

# Streamflow and Groundwater Conditions in Rhode Island December 2024– February 2025

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March 11, 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**
<b>Normal</b>	-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
<b>Advisory</b>	-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
<b>Watch</b>	-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
<b>Warning</b>	-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
<b>Emergency</b>	-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.



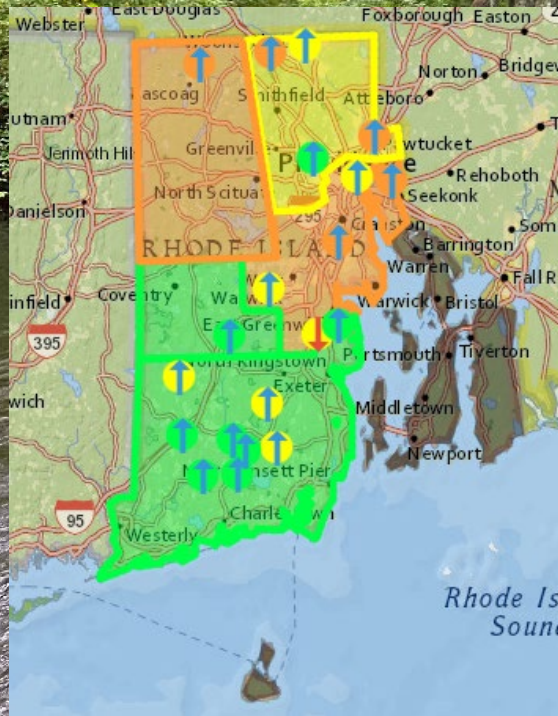
**Table 4**  
**Returning to Normal**

<b>Current Drought Phase</b>	<b>Next Drought Phase</b>	<b>Reduce Drought Phase by one category</b>
<b>Emergency</b>	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
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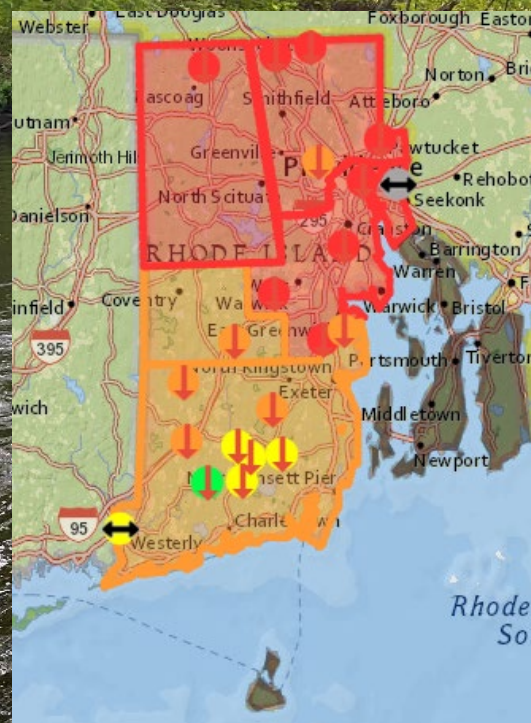


# Average Monthly Streamflow Conditions December - February

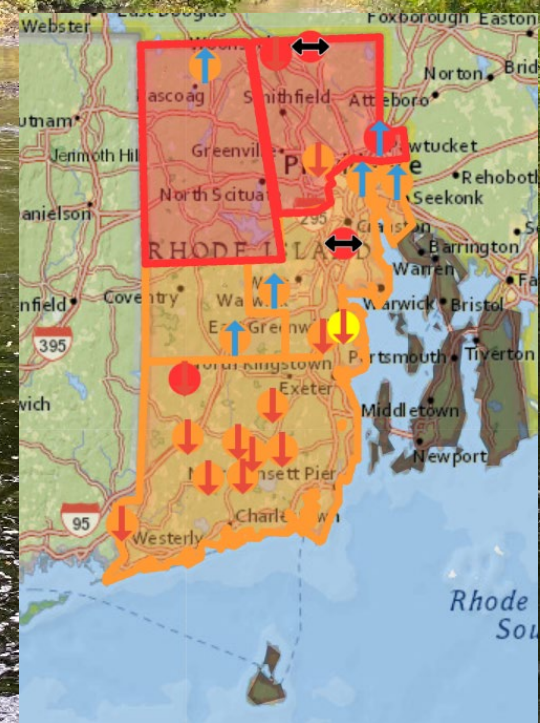
December 2024



January 2025



February 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 8/2024	Q 9/2024	Q 10/2024	Q 11/2024	Q 12/2024	Q 01/2025	Q 02/2025
Northwest (1)	42	5	5	2	10	3	3
Northeast (4)	41	14	10	8	27	8	9
Central West (1)	81	38	19	11	41	14	16
Central East (4)	58	19	9	4	23	6	15
Eastern (0)							
Southern (11)	85	52	31	12	43	27	15
New Shoreham (0)							
Statewide (21)	69	36	21	9	32	17	14

**Streamflow =**

**Watch: 4 out of 5 consecutive months below normal**

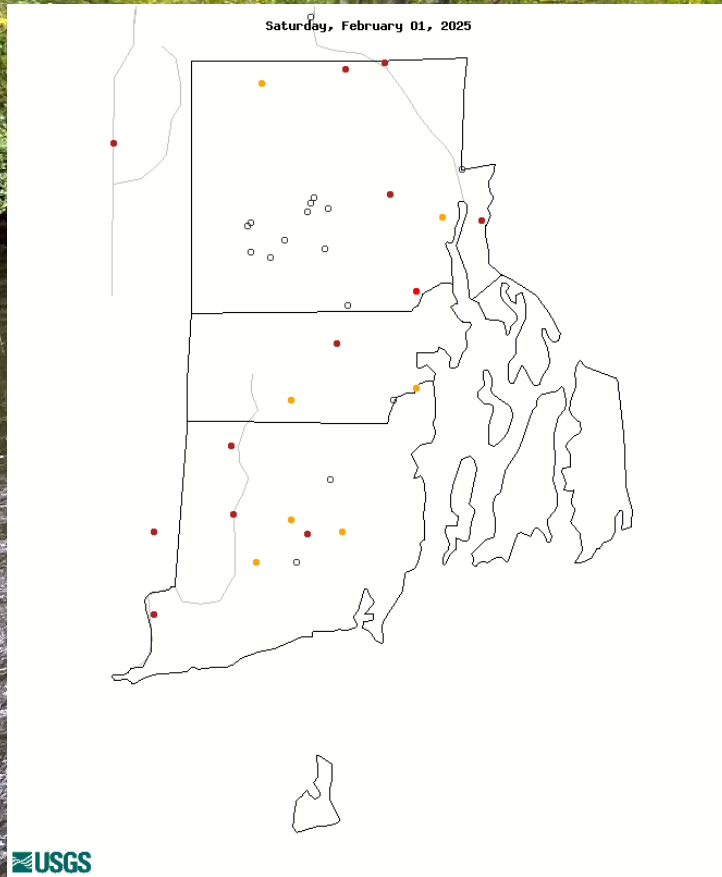
**Warning: 6 – 7 consecutive months below normal**



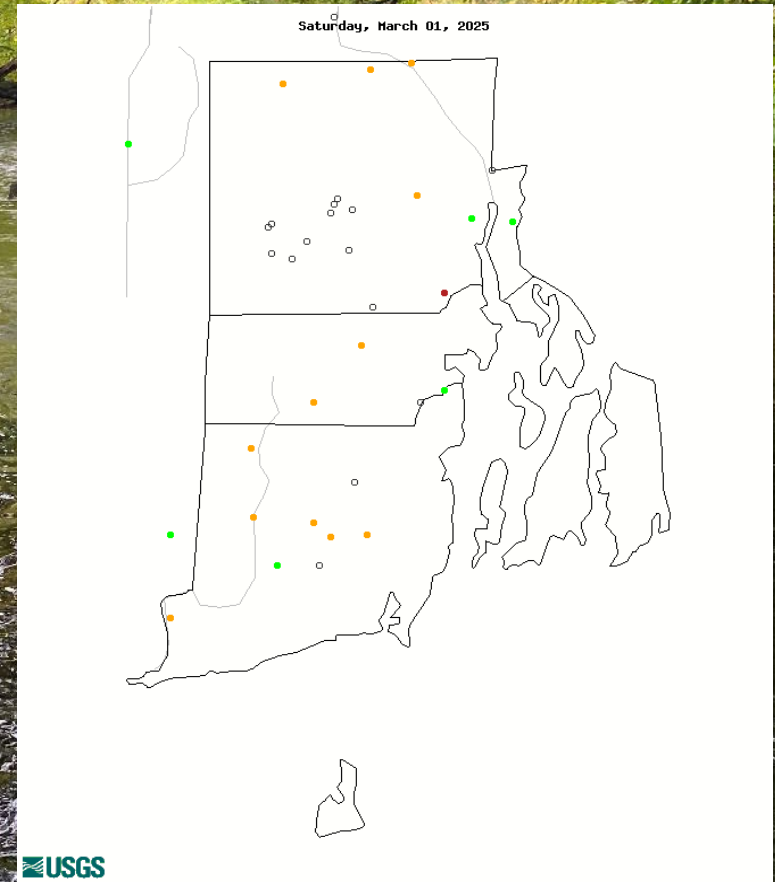


# 7 - Day Maps

February 01, 2025



March 01, 2025



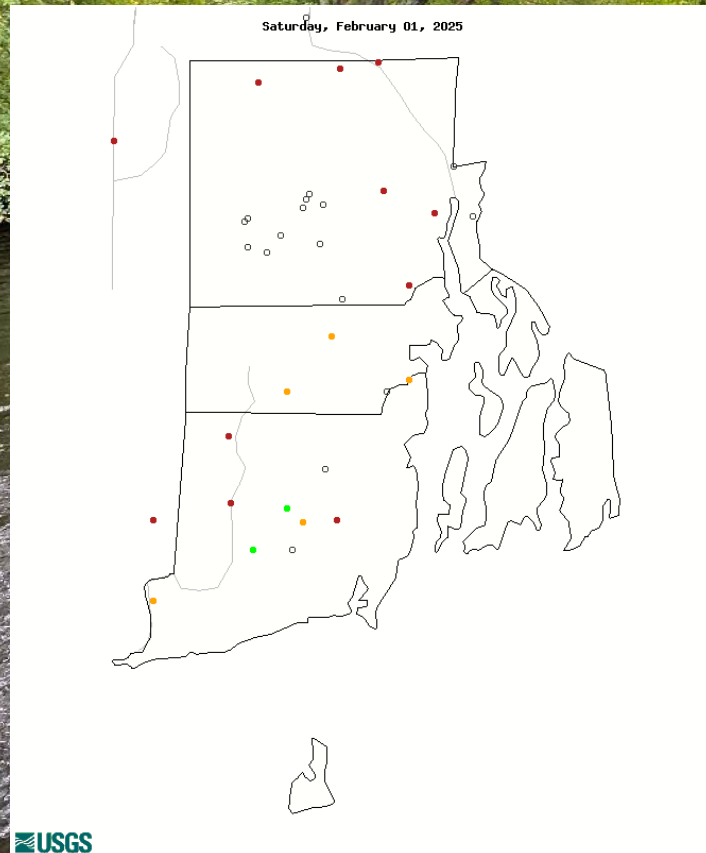
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



