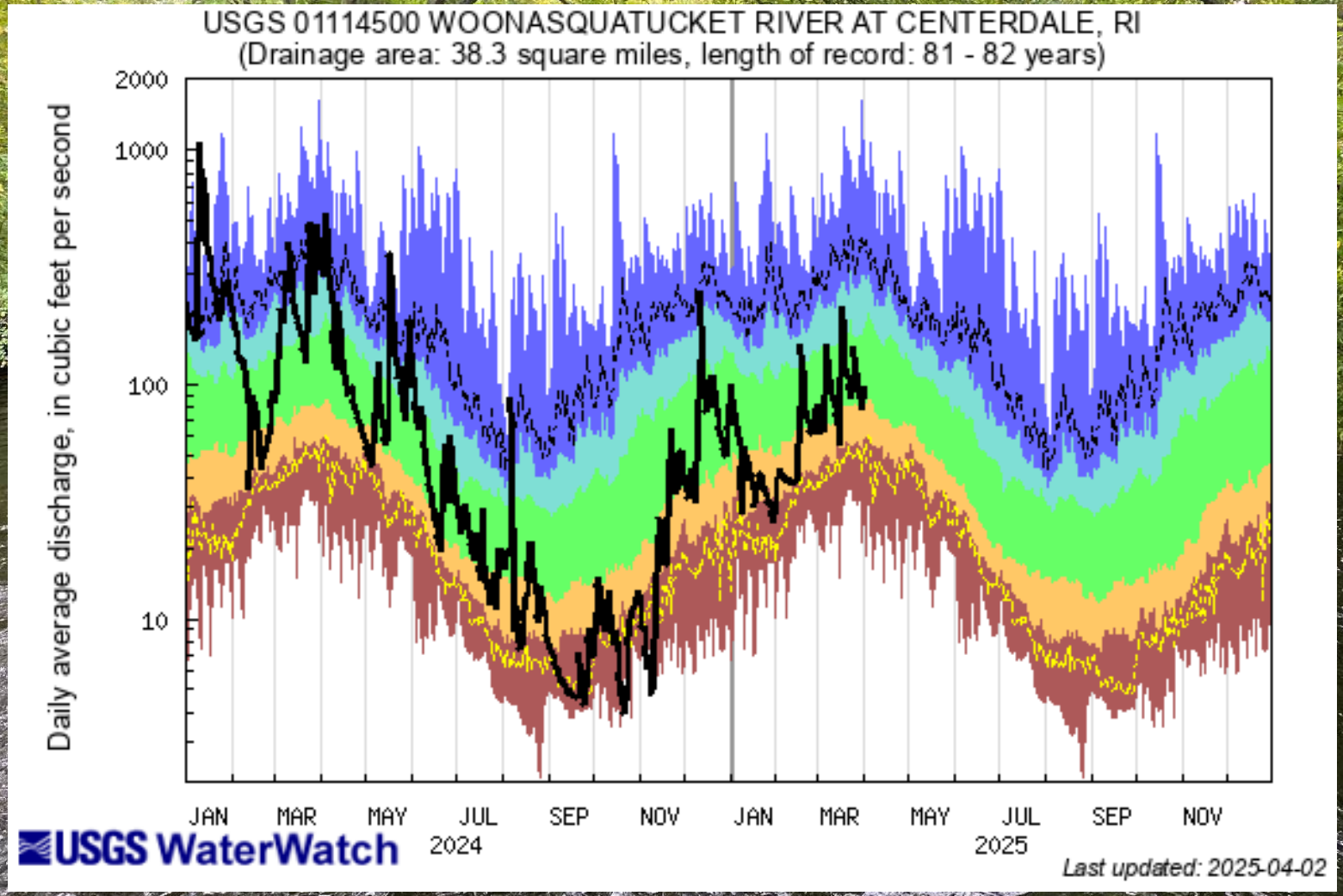
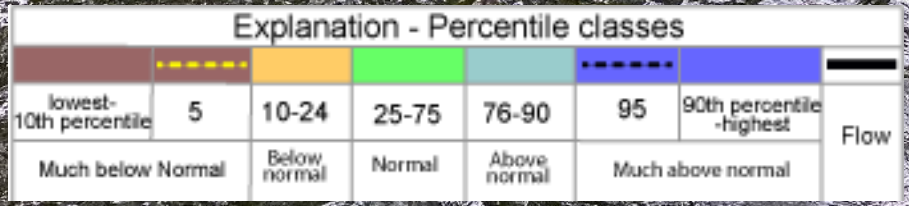
Northeast





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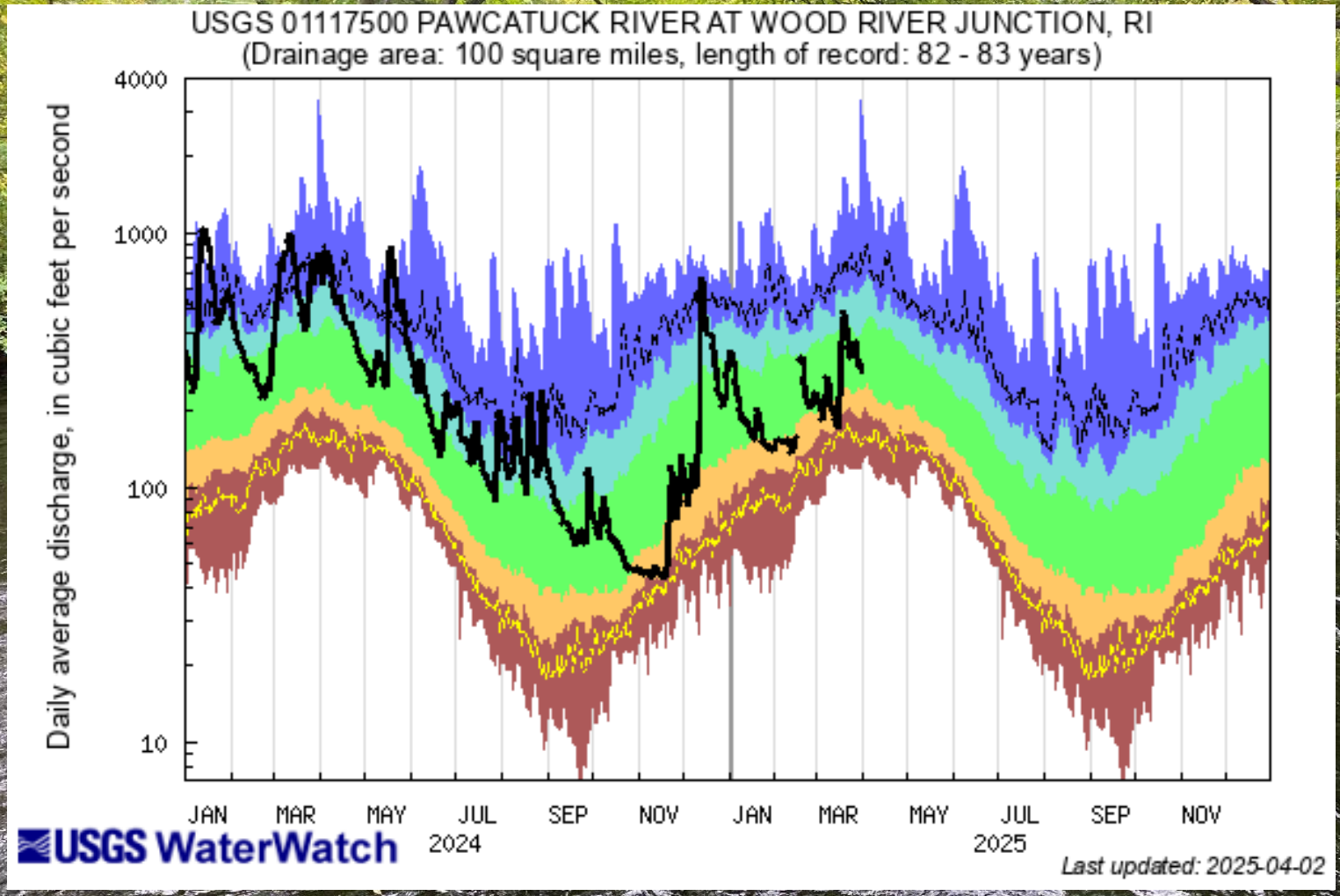
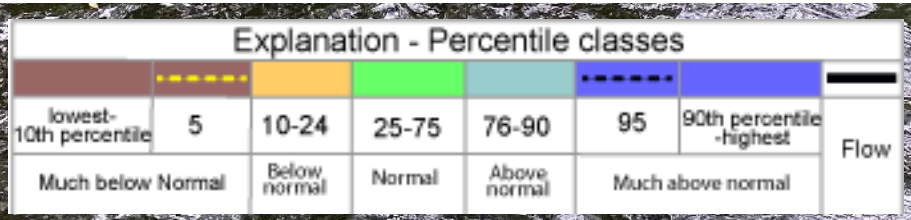
Southern





