# Streamflow and Groundwater Conditions in Rhode Island

## November 2024– January 2025

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February 11, 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 |
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**+ Major Hydrologic Indicators.**

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**"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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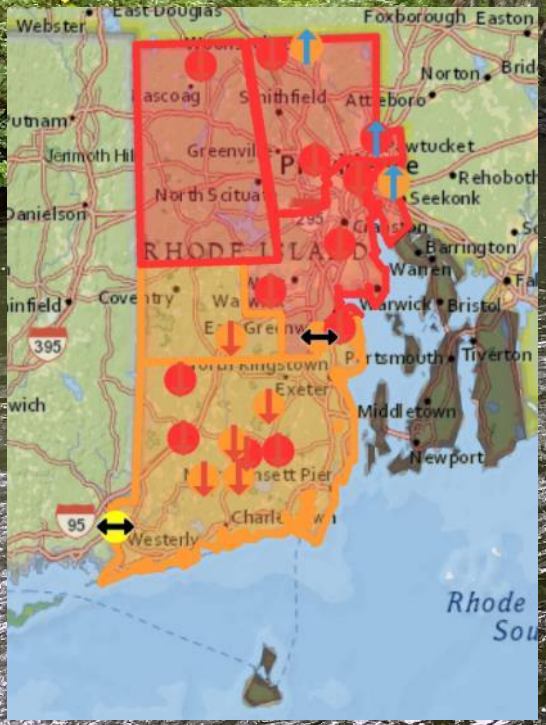
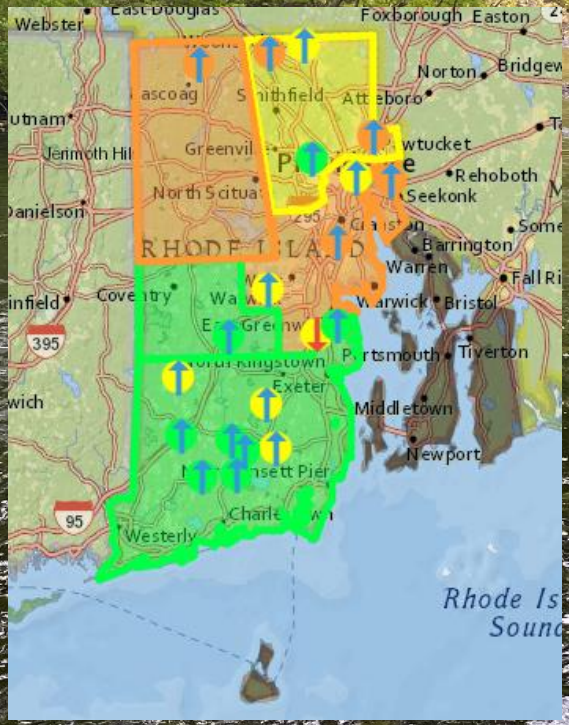
# Average Monthly Streamflow Conditions
# October - December

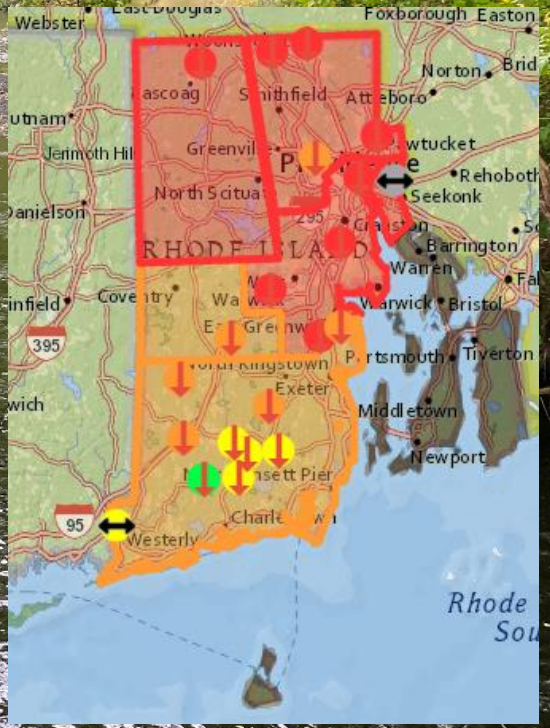
November




December




January




Normal
Approaching Below Normal
Below Normal
Below the 10th Percentile
Missing Value

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# Average Monthly Streamflow Conditions June 2024 – Jan 2025

| Region & Num of Gages | Q 7/2024 | Q 8/2024 | Q 9/2024 | Q 10/2024 | Q 11/2024 | Q 12/2024 | Q 01/2025 |
|---|---|---|---|---|---|---|---|
| Northwest (1) | 47 | 42 | 13 | 5 | 2 | 10 | 3 |
| Northeast (4) | 47 | 41 | 14 | 10 | 10 | 27 | 8 |
| Central West (1) | 84 | 81 | 38 | 19 | 11 | 38 | 14 |
| Central East (4) | 74 | 58 | 19 | 9 | 4 | 25 | 6 |
| Eastern (0) | | | | | | | |
| Southern (11) | 76 | 85 | 52 | 31 | 14 | 48 | 24 |
| New Shoreham (0) | | | | | | | |
| Statewide (21) | 69 | 69 | 36 | 21 | 10 | 32 | 17 |

**Streamflow = Advisory (Three consecutive months below normal)**

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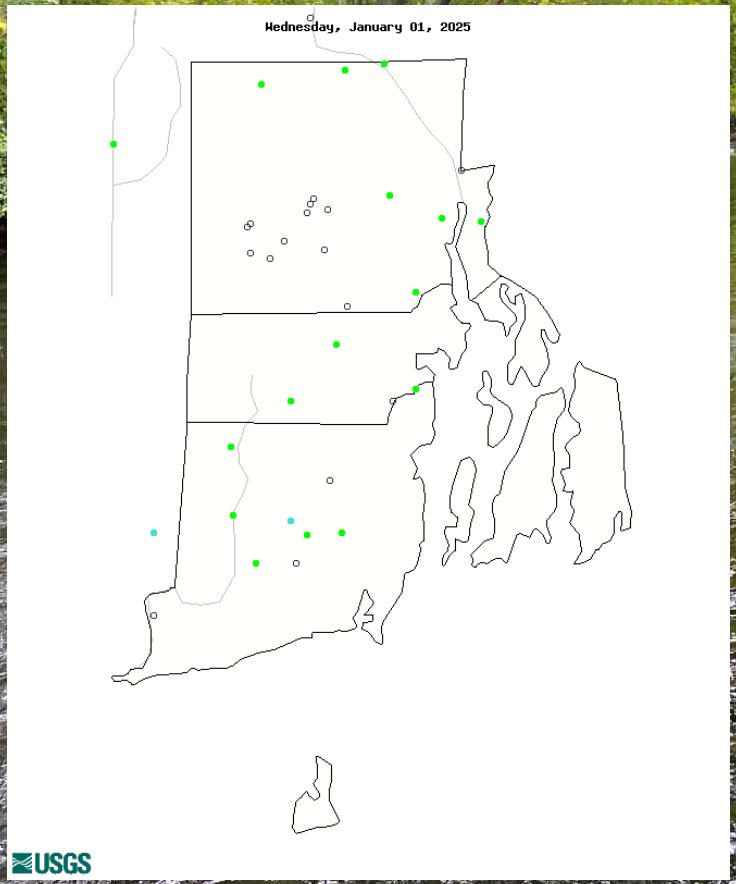
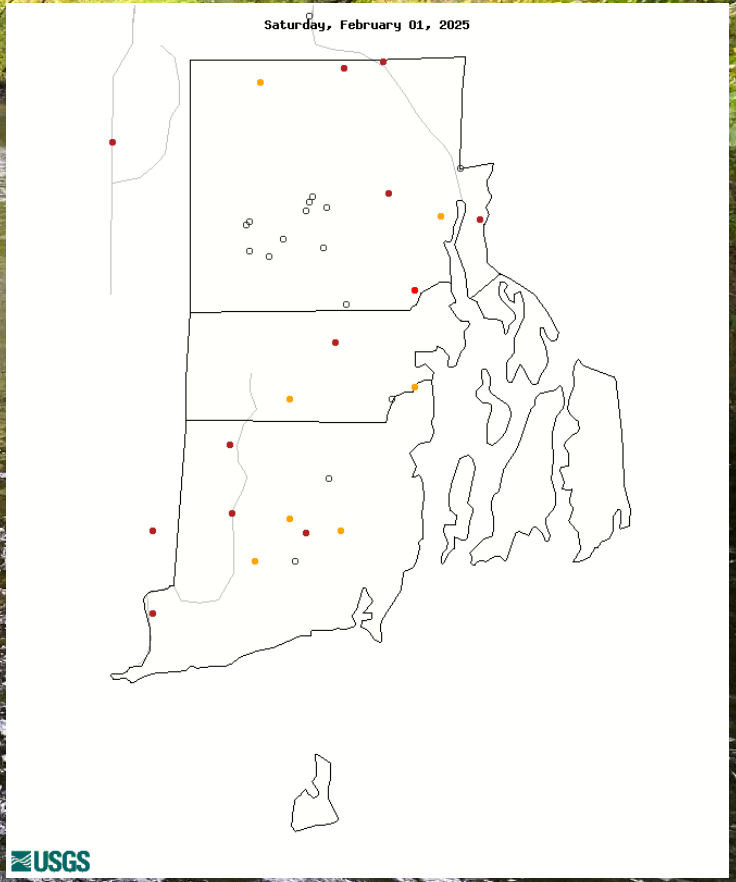
# 7 - Day Maps