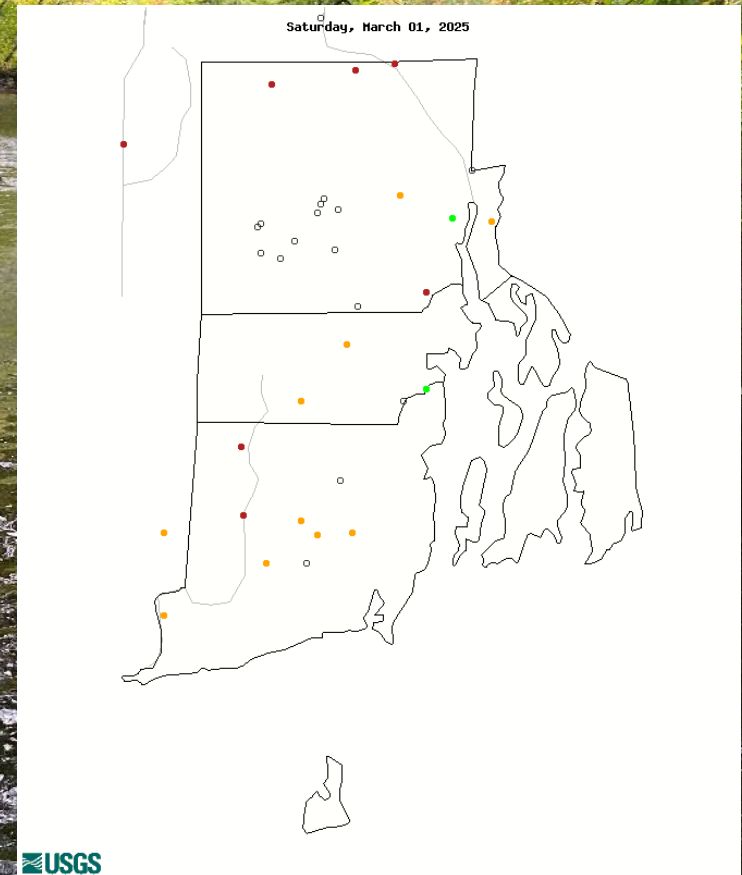


# 28 - Day Maps

February 01, 2025



March 01, 2025



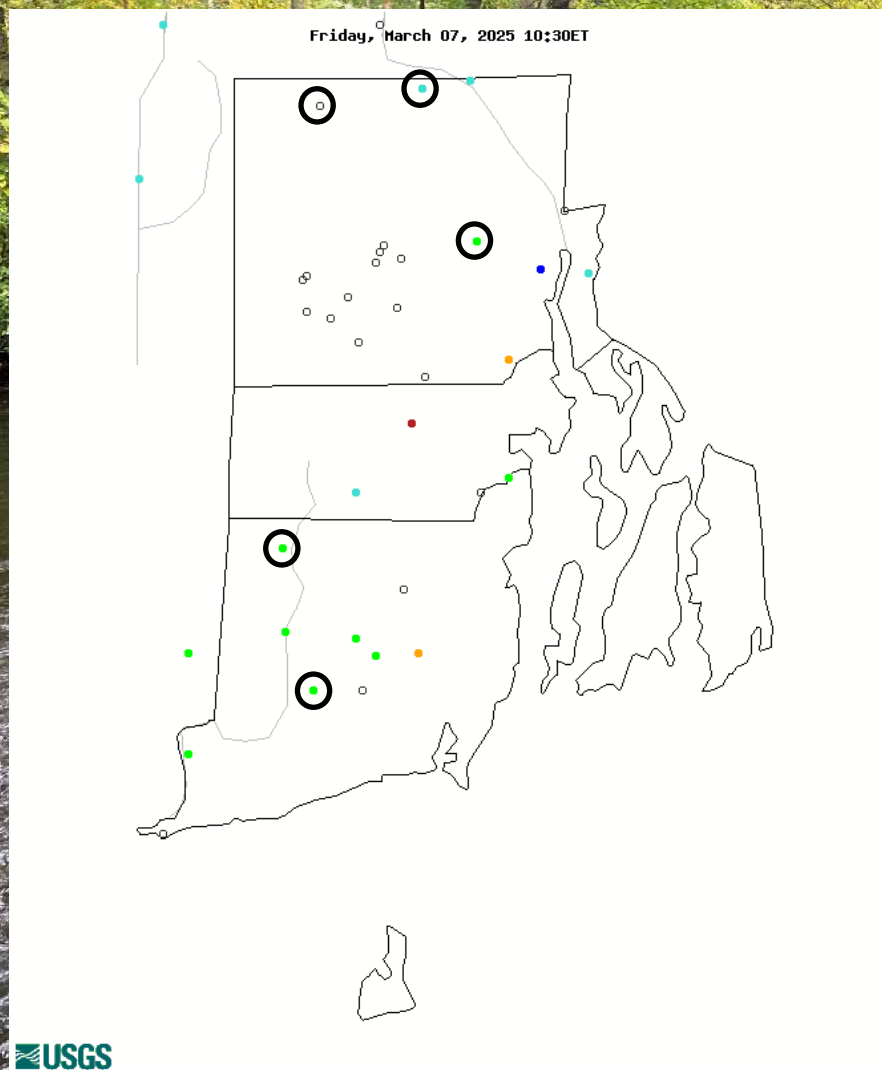
Explanation - Percentile classes

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





# Current Streamflow Conditions – March 07, 2025

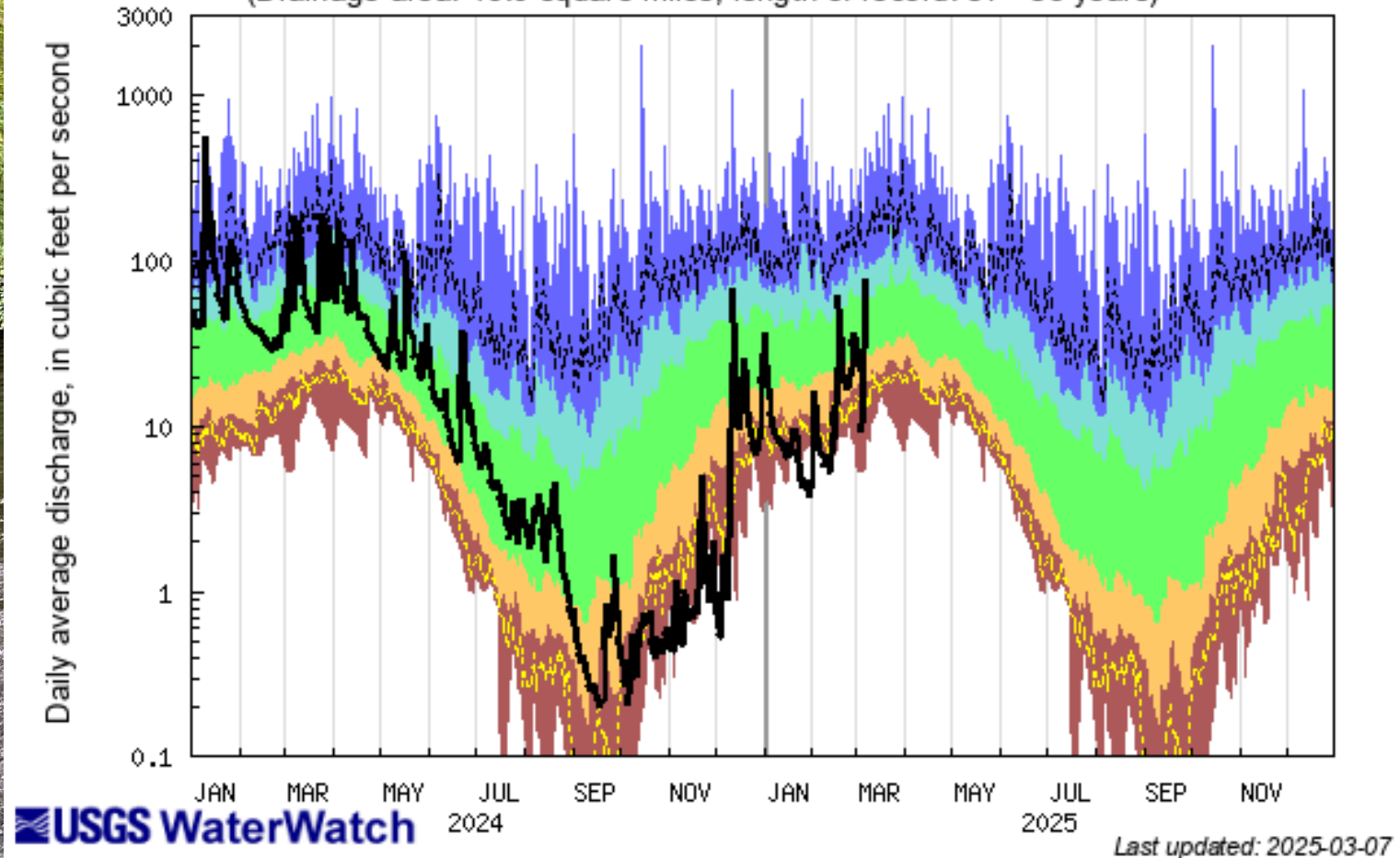









Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



# Northwest

USGS 01111300 NIPMUC RIVER NEAR HARRISVILLE, RI  
(Drainage area: 16.0 square miles, length of record: 57 - 58 years)