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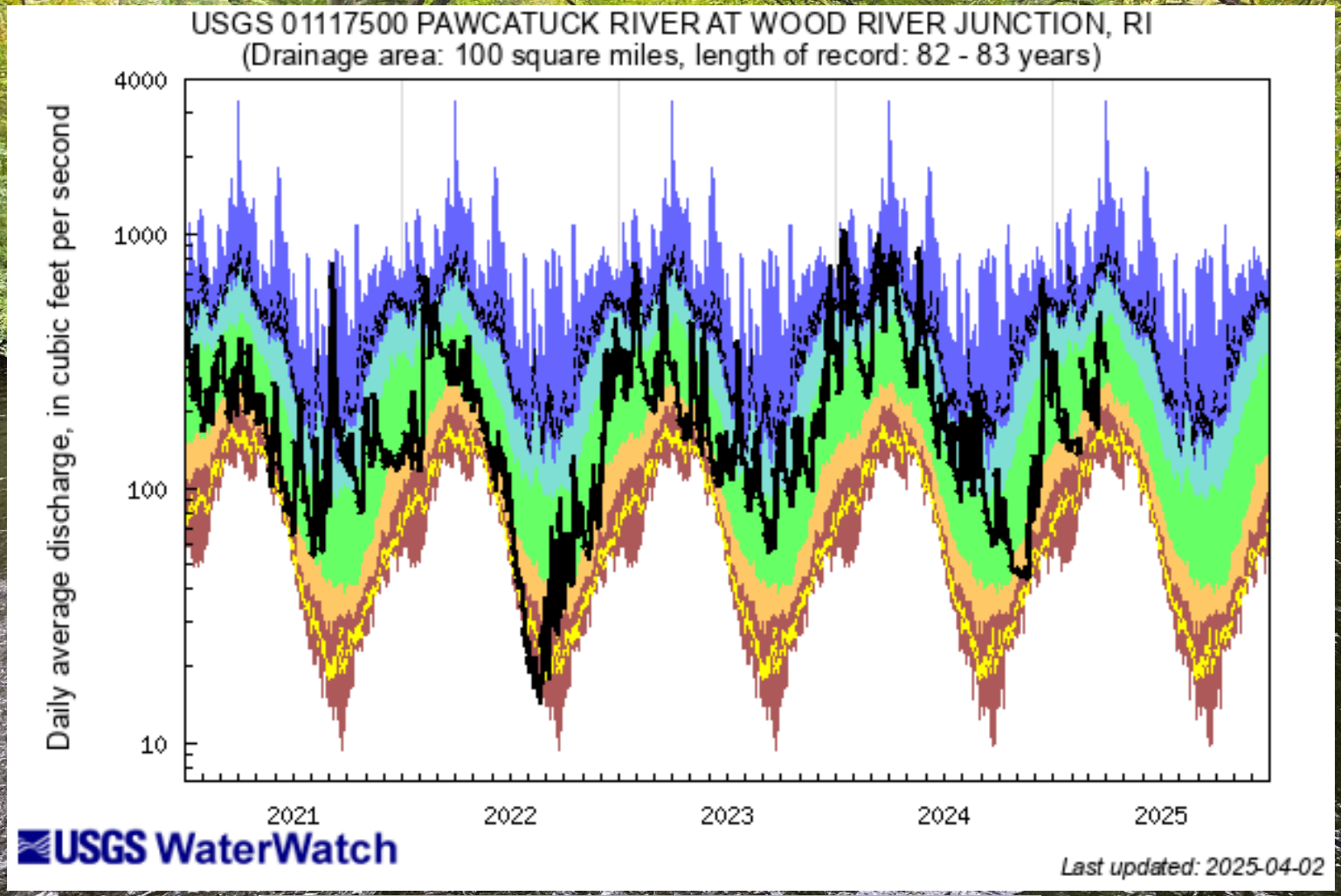
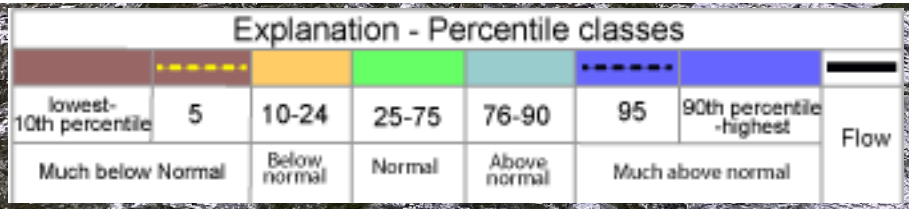
Southern