## January 01, 2025




## February 01, 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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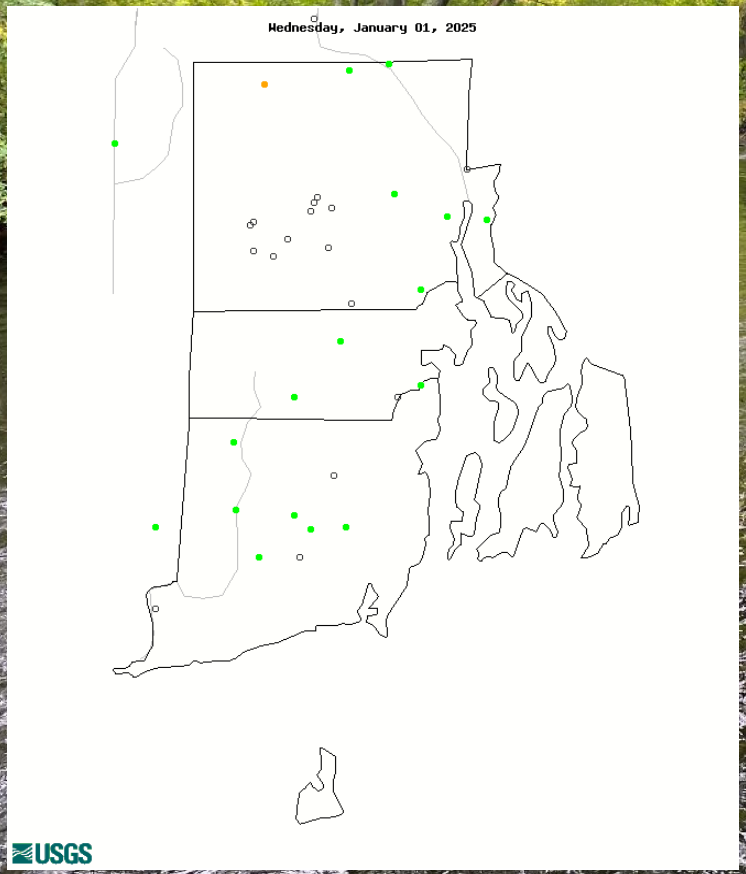
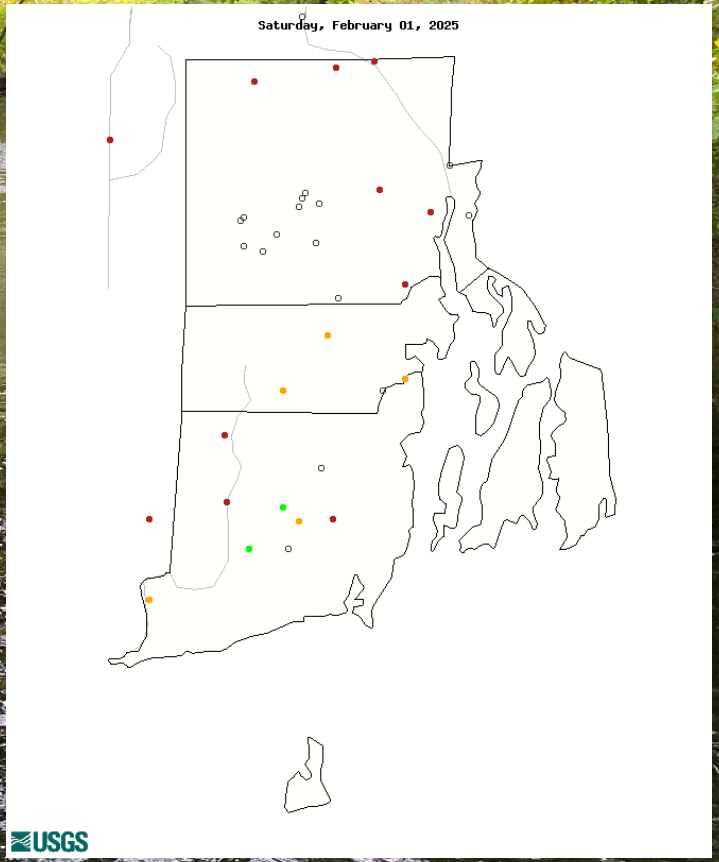
# 28 - Day Maps

## January 01, 2025




## February 01, 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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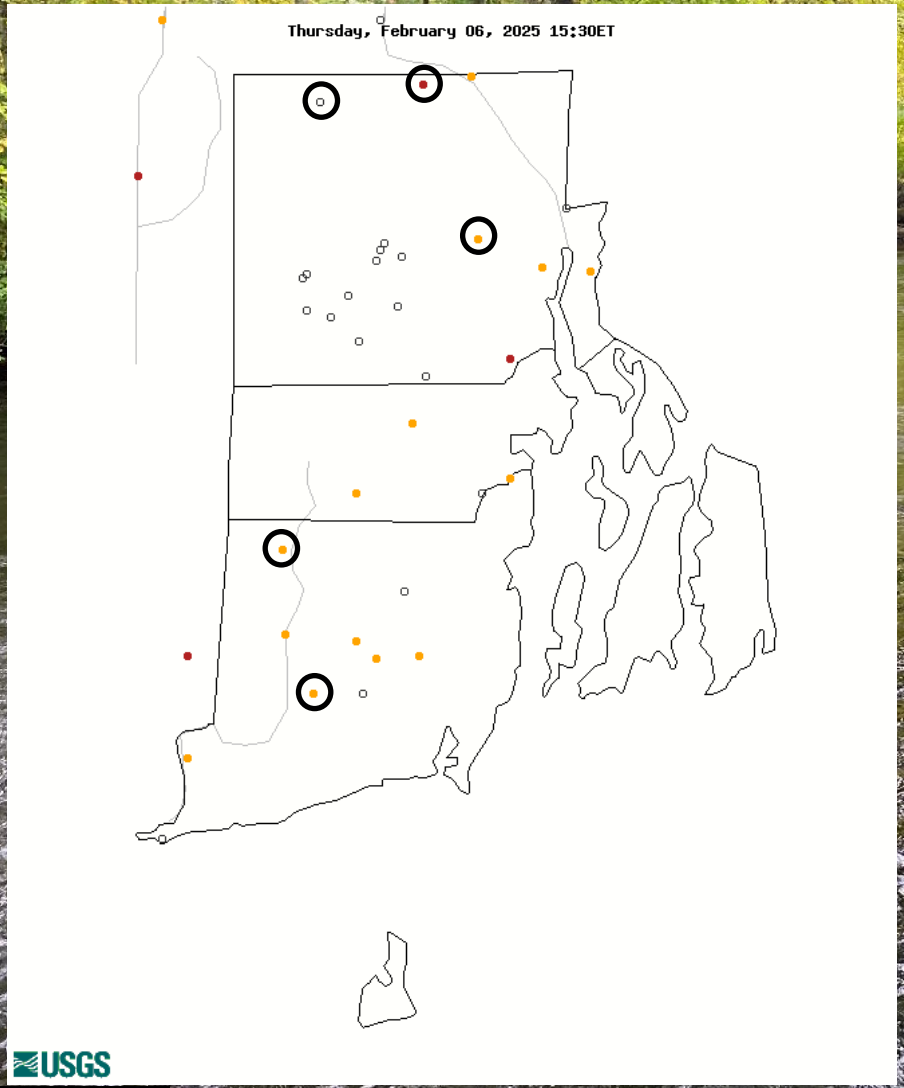
# Current Streamflow Conditions – feb 07, 2025