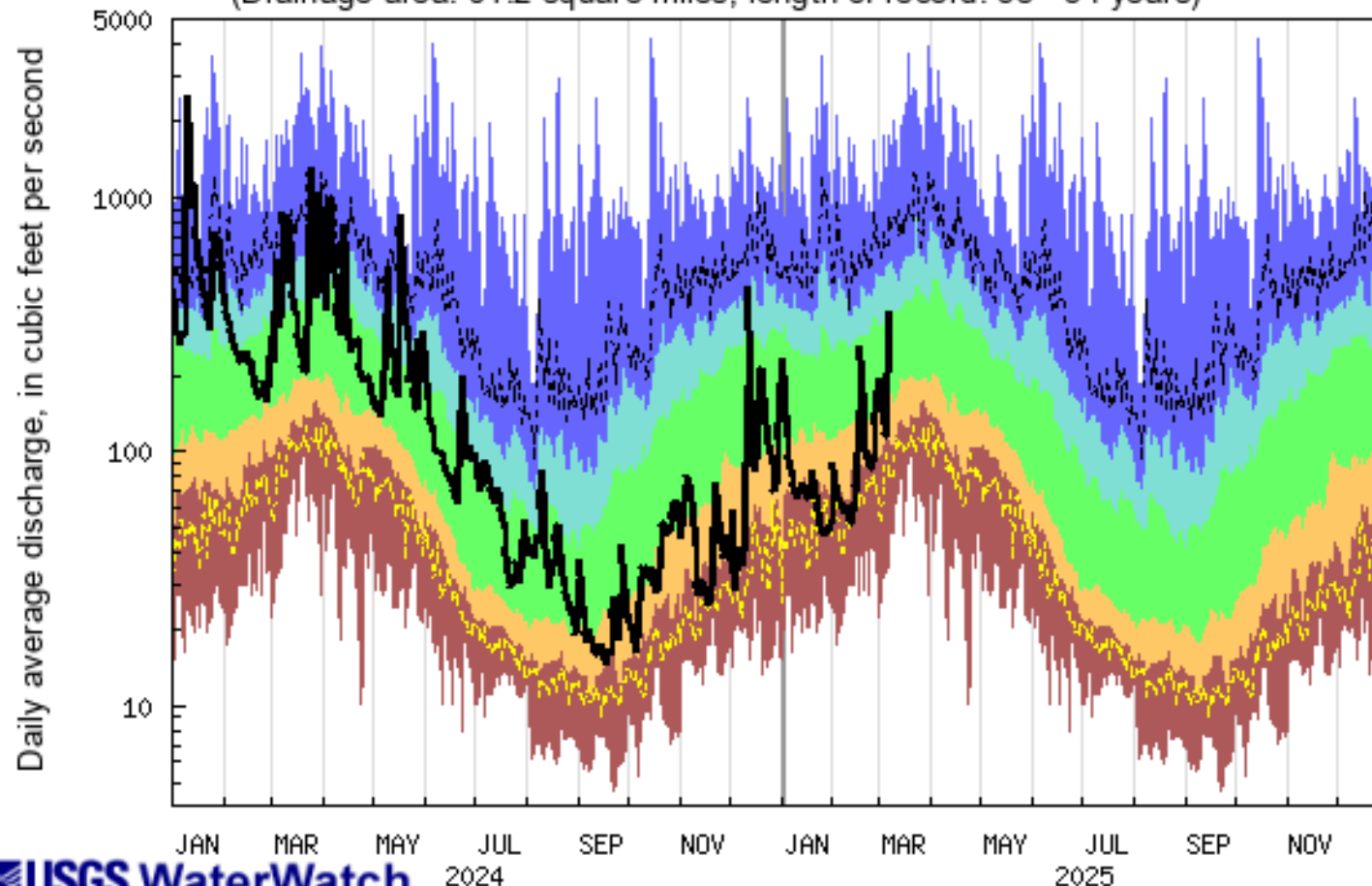


Explanation - Percentile classes							Flow
							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	
Much below Normal		Below normal	Normal	Above normal	Much above normal		