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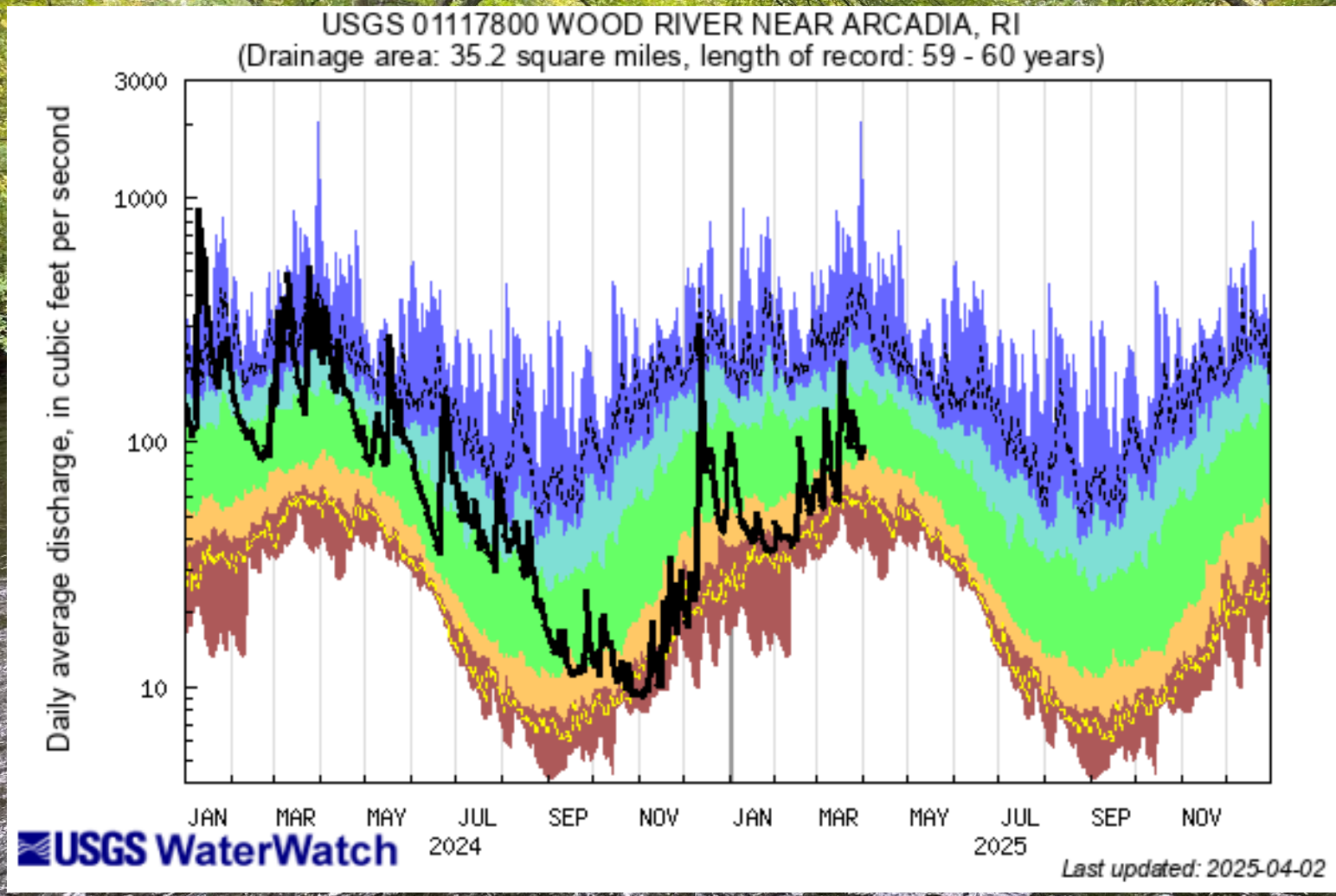
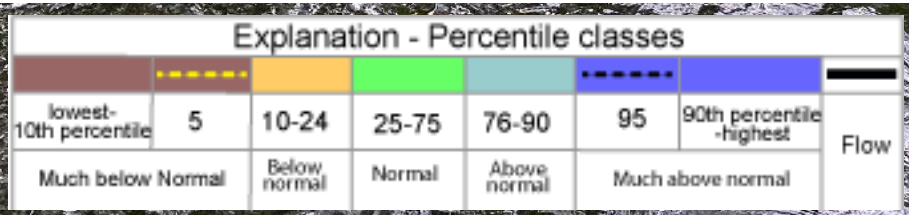
Southern





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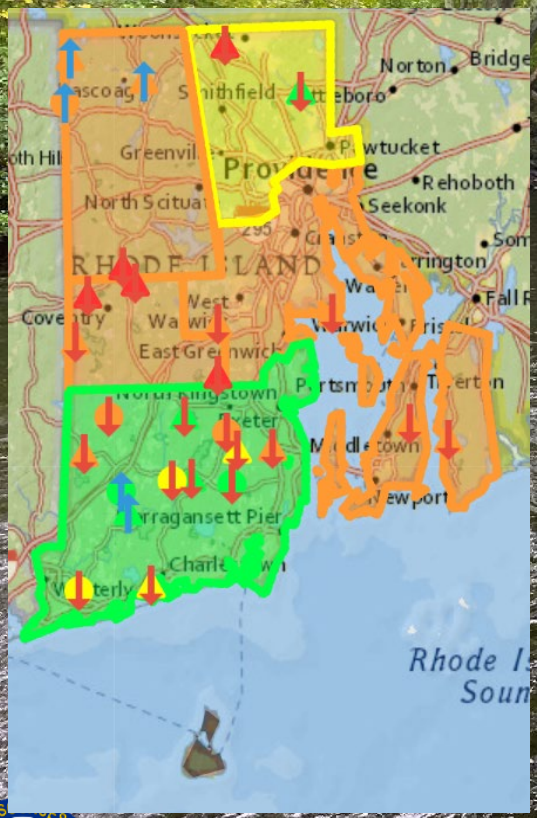
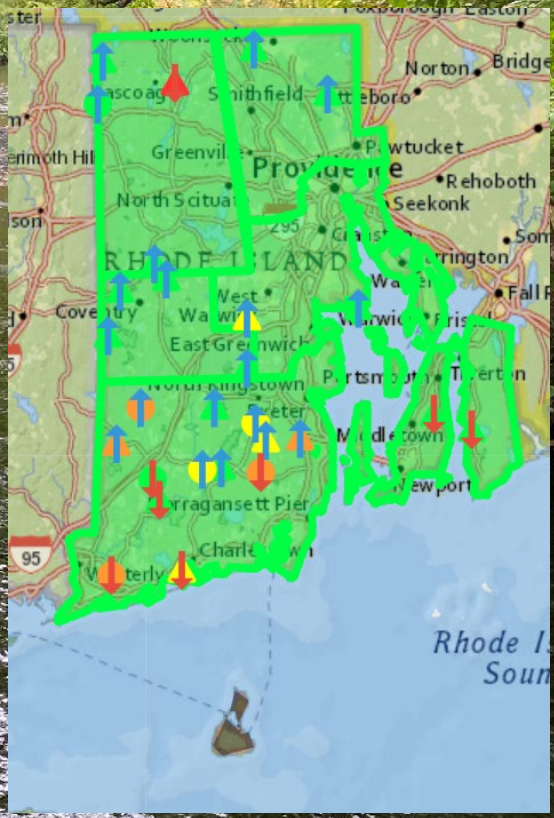
Groundwater Conditions

January 2025



February 2025

March 2025



	10%-25% Below Normal
	10th Percentile

	>35% Normal
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Average Monthly Groundwater Conditions June – December

Region & Num of Gages	GW 9/2024	GW 10/2024	GW 11/2024	GW 12/2024	GW 01/2025	GW 02/2025	GW 03/2025
North West (4)	38	24	10	16	11	14	53
North East (2)	29	12	3	38	26	42	64
Central West (4)	53	28	12	28	10	26	64
Central East (2)	55	38	17	42	19	17	51
Eastern (2)	53	30	14	38	17	72	39
Southern (13)	68	51	36	54	38	34	35
New Shoreham (0)							
Statewide (27)	56	38	15	41	26	32	46