| 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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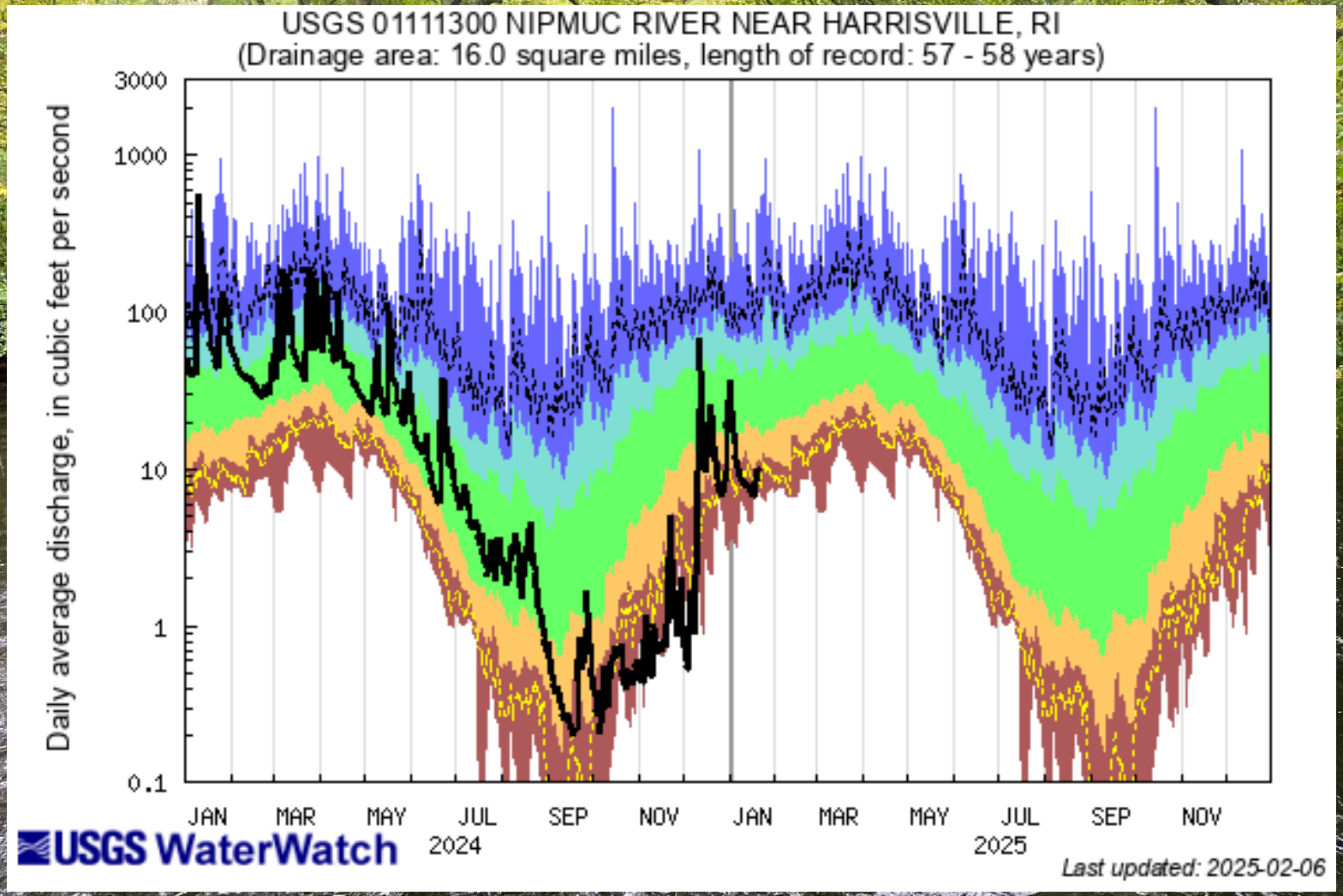
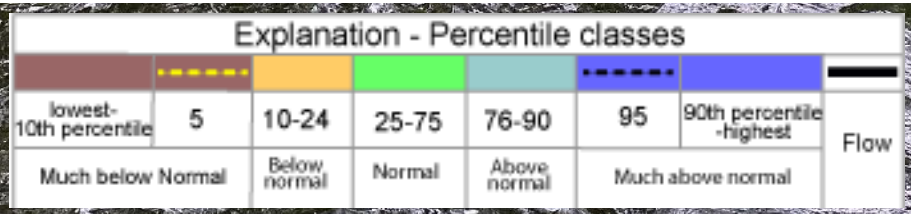
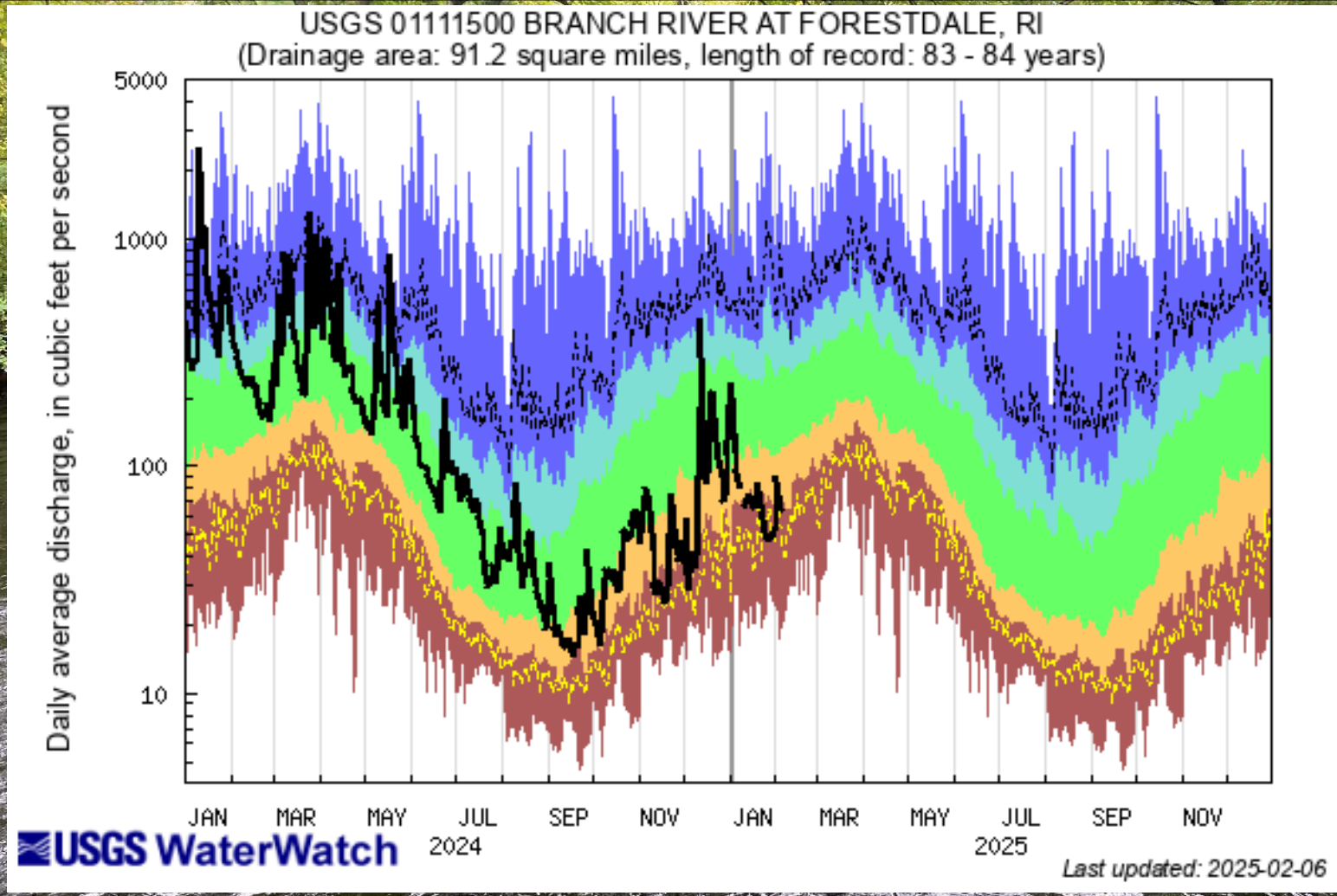
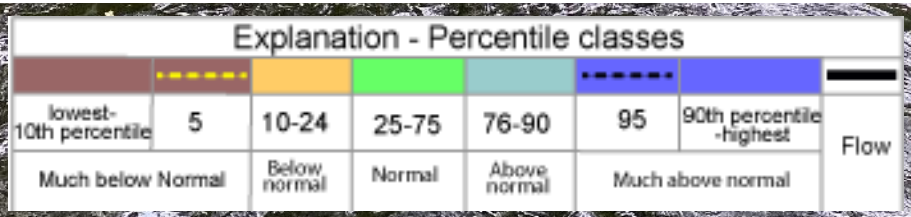
# Northwest


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: 2025-02-06


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

# Northeast

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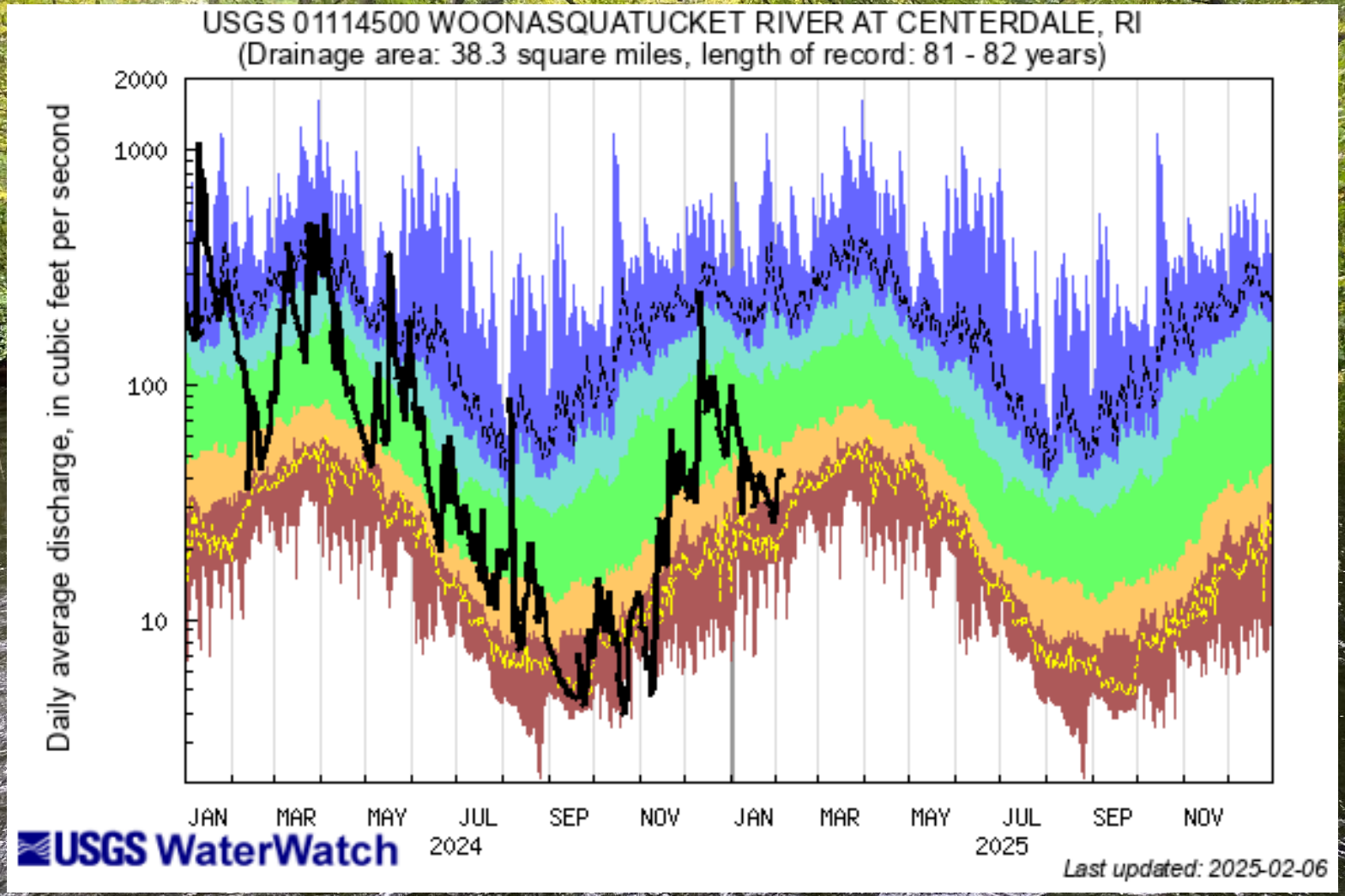
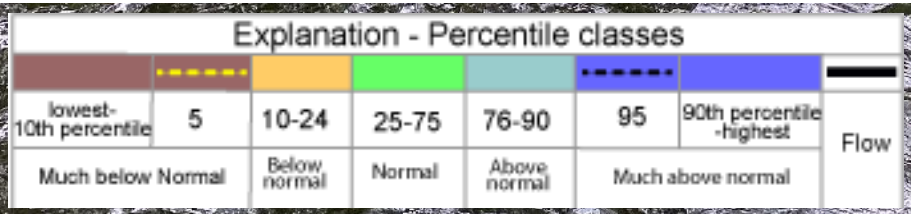
# Northeast