# Northeast

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



**USGS WaterWatch**

Last updated: 2025-03-07

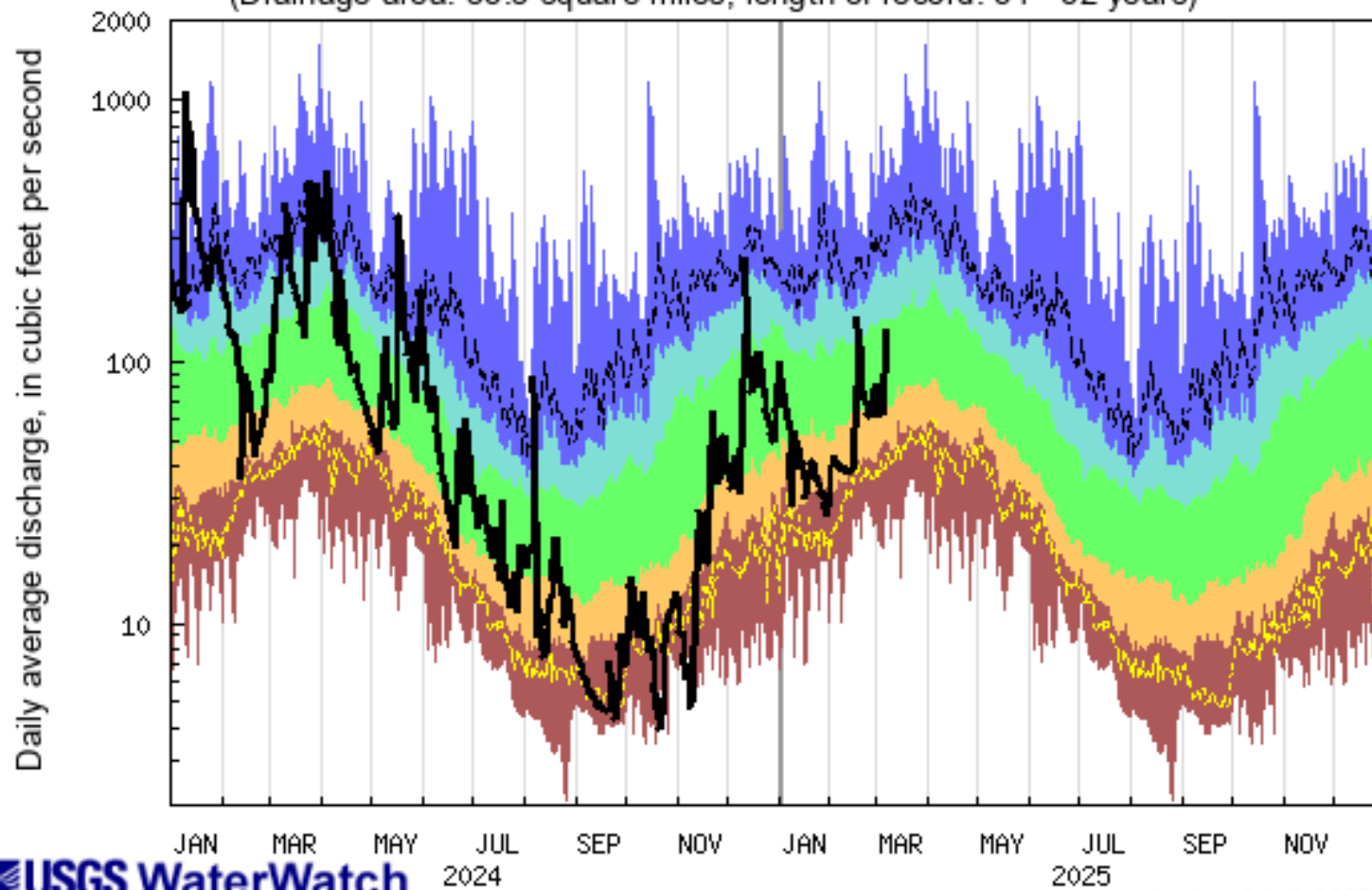
## Explanation - Percentile classes

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

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



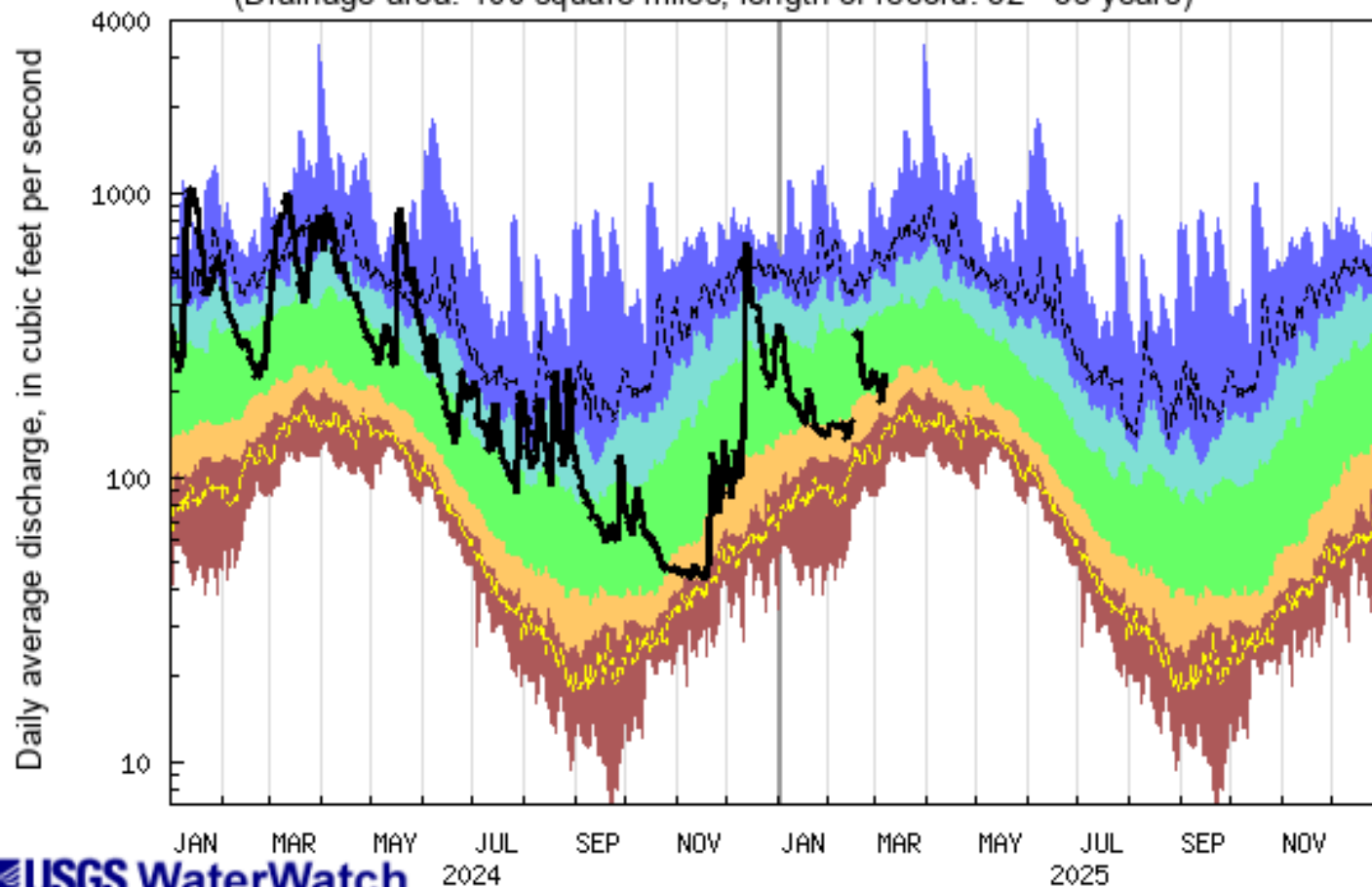
Explanation - Percentile classes

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)



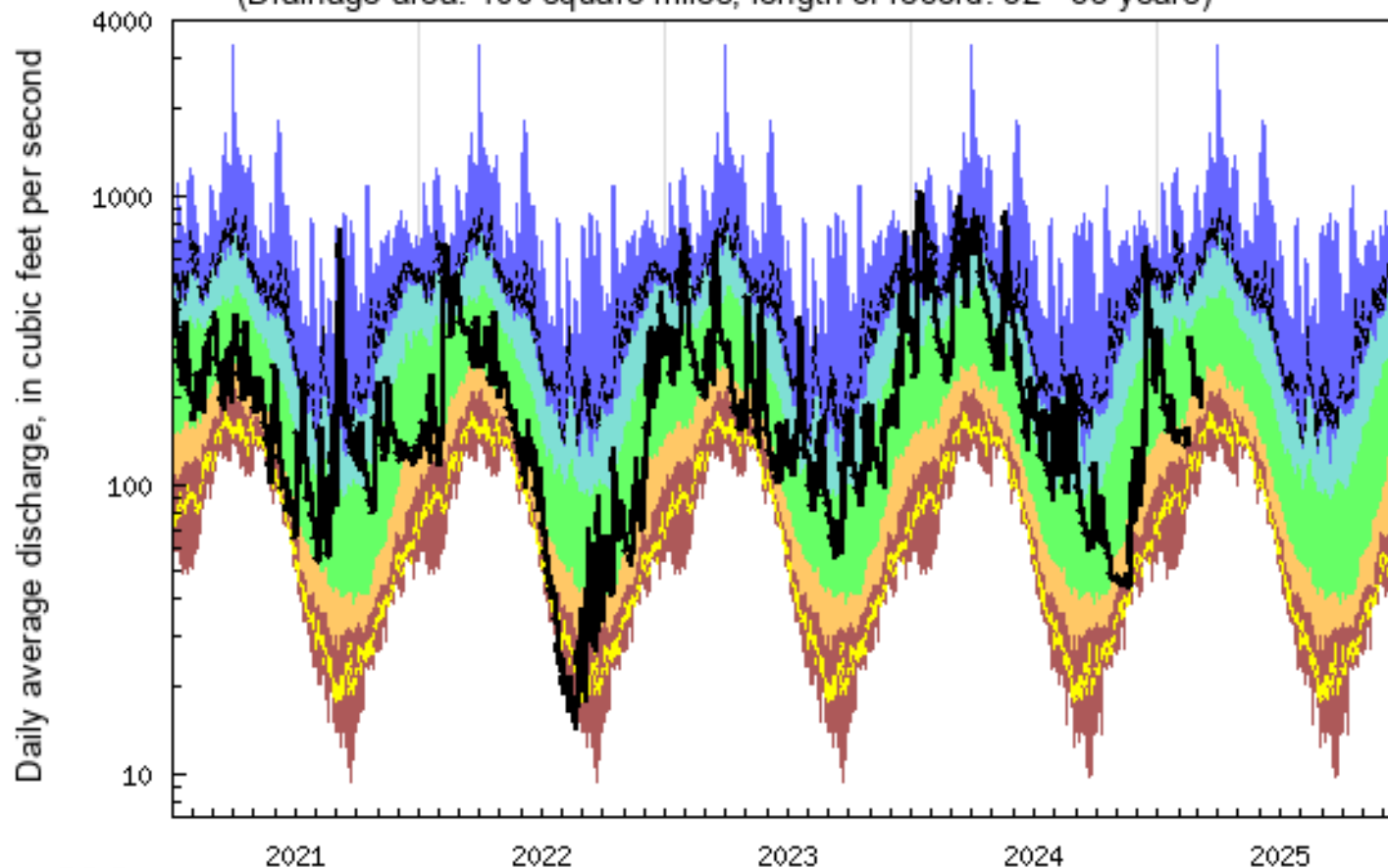
Explanation - Percentile classes

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: 2025-03-07

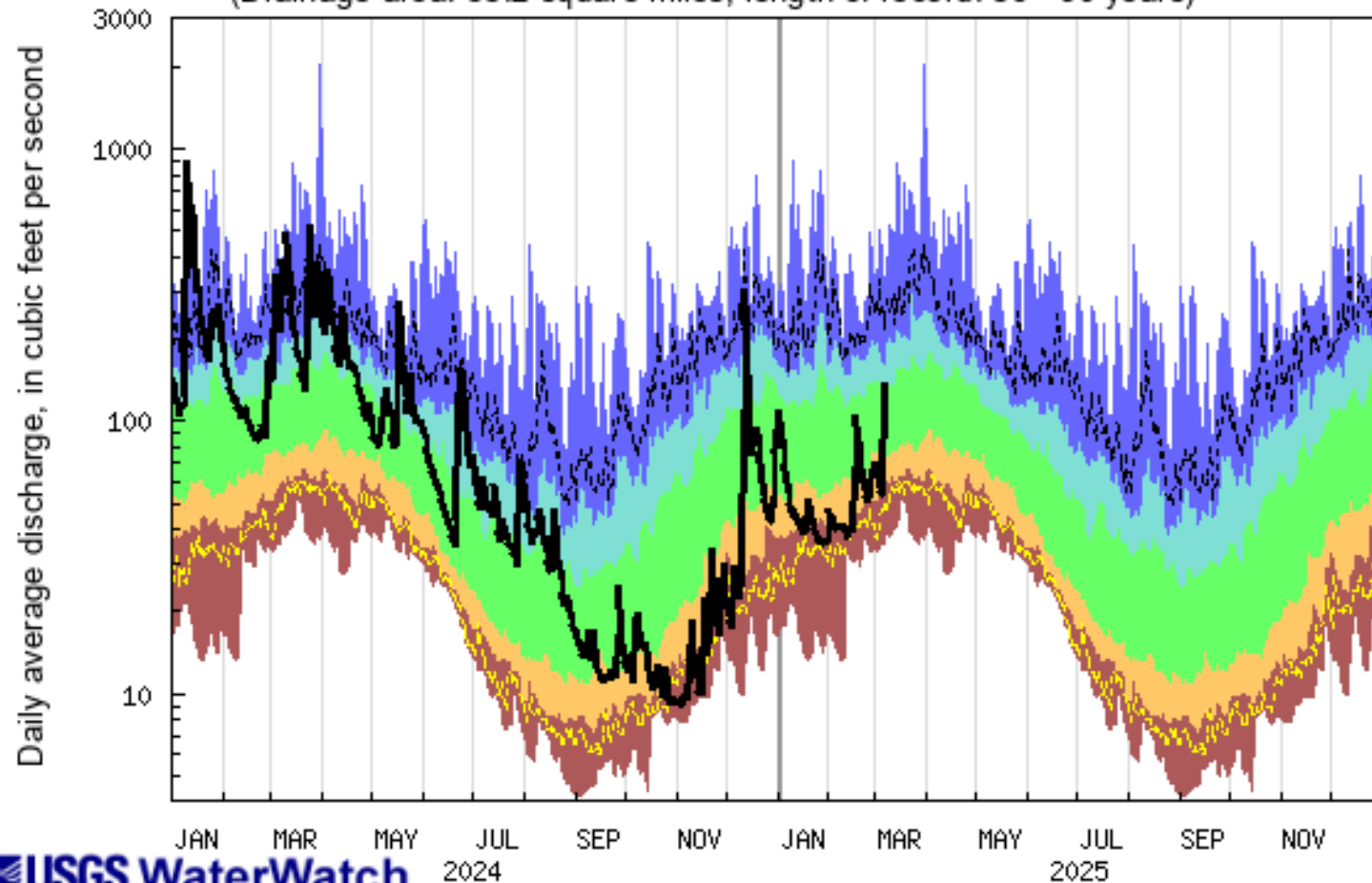
Explanation - Percentile classes

						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 01117800 WOOD RIVER NEAR ARCADIA, RI  
(Drainage area: 35.2 square miles, length of record: 59 - 60 years)