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

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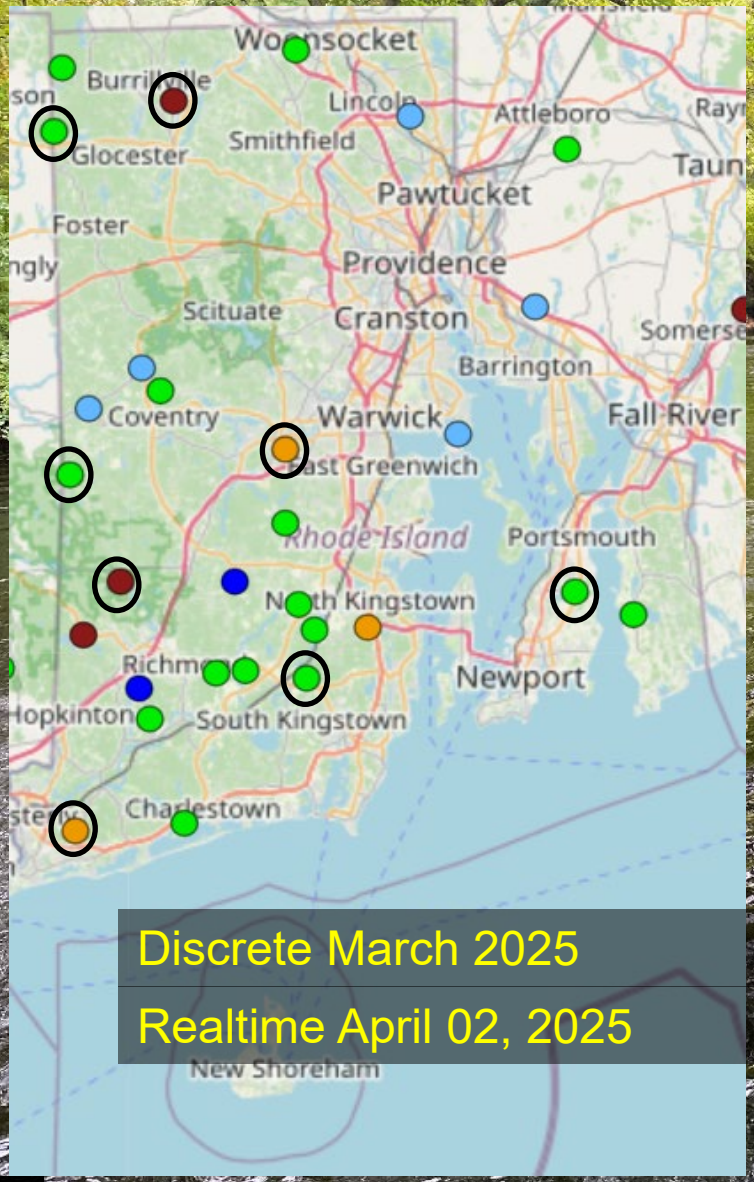
Current Groundwater Conditions



Discrete March 2025

Realtime April 02, 2025

Percentile

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

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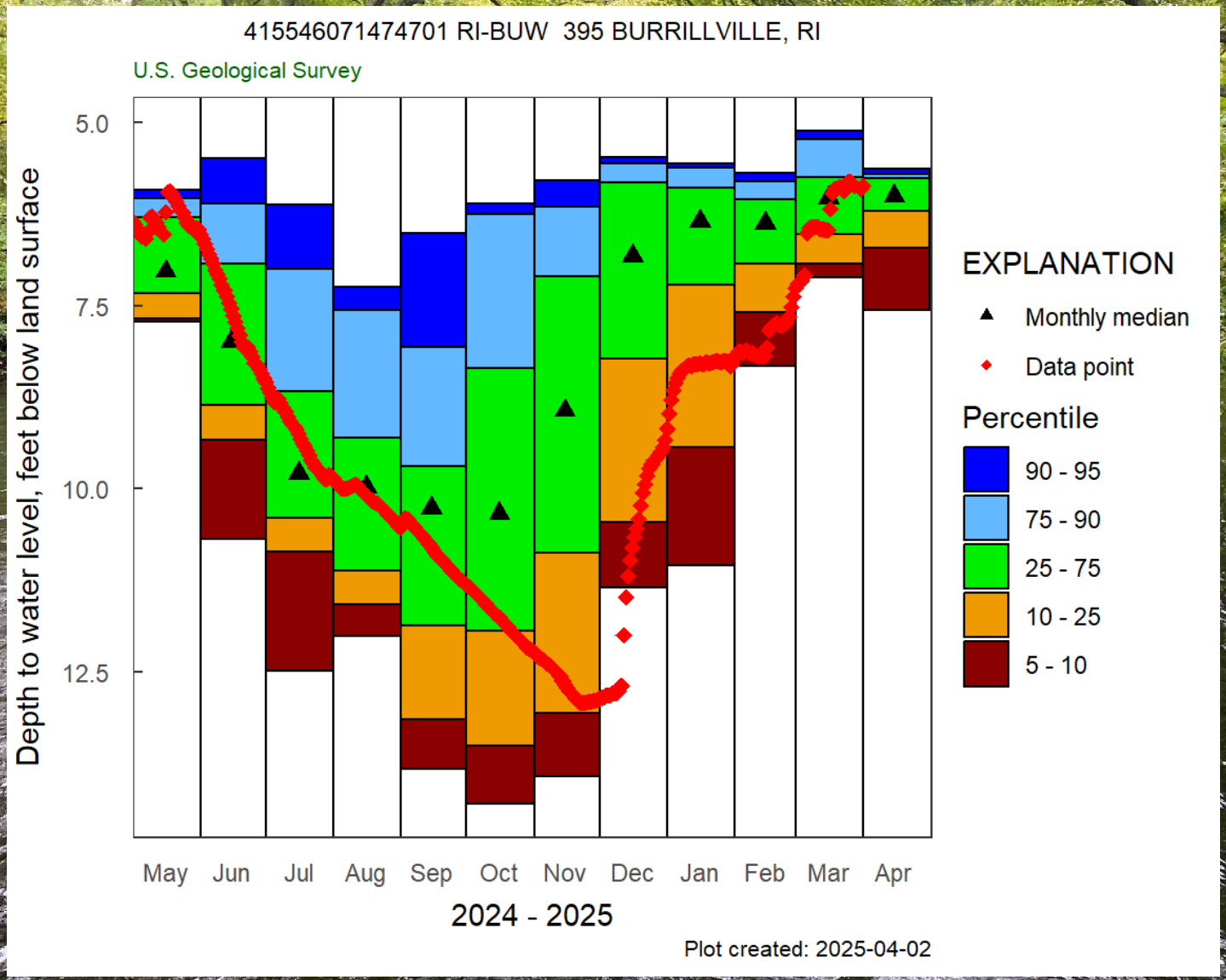
Northwest