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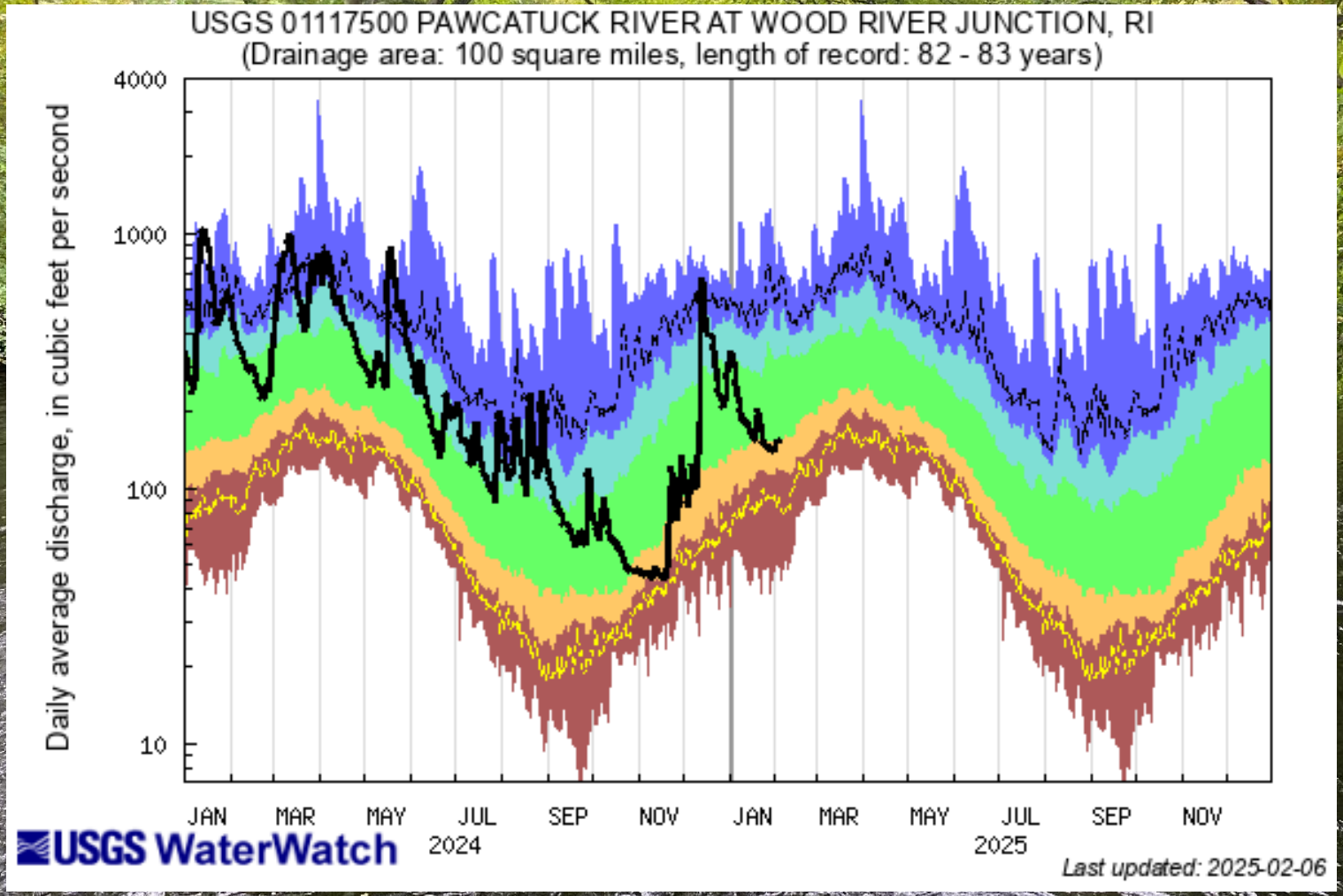
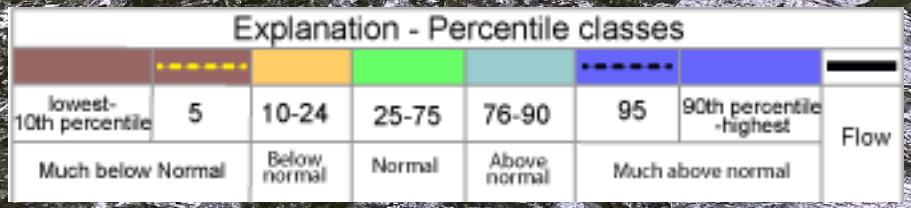
# Southern

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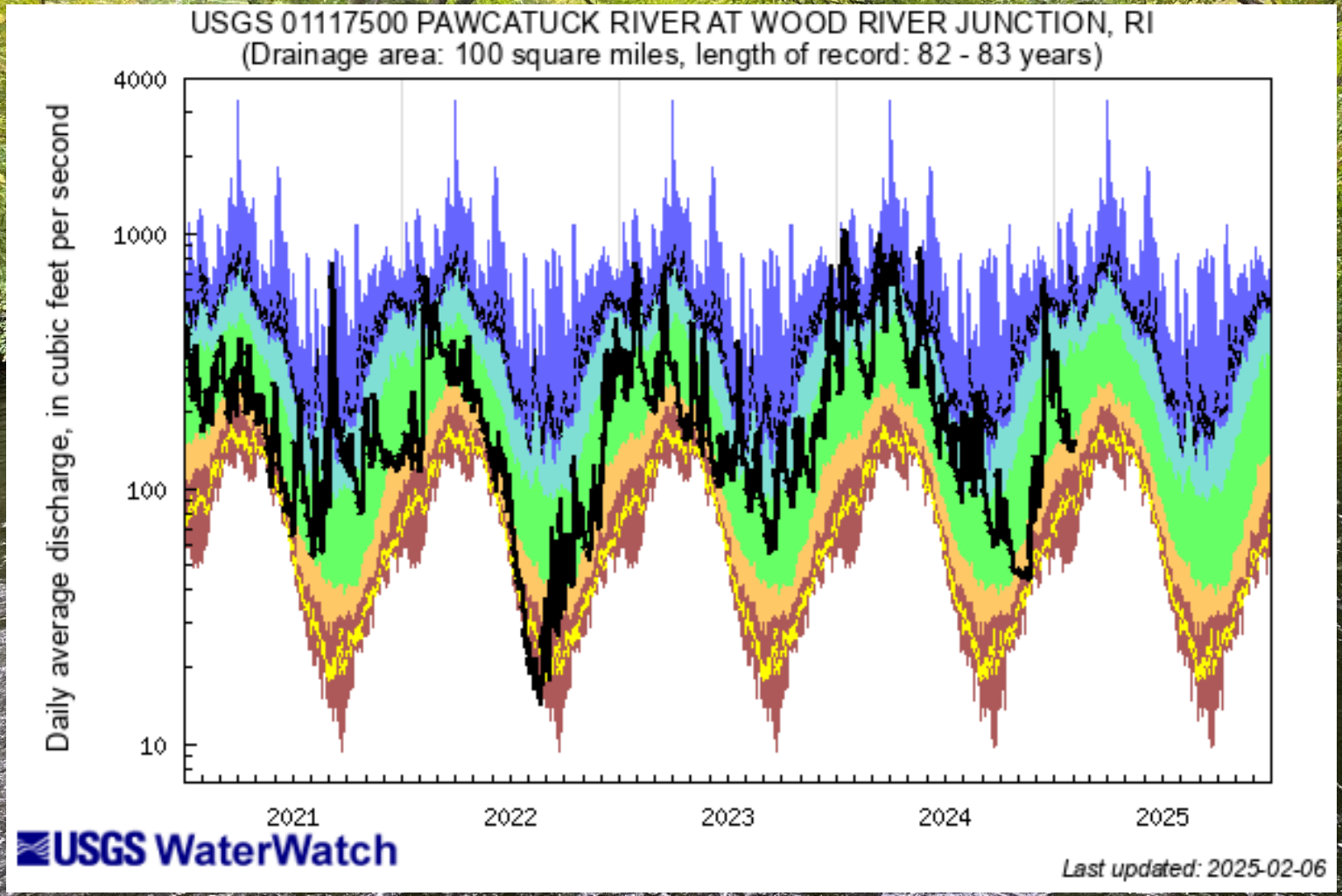


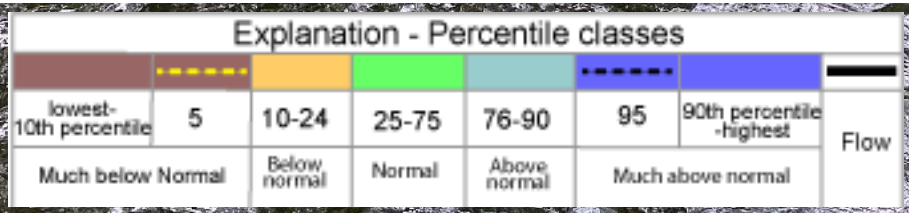


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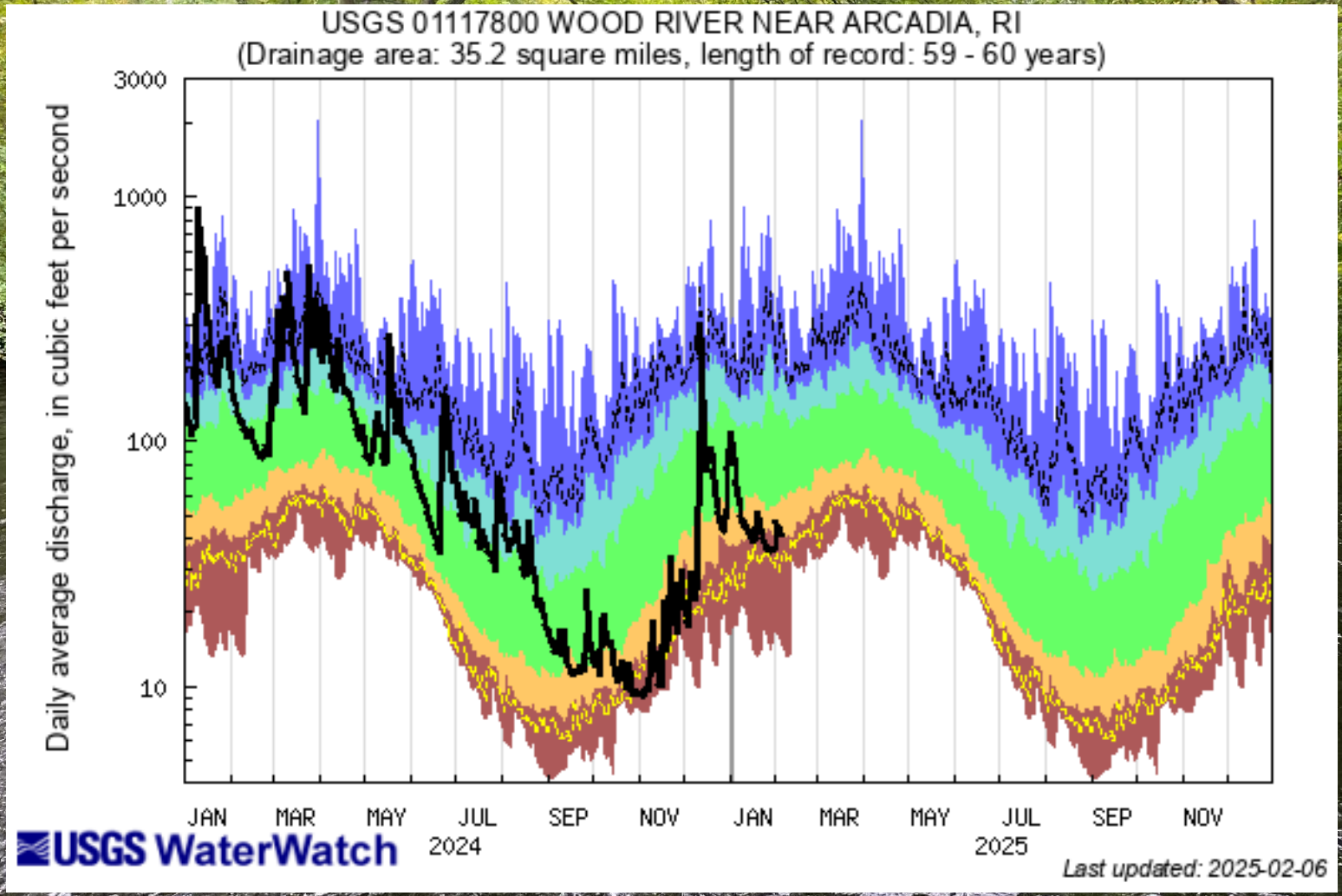