Last updated: 2025-03-07

## 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			

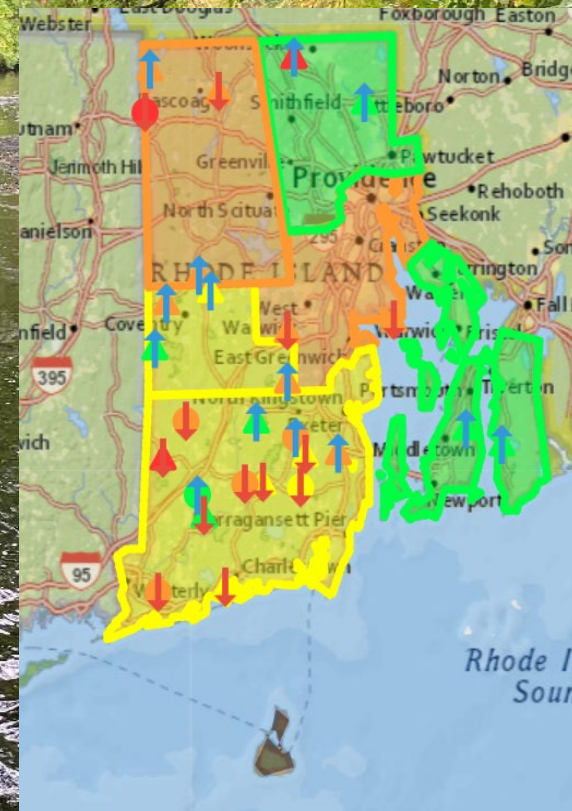
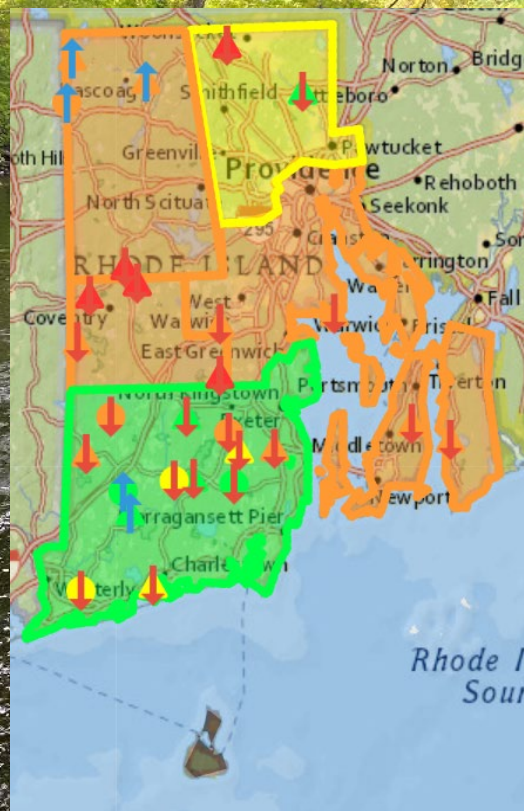
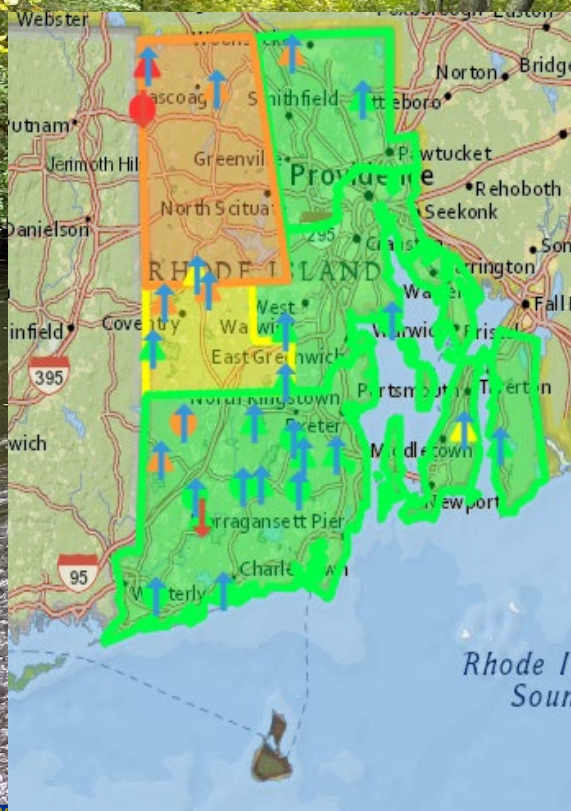


# Groundwater Conditions

December 2024

January 2025

February 2025



Orange	10%-25% Below Normal
Red	10th Percentile

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





# Average Monthly Groundwater Conditions June – December

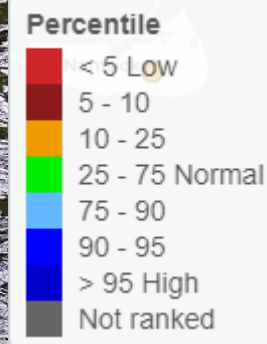
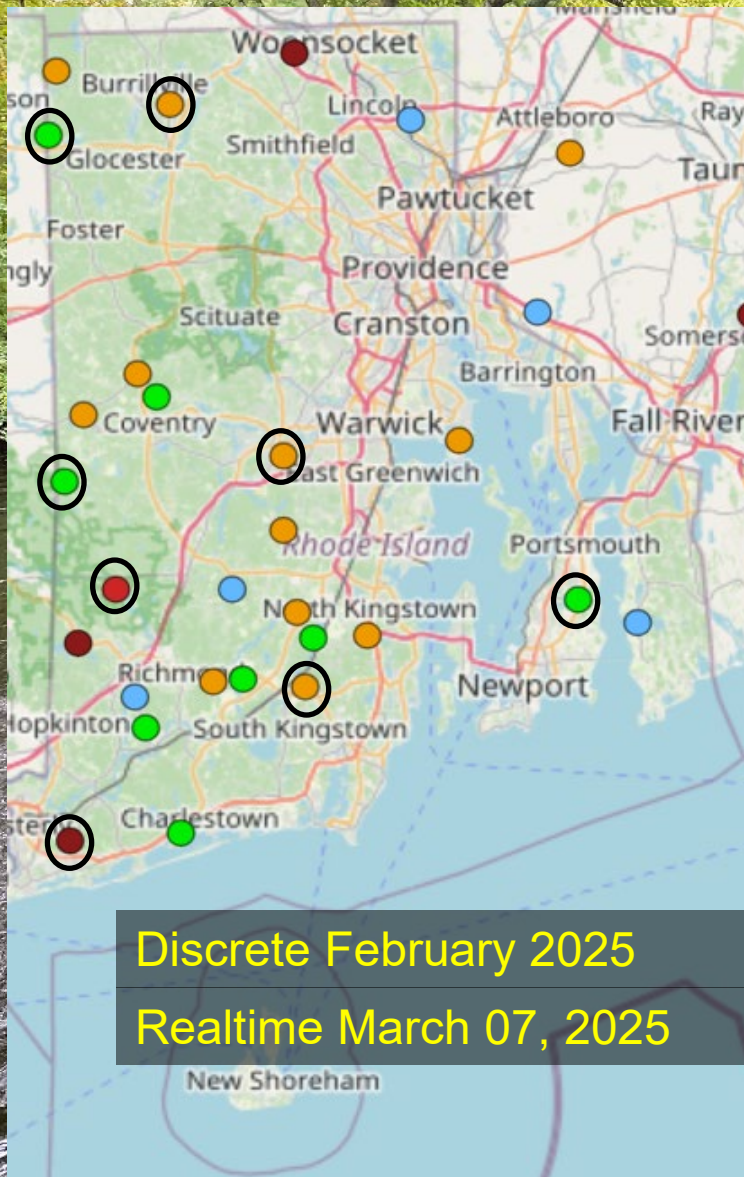
Region & Num of Gages	GW 8/2024	GW 9/2024	GW 10/2024	GW 11/2024	GW 12/2024	GW 01/2025	GW 02/2025
Northwest (4)	52	38	24	10	16	11	14
Northeast (2)	46	29	12	3	38	26	42
Central West (4)	82	53	28	12	28	10	26
Central East (2)	75	55	38	17	42	19	17
Eastern (2)	73	53	30	14	38	17	72
Southern (13)	81	68	51	36	54	38	34
New Shoreham (0)							
Statewide (27)	73	56	38	15	41	26	32