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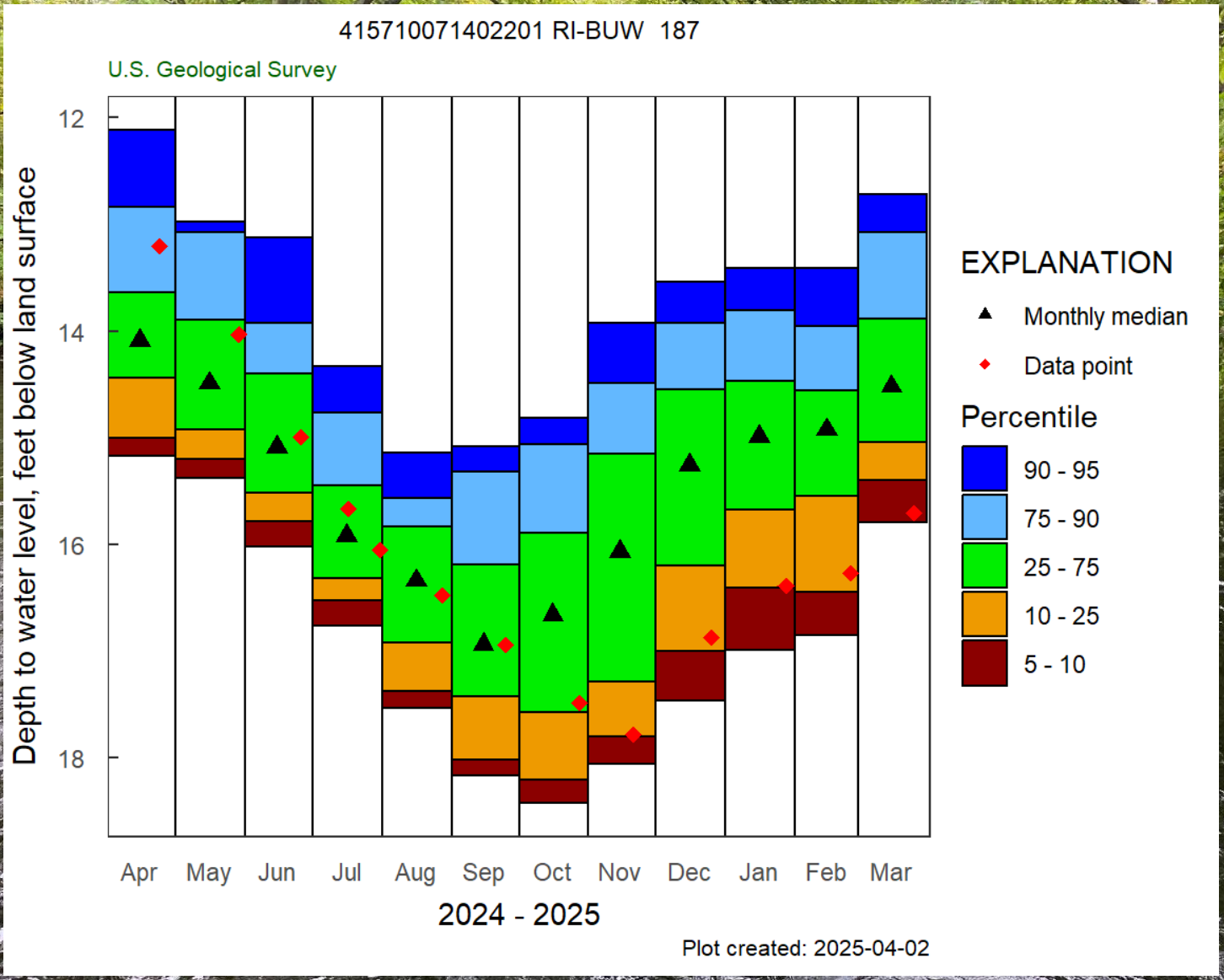
Northwest



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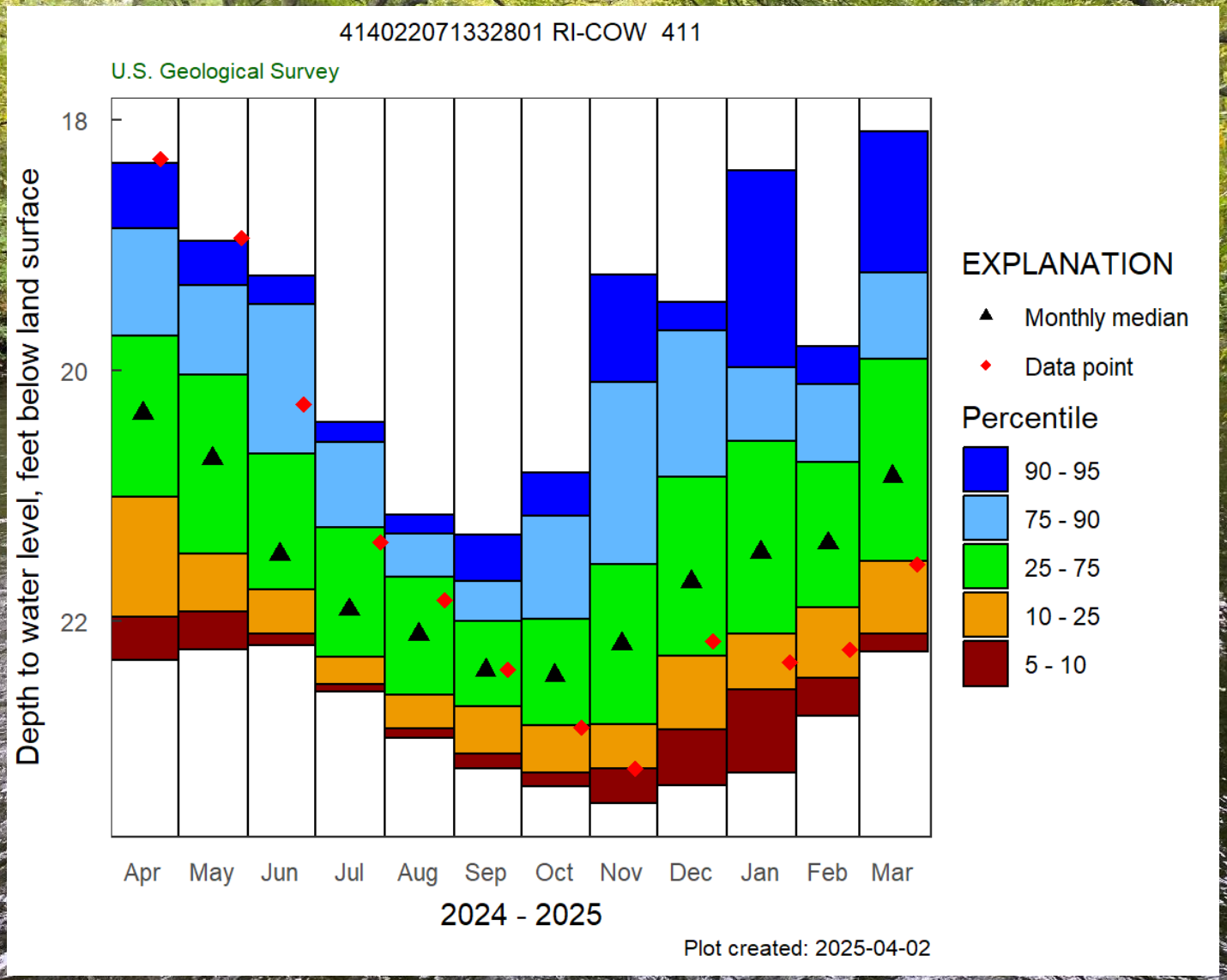
Central East