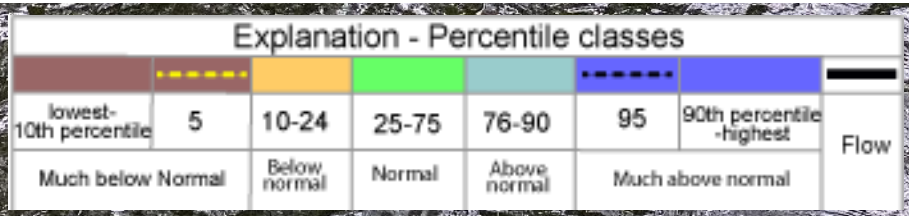


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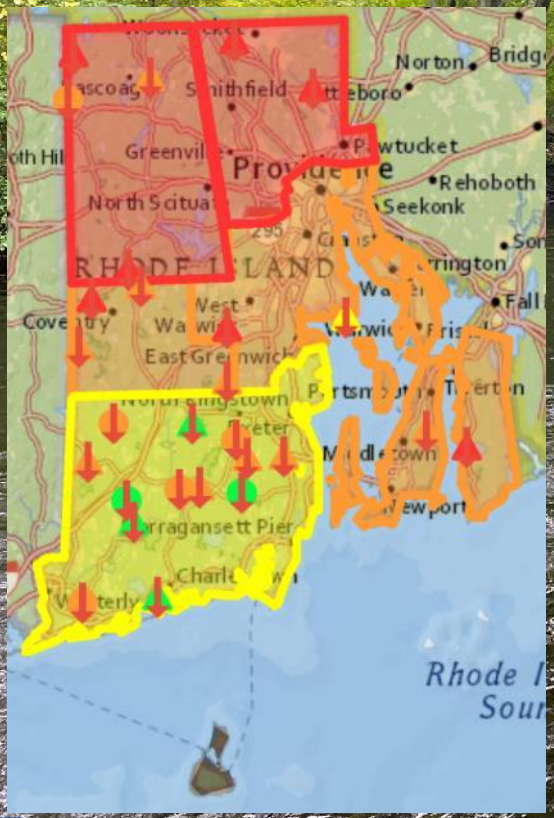
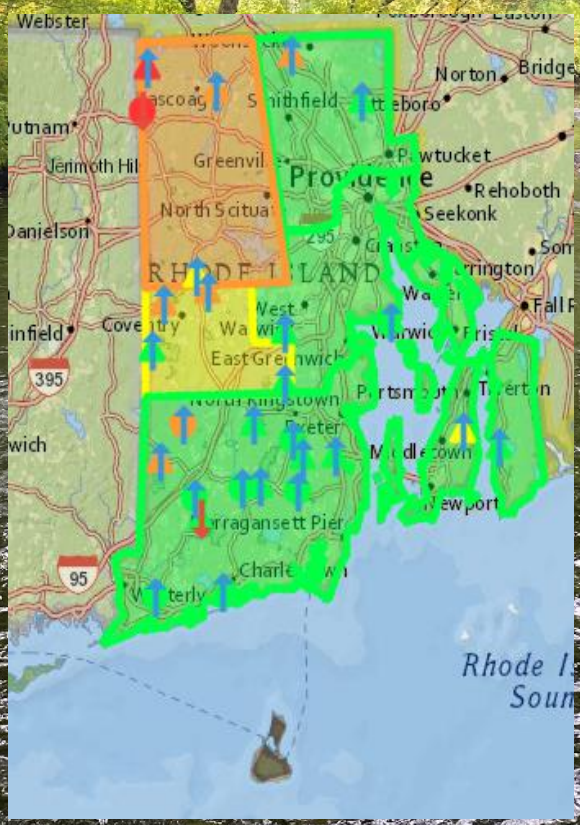
# Groundwater Conditions

November 2024




December 2024

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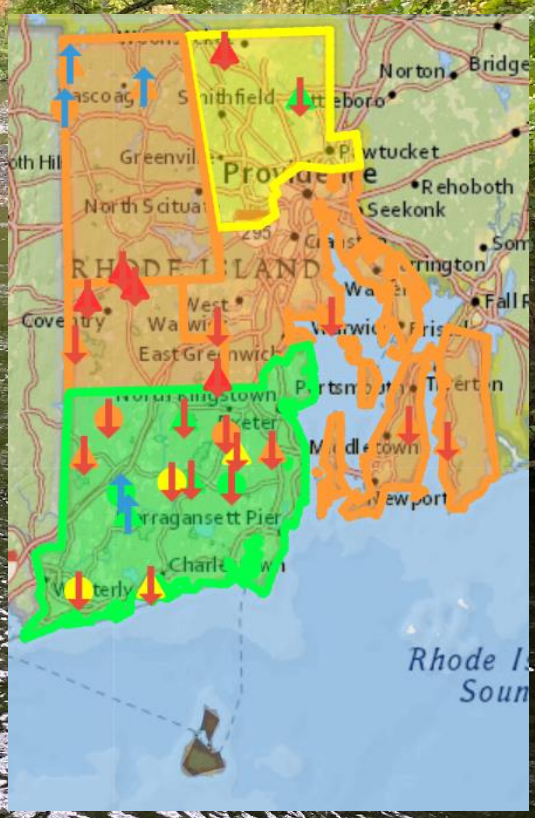


**Normal is 25th to 75th percentile**

- Normal
- Approaching Below Normal
- Below Normal
- Below the 10th Percentile
- Missing Value

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# Average Monthly Groundwater Conditions June – December

| Region & Num of Gages | GW 7/2024 | GW 8/2024 | GW 9/2024 | GW 10/2024 | GW 11/2024 | GW 12/2024 | GW 01/2025 |
|---|---|---|---|---|---|---|---|
| Northwest (4) | 67 | 52 | 38 | 24 | 10 | 16 | 11 |
| Northeast (2) | 43 | 46 | 29 | 12 | 3 | 38 | 26 |
| Central West (4) | 89 | 82 | 53 | 28 | 12 | 28 | 10 |
| Central East (2) | 68 | 75 | 55 | 38 | 17 | 42 | 19 |
| Eastern (2) | 69 | 73 | 53 | 30 | 14 | 38 | 17 |
| Southern (13) | 74 | 81 | 68 | 51 | 36 | 54 | 38 |
| New Shoreham (0) | | | | | | | |
| Statewide (27) | 69 | 73 | 56 | 38 | 15 | 41 | 26 |

**Groundwater = Recovery (Two consecutive months normal)**

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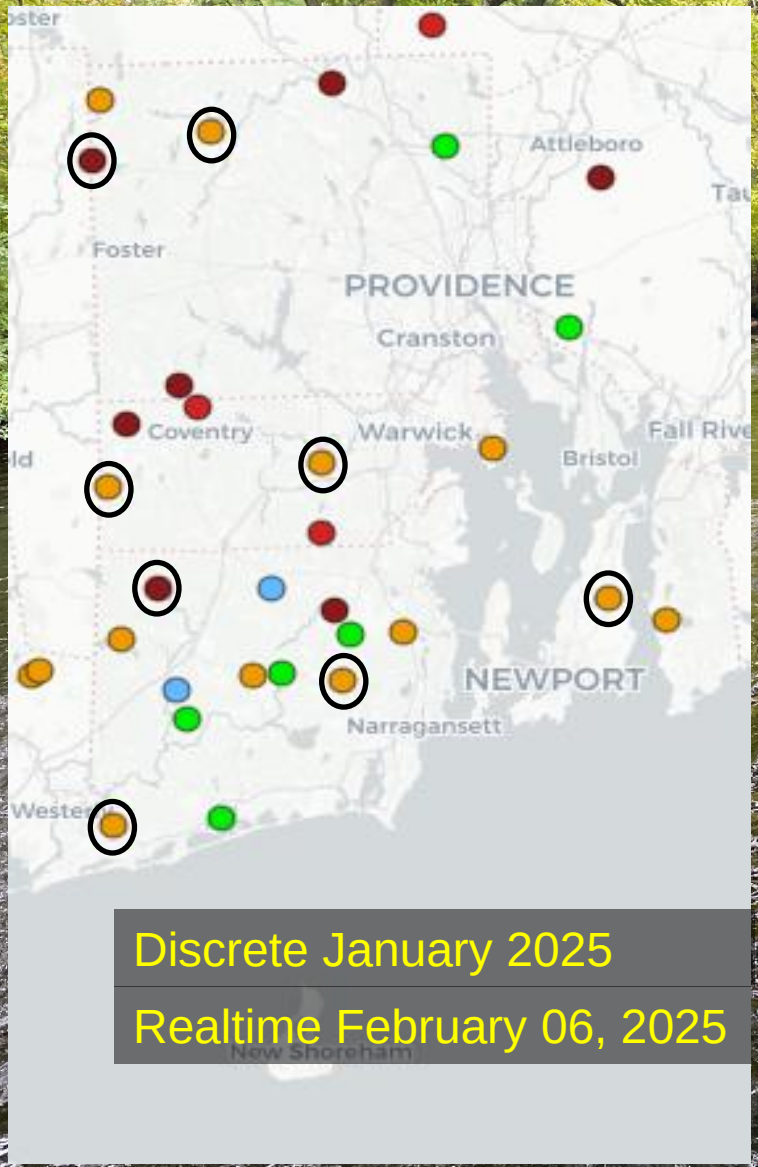
# Current Groundwater Conditions