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





# Current Groundwater Conditions

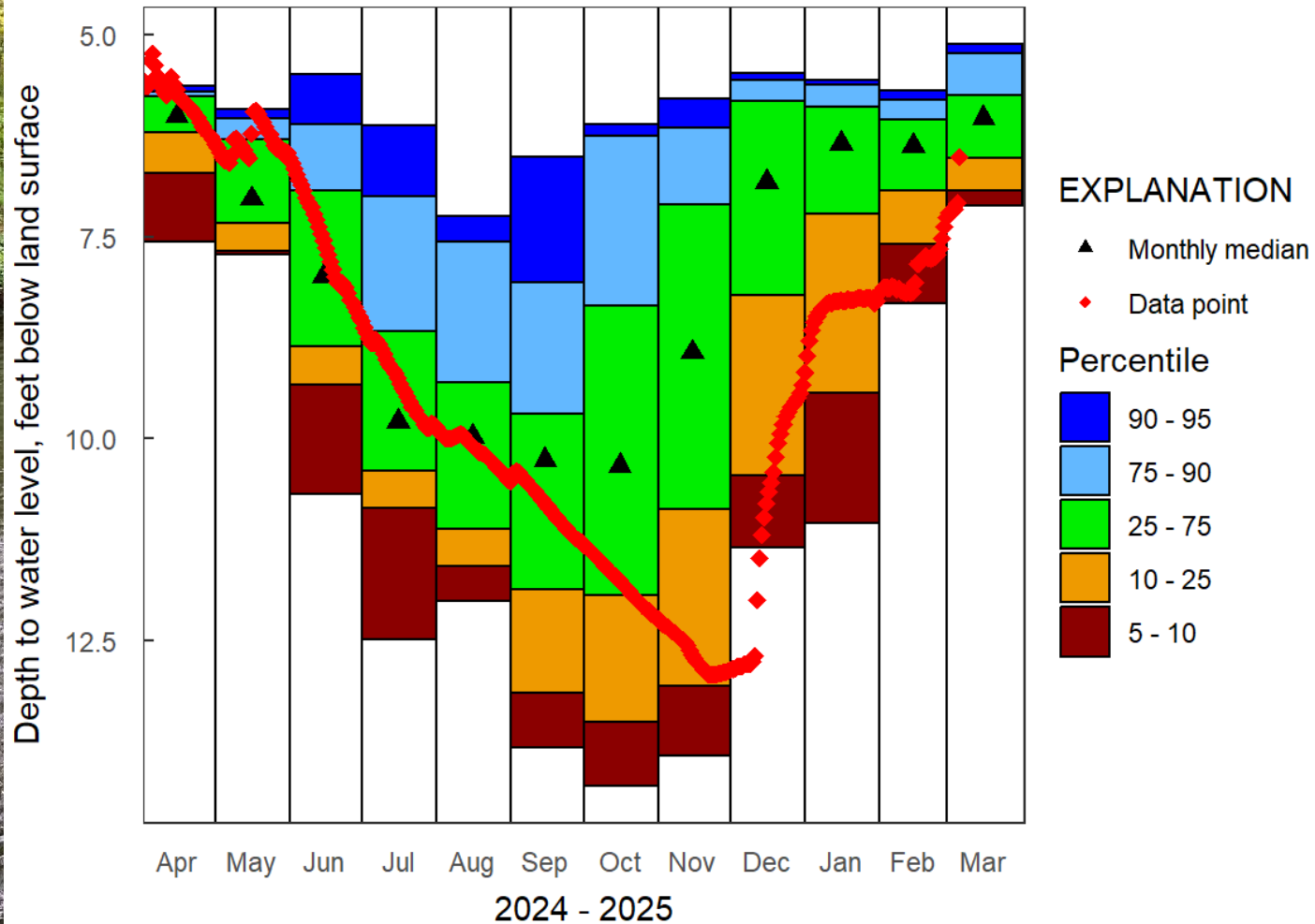




# Northwest

415546071474701 RI-BUW 395 BURRILLVILLE, RI

U.S. Geological Survey



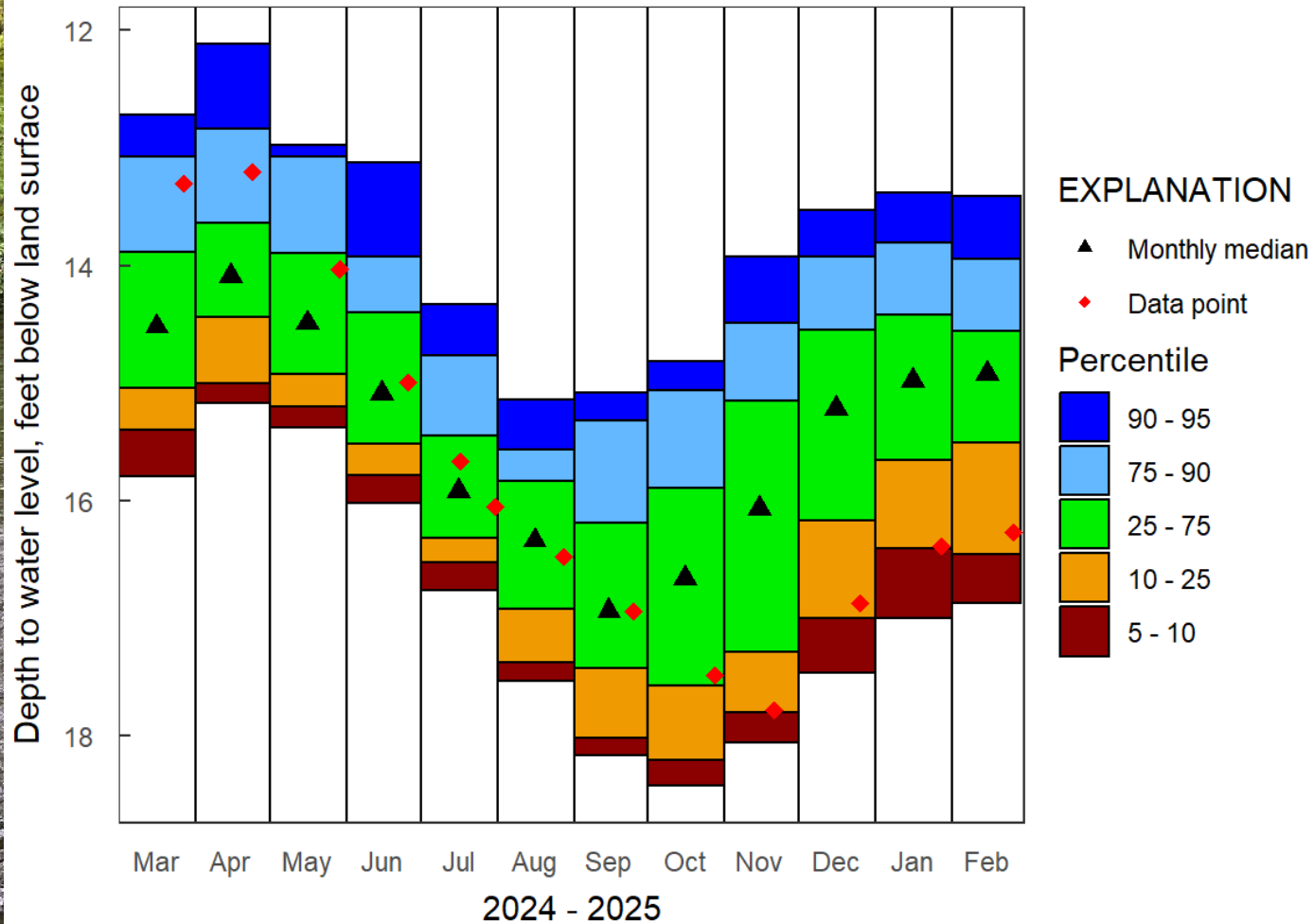
Plot created: 2025-03-07



# Northwest

415710071402201 RI-BUW 187

U.S. Geological Survey



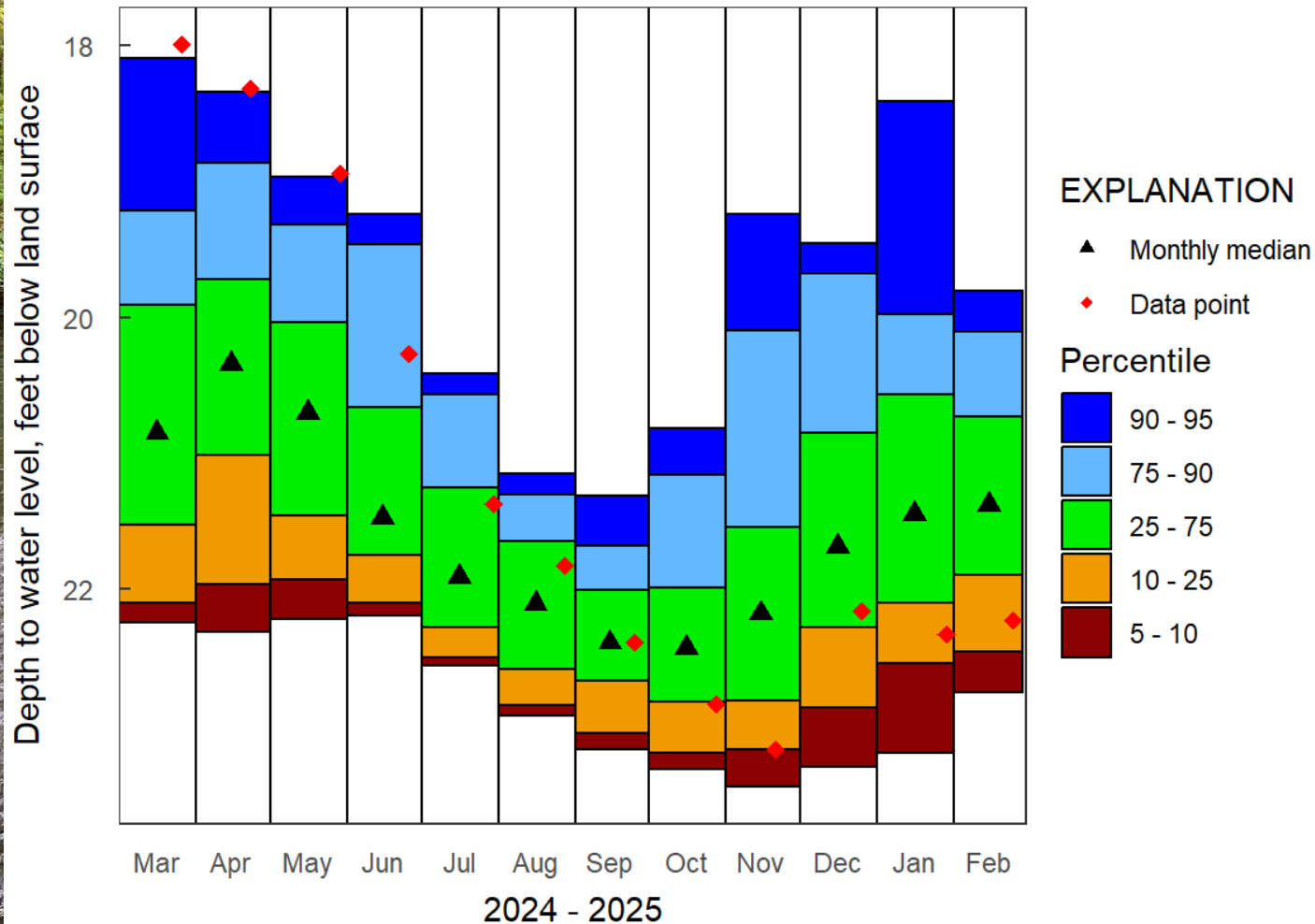