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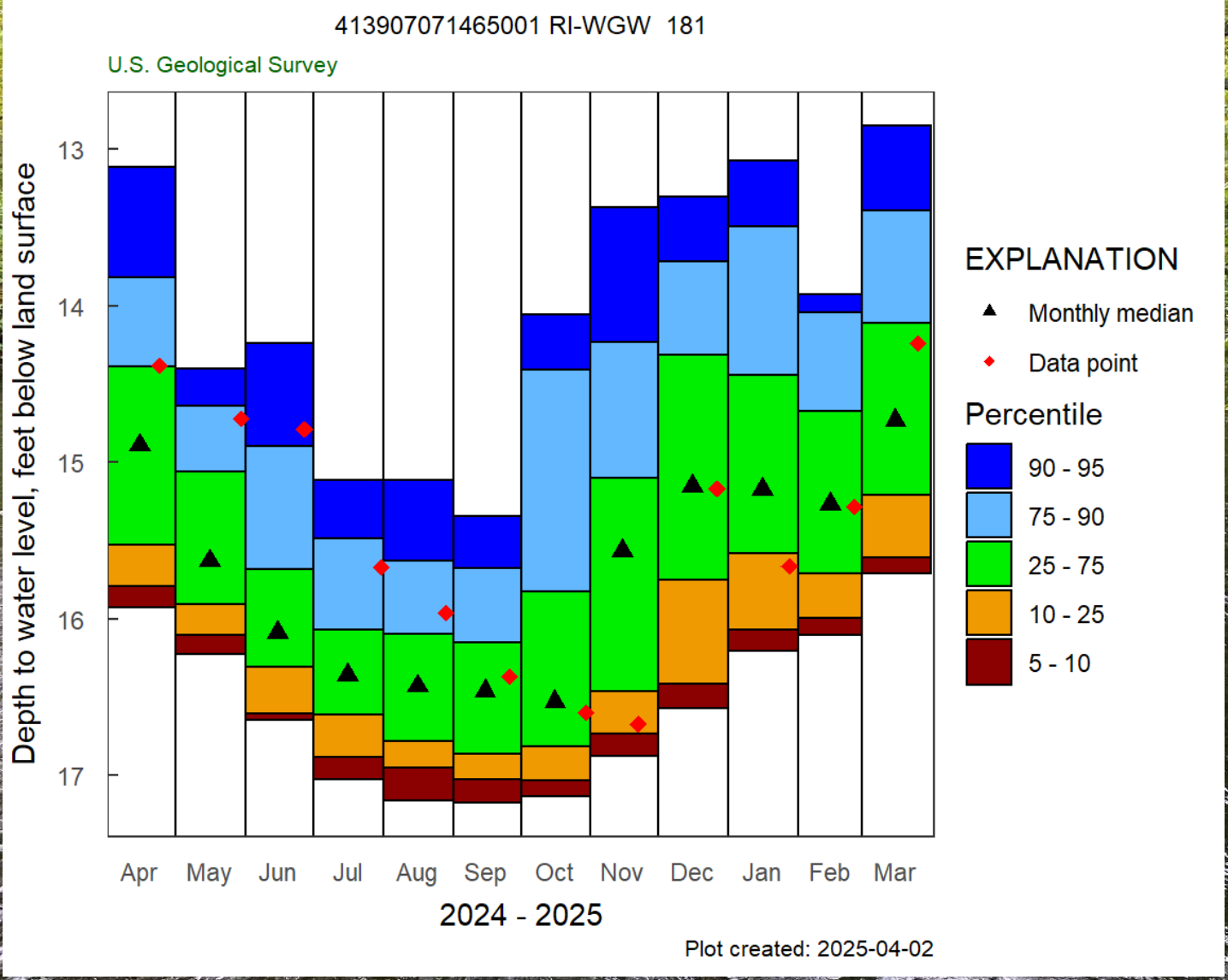
Central West



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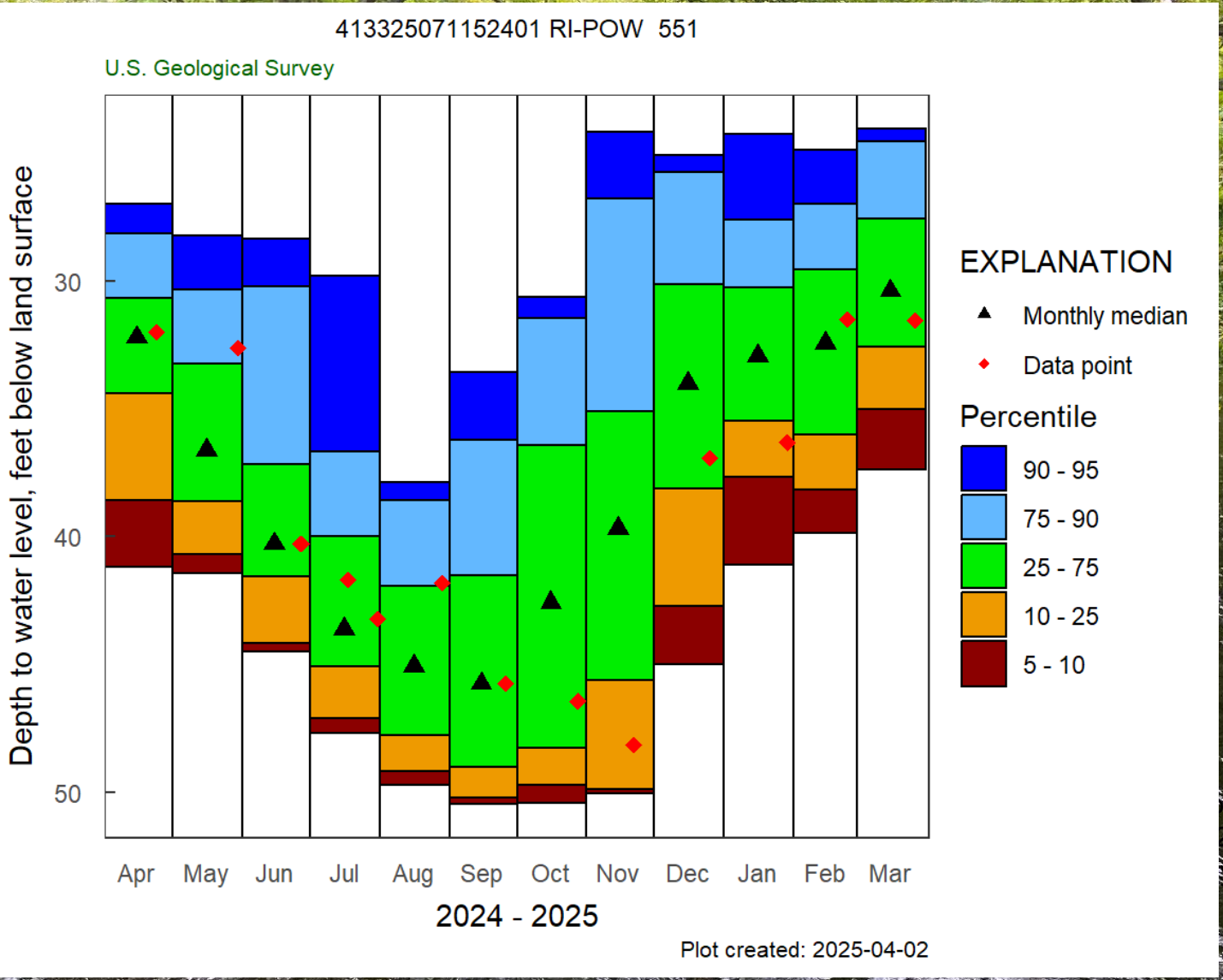
Eastern