Discrete January 2025

Realtime February 06, 2025

**Percentile**

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

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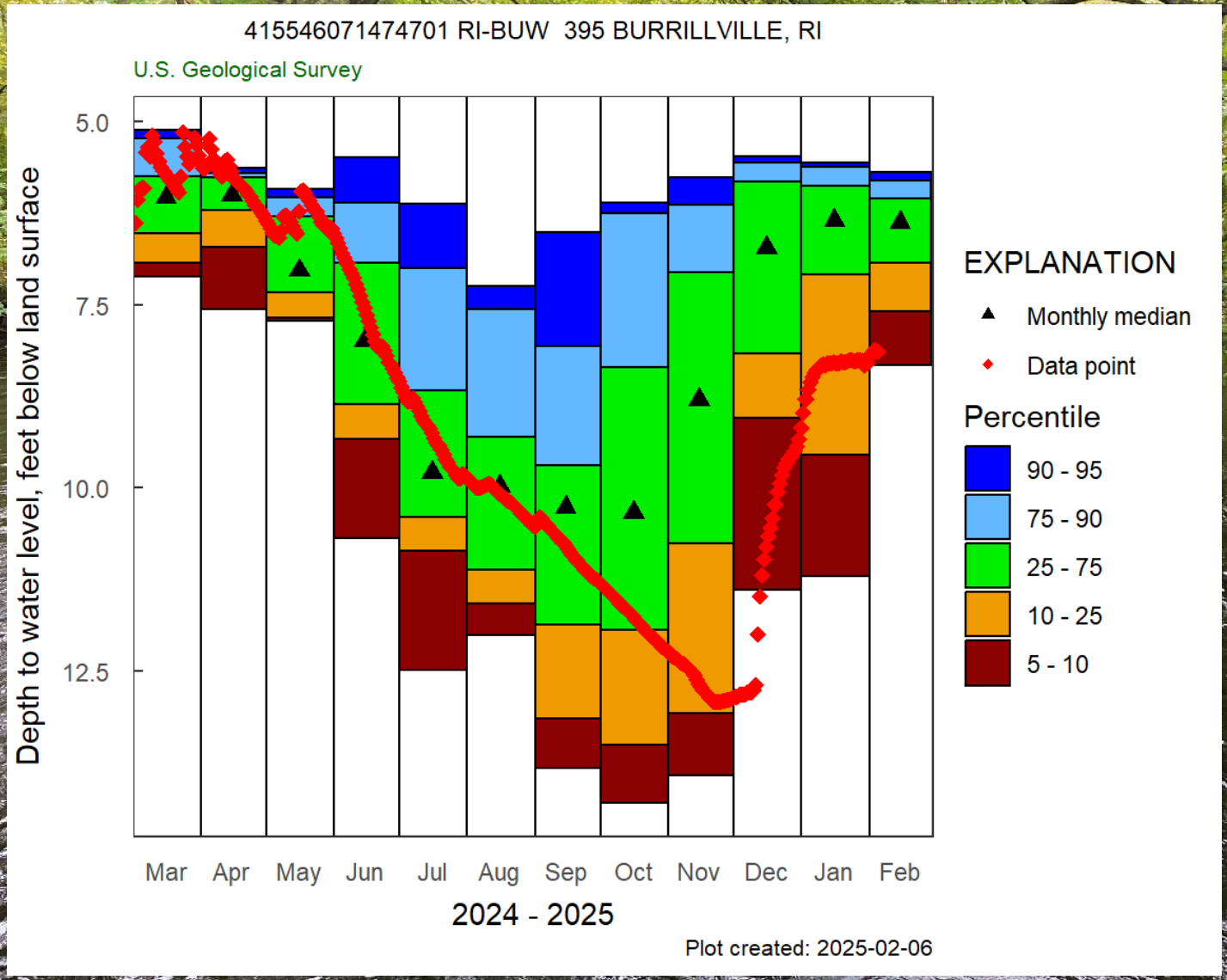


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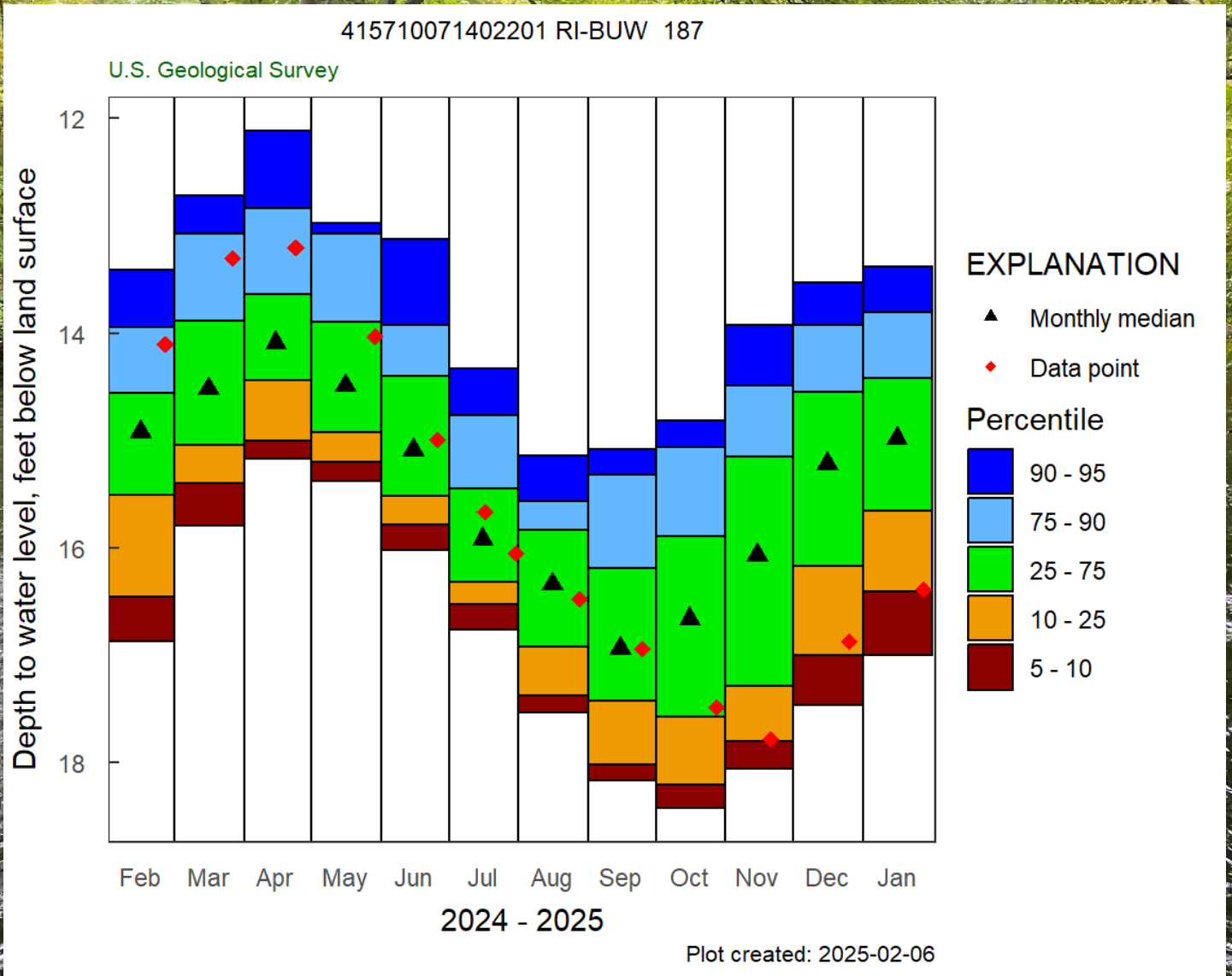


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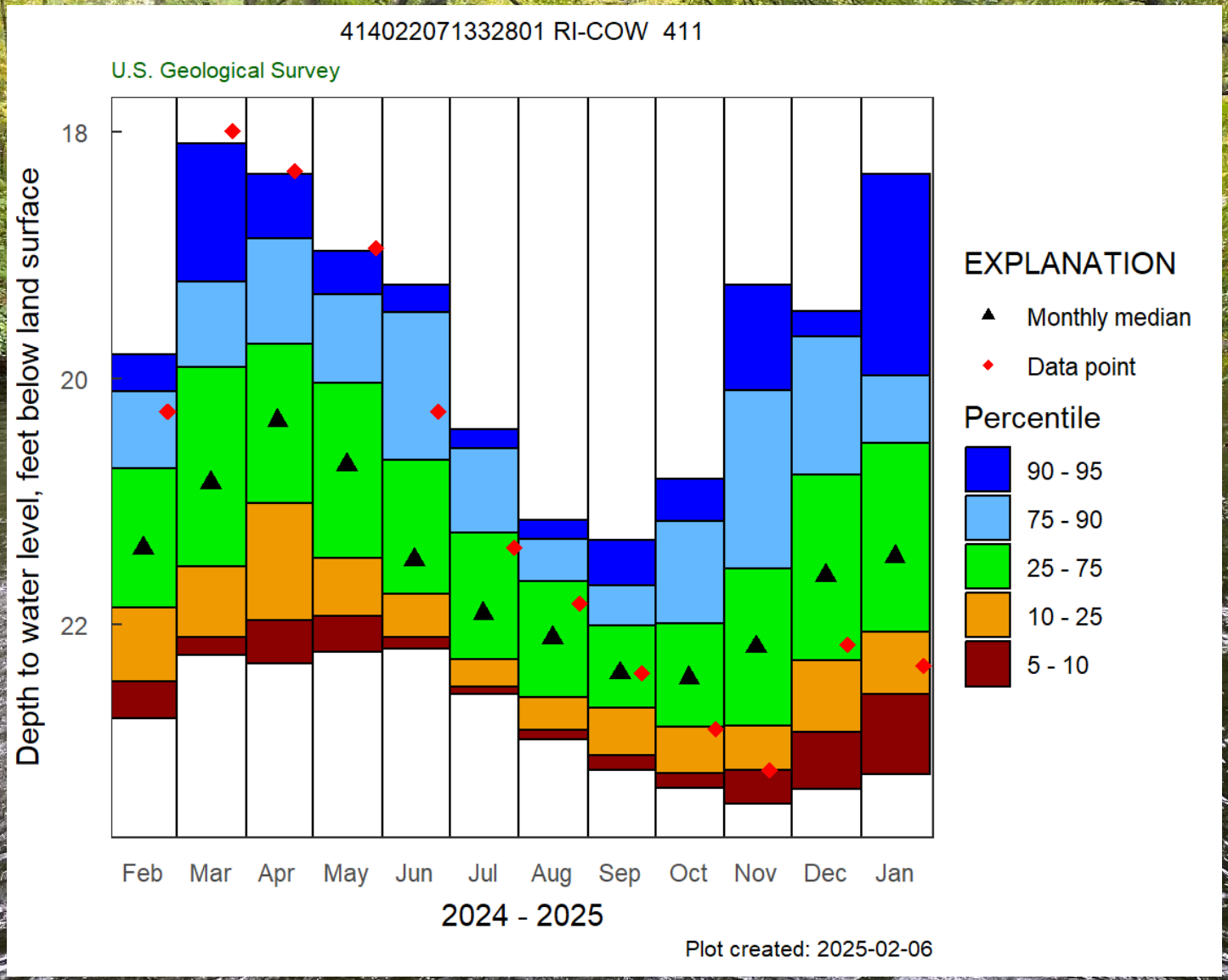
# Central East