Plot created: 2025-03-07



# Central East

414022071332801 RI-COW 411

U.S. Geological Survey



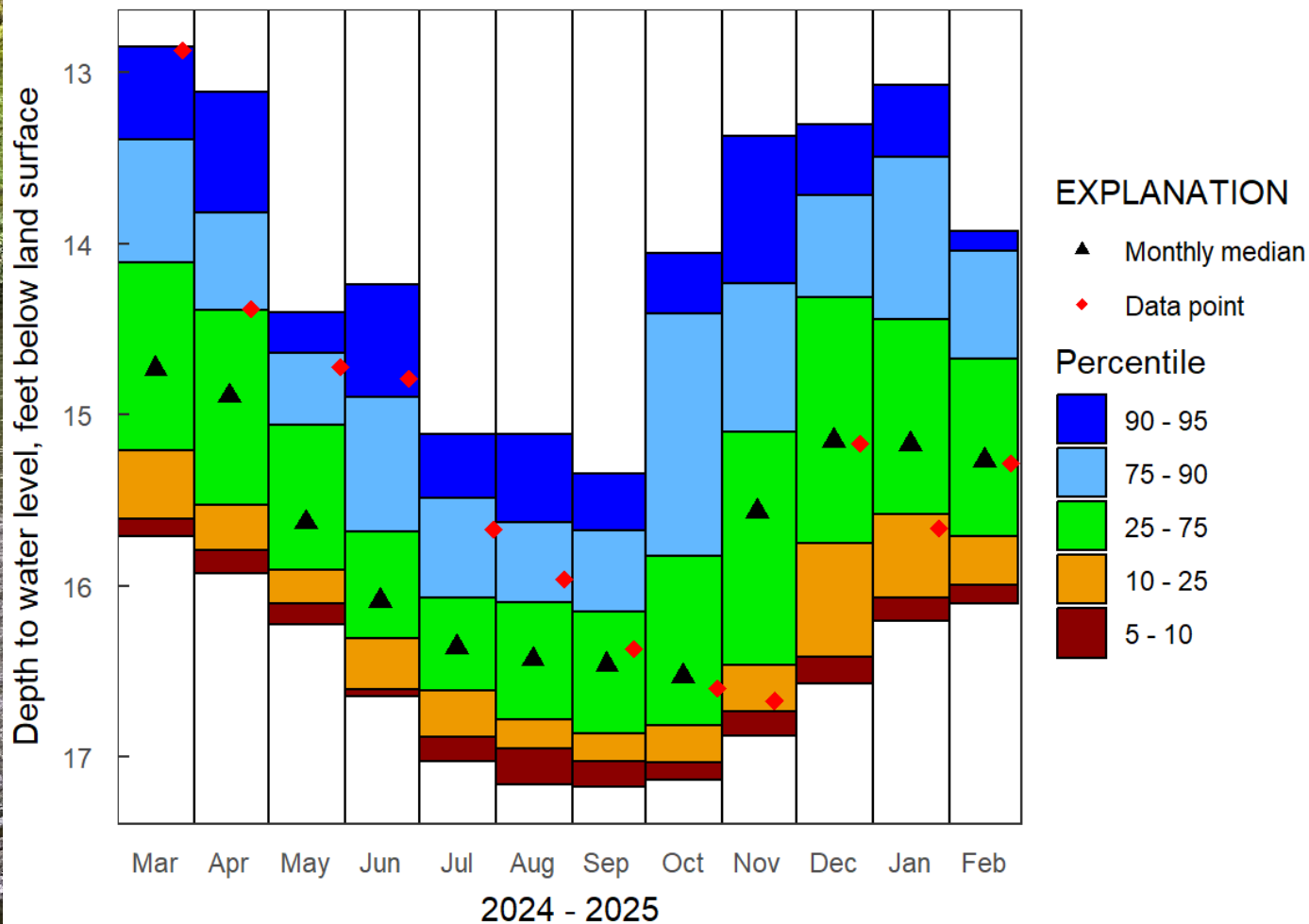
Plot created: 2025-03-07



# Central West

413907071465001 RI-WGW 181

U.S. Geological Survey



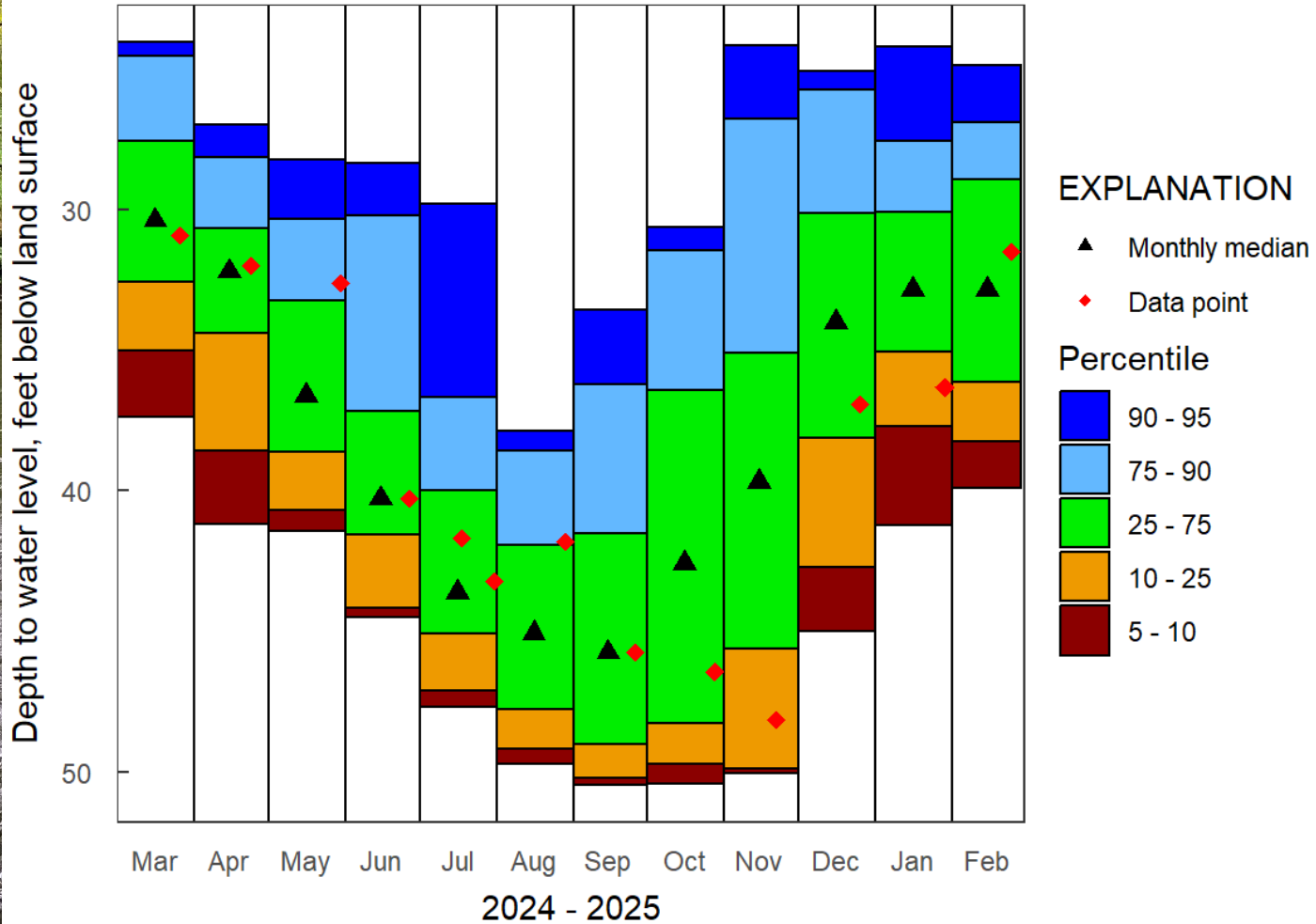
Plot created: 2025-03-07



# Eastern

413325071152401 RI-POW 551

U.S. Geological Survey



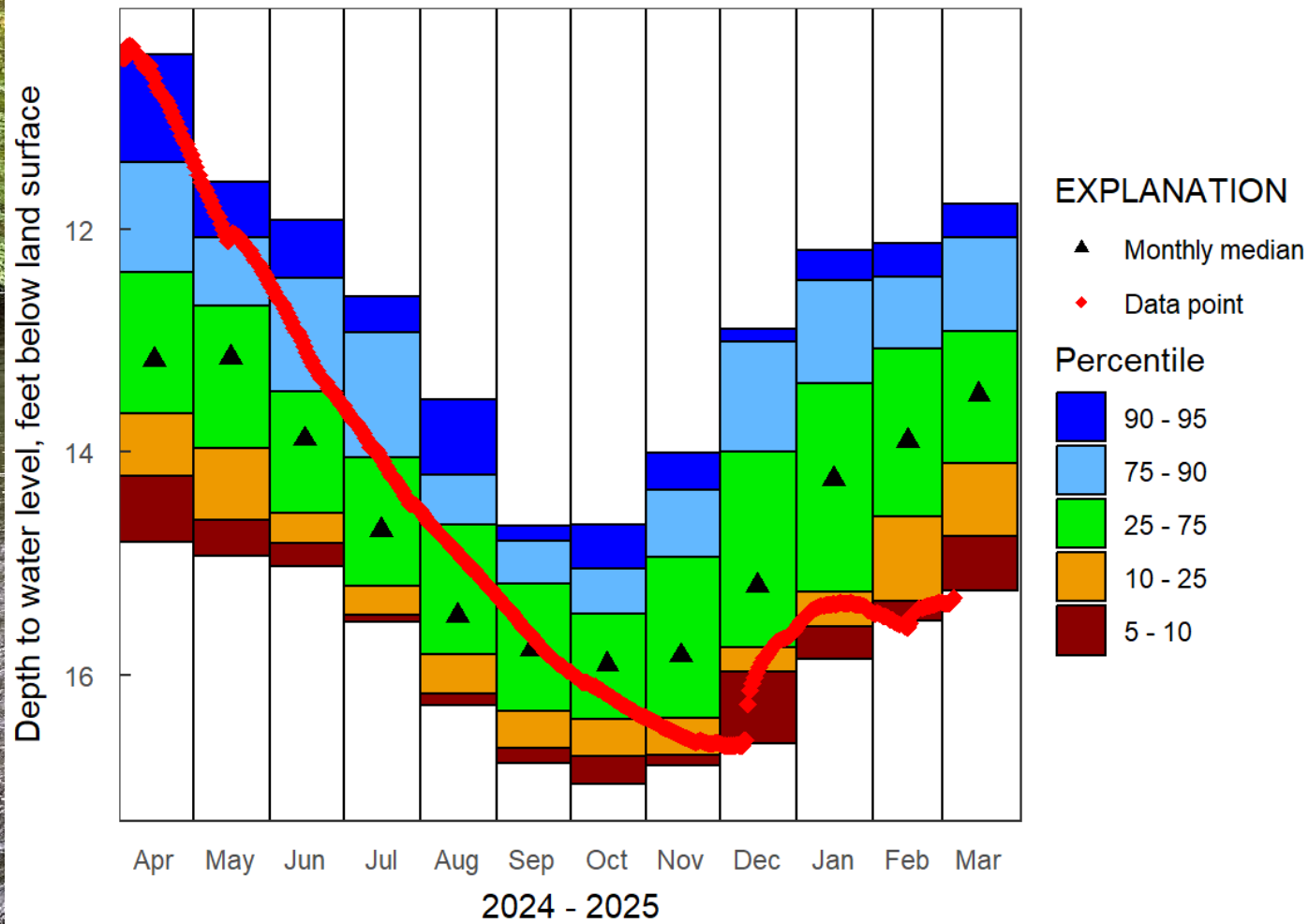