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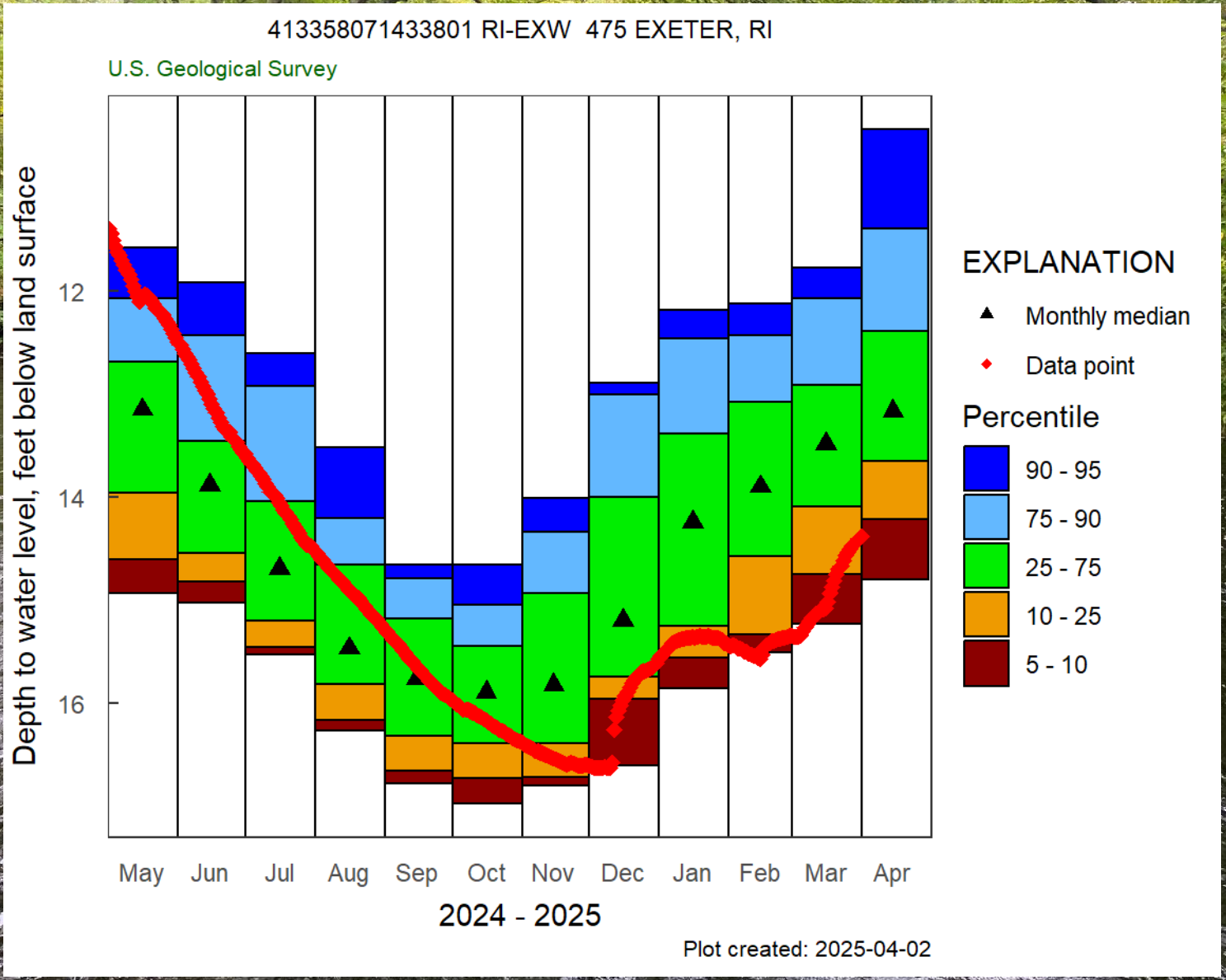
Southern



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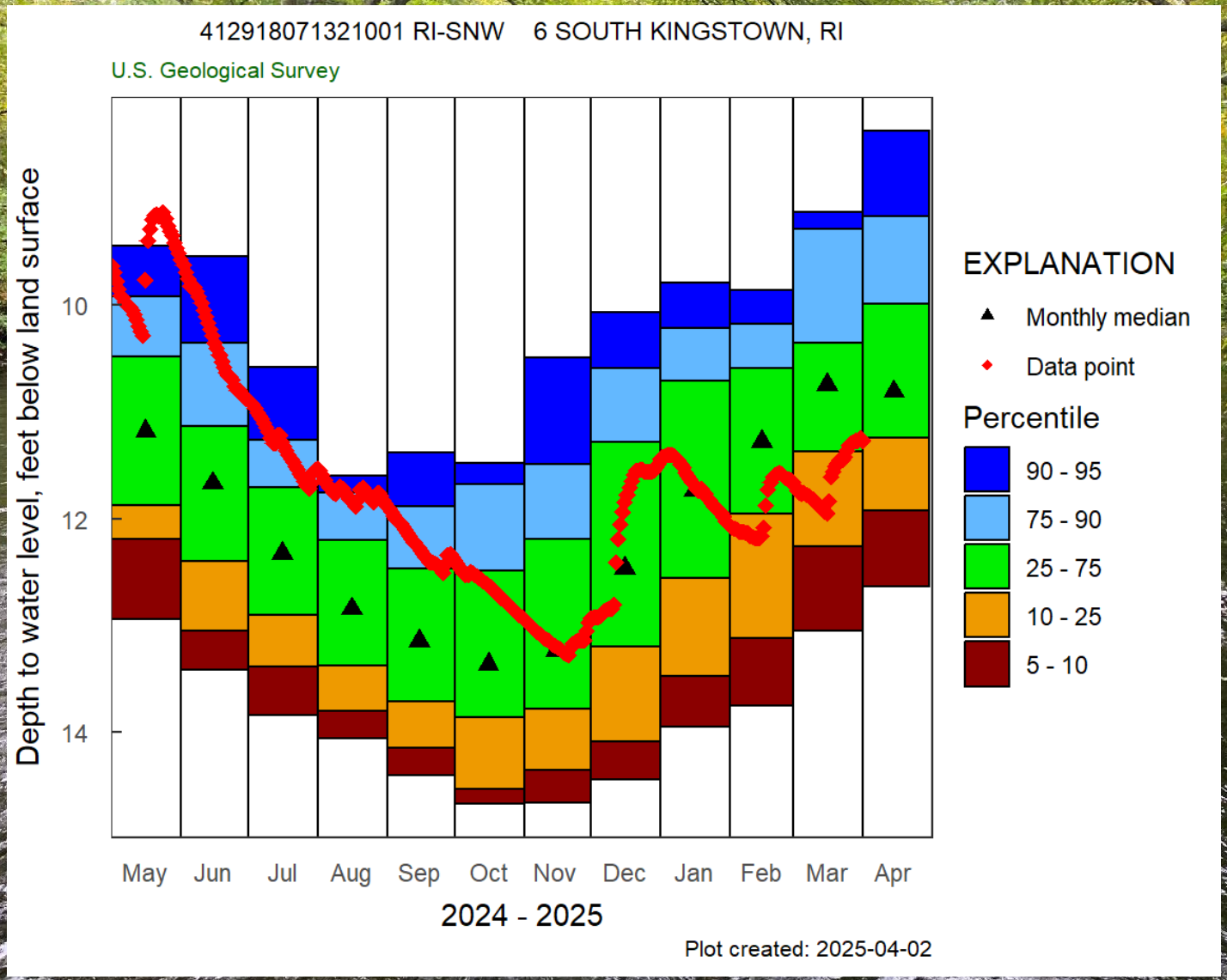
Southern