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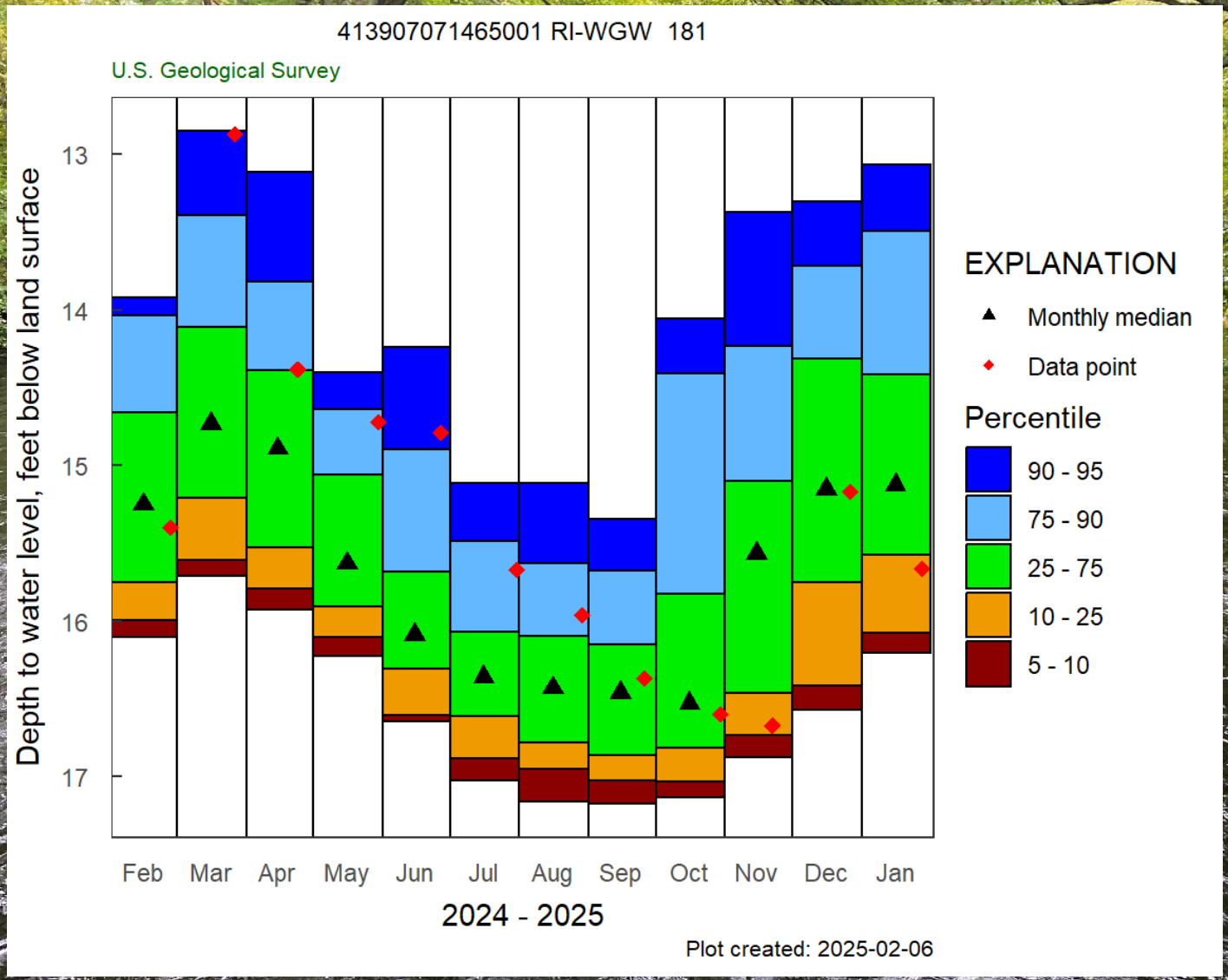


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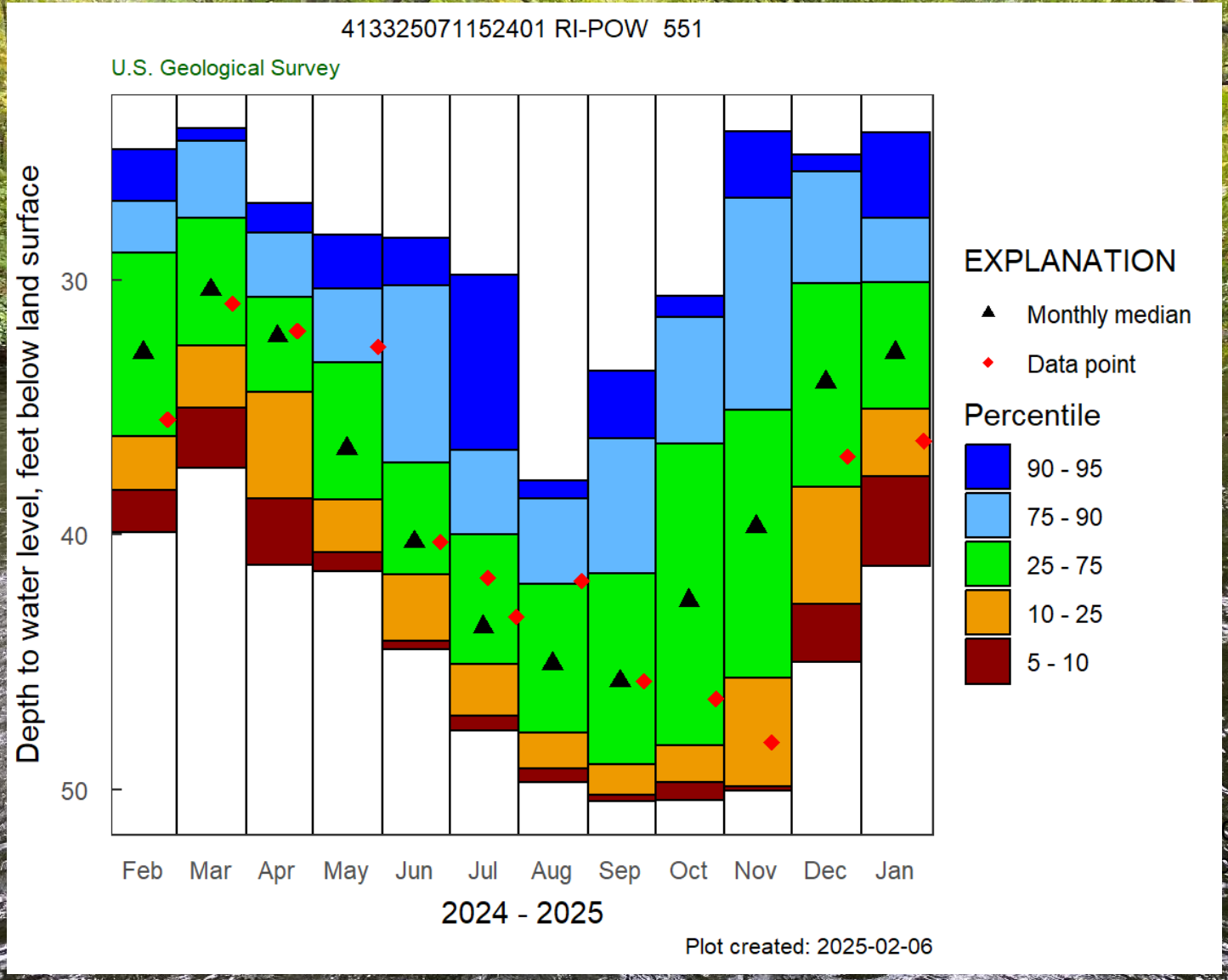
# Eastern

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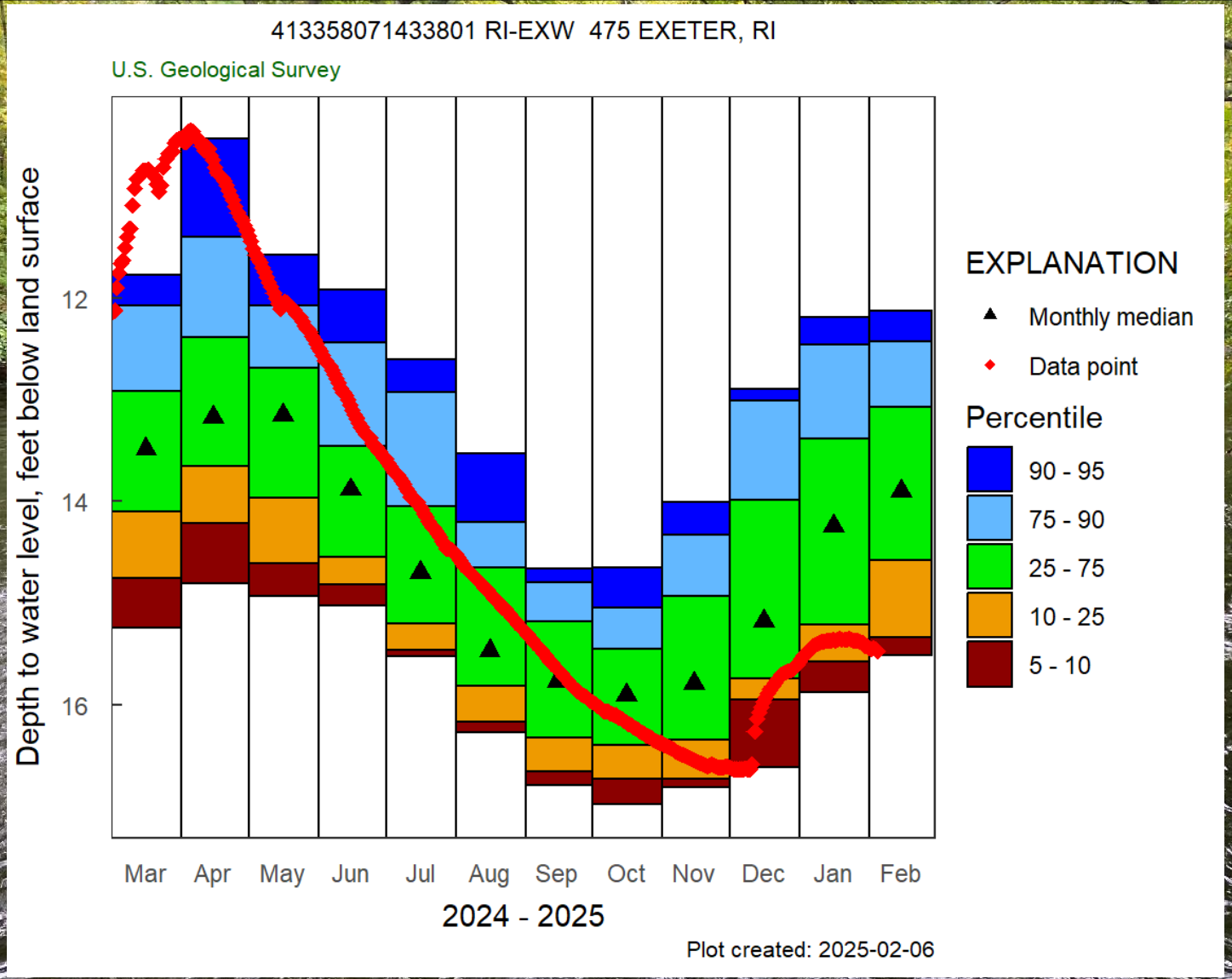
# Southern

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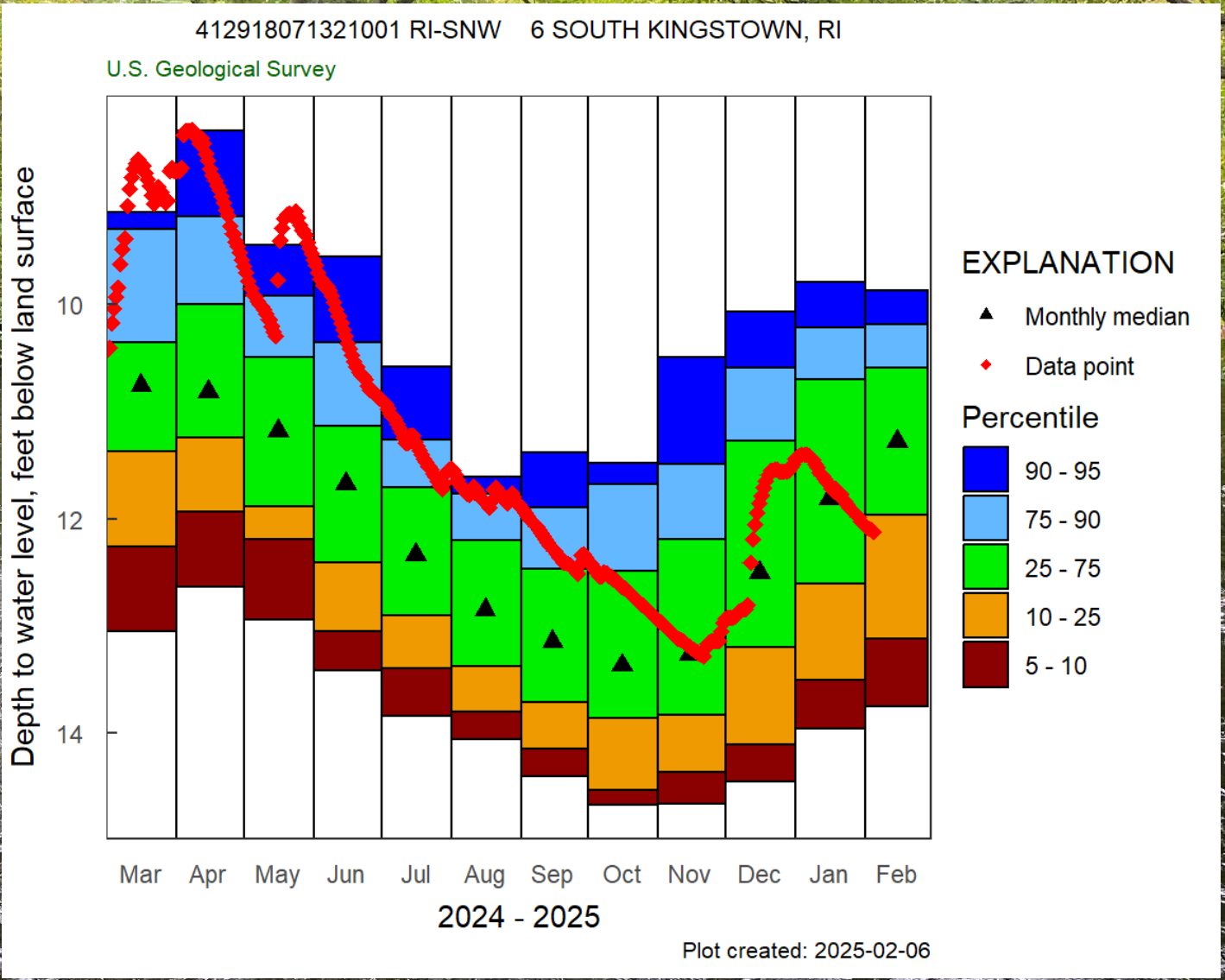


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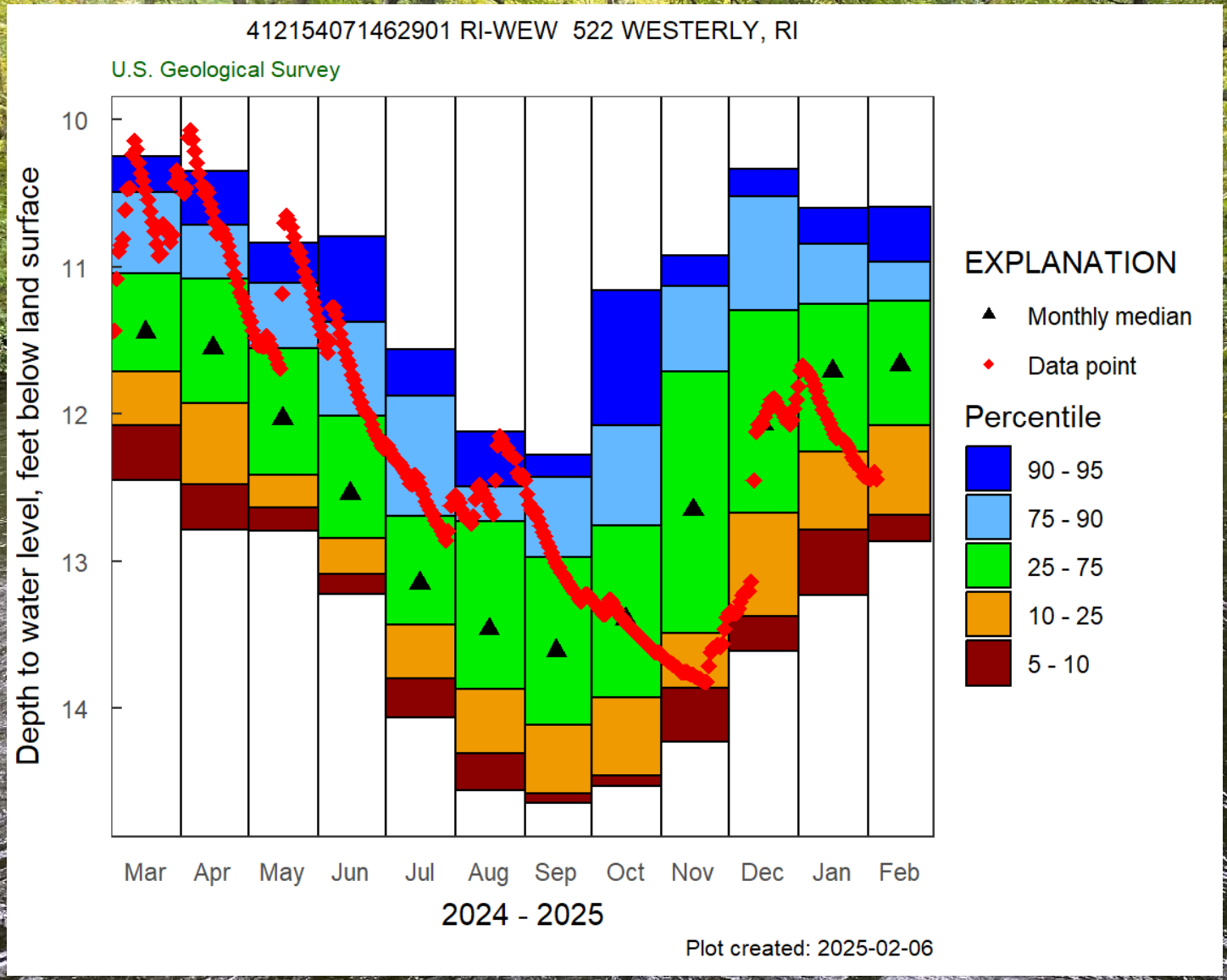


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# Statewide/Regional Recap

- Statewide averages for streamflow (17%) and groundwater (26%)
  - Northern regions recovery from the December rains was short lived
  - Northwest meets Watch criteria for groundwater
  - Northeast, Northwest and Central East meet Watch criteria for surface water
  - Only Southern and northeastern regions meet the return to normal criteria for groundwater
    - Northeast – Dec (38%), Jan (26%)
    - Southern- Dec (54%), Jan (38%)

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# Questions?

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