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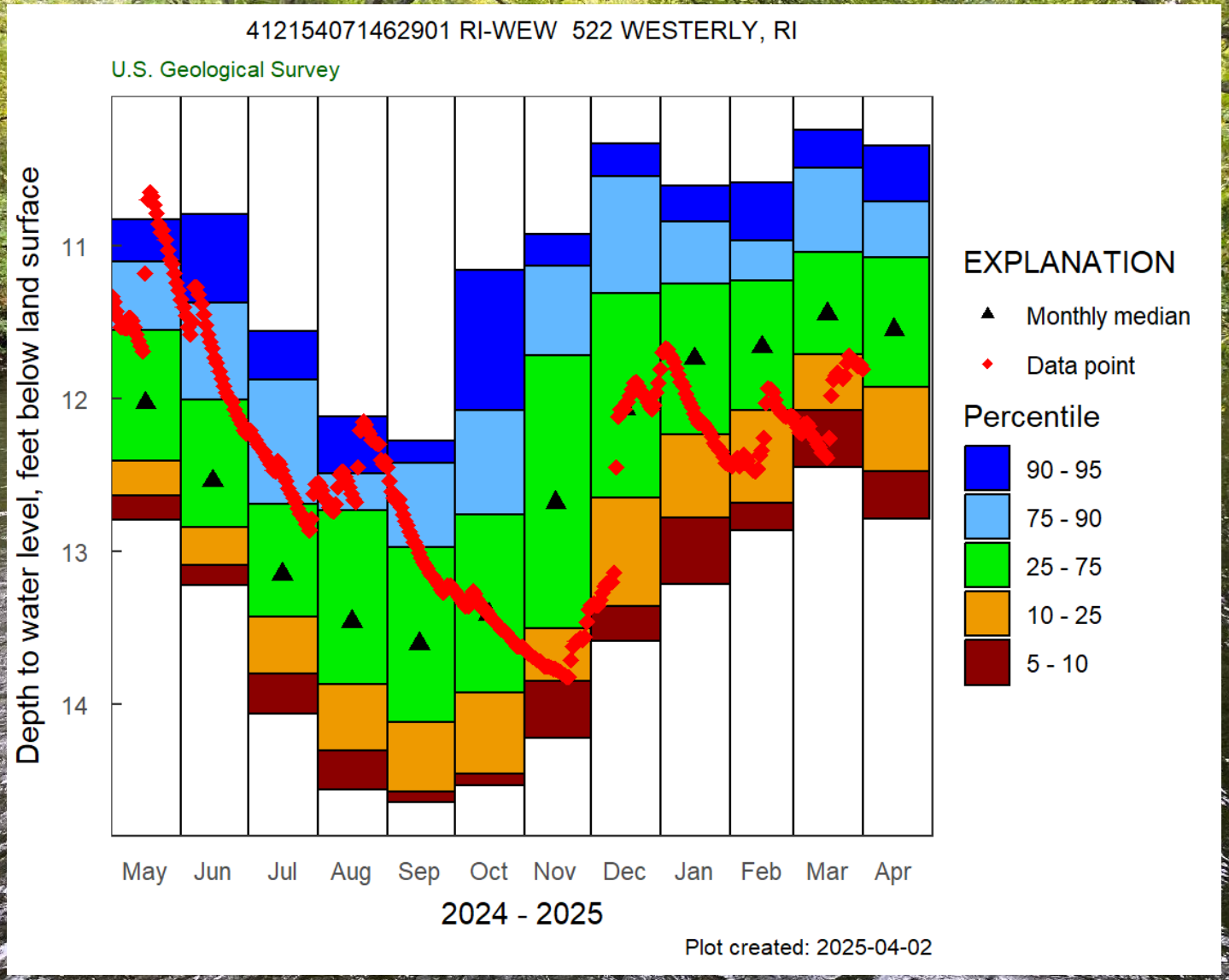

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Statewide/Regional GW Recap

- Recovery from advisory to normal is two consecutive months of normal groundwater.
- Ground Water Statewide Average
  - Feb 32% March 29%
- Four of six measured regions meet criteria for recovery.
  - Southern, North East, Central West, and Eastern meet recovery criteria.
  - North West, Central East, do not meet recovery criteria.
- Regions Meeting Watch Criteria
  - North West

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 SW Recap

- 5 regions are measured
- Statewide averages for March 29%
- Statewide averages do not meet advisory Criteria
- Three regions meet Warning Criteria
  - North West, North East and Central East
  - One regions meet Watch Criteria
    - Central West
- Southern Region has returned to normal.

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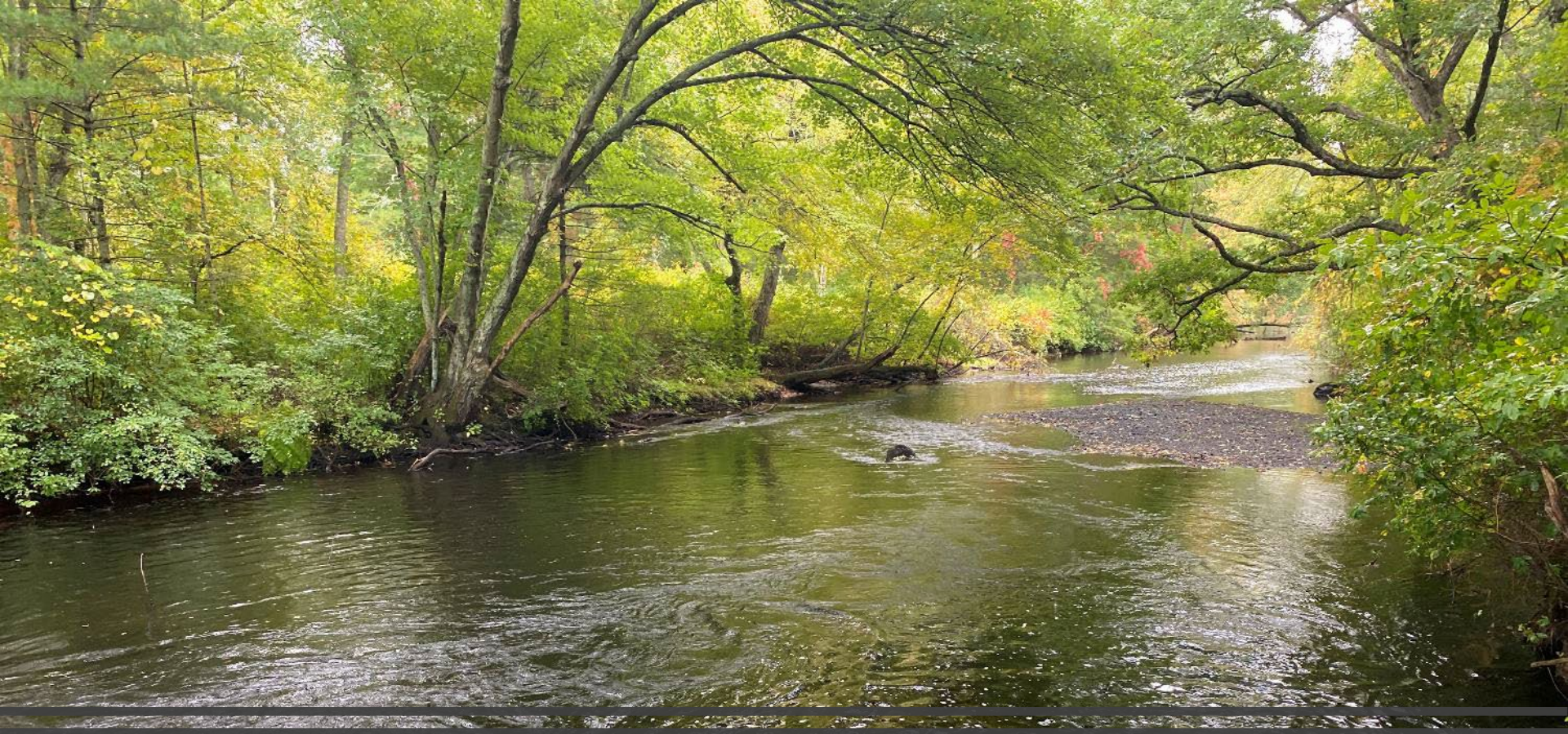

Questions?

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Bonus Recap

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

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