Plot created: 2025-03-07



# Southern

413358071433801 RI-EXW 475 EXETER, RI

U.S. Geological Survey



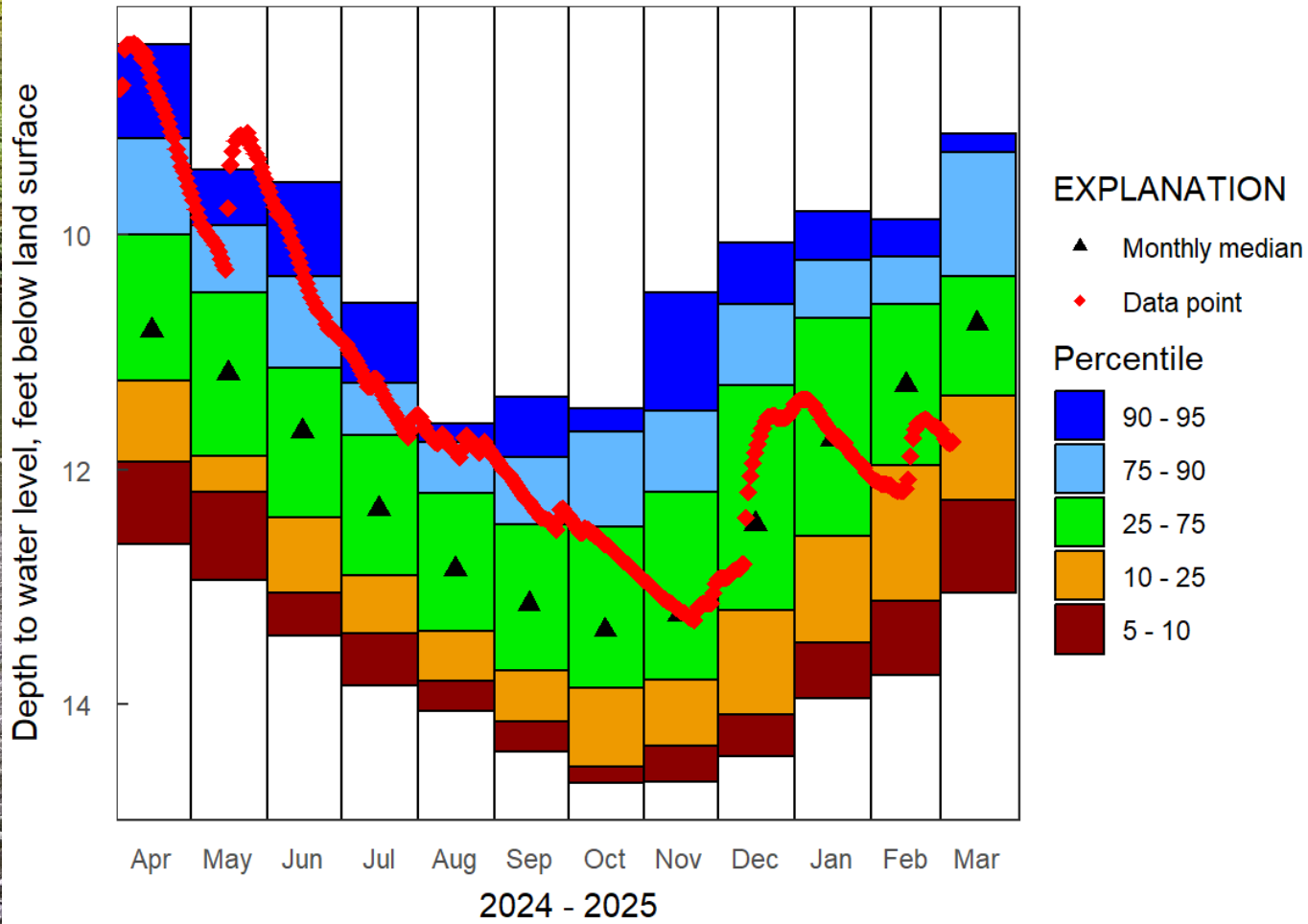
Plot created: 2025-03-07



# Southern

412918071321001 RI-SNW 6 SOUTH KINGSTOWN, RI

U.S. Geological Survey

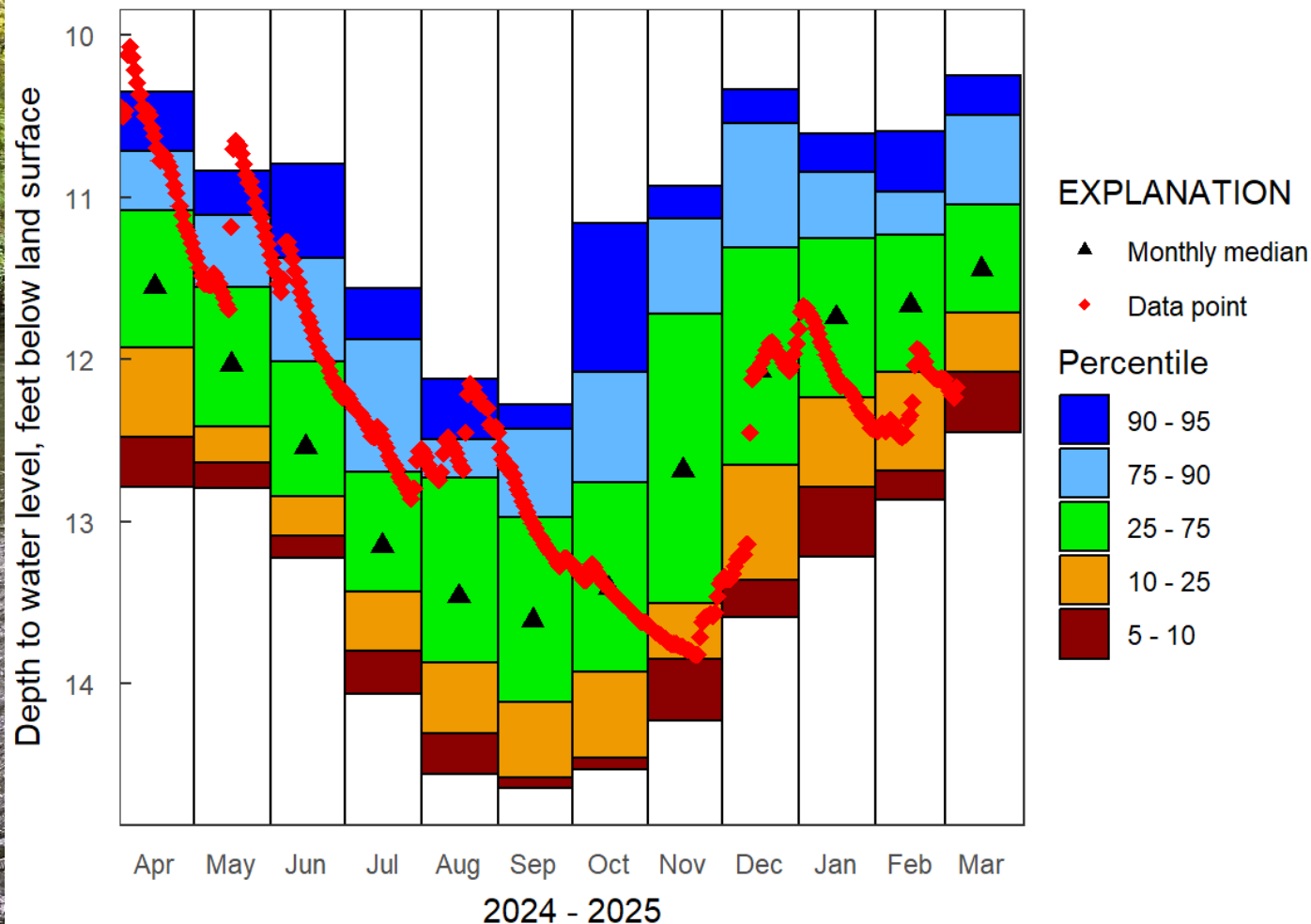




# Southern

412154071462901 RI-WEW 522 WESTERLY, RI

U.S. Geological Survey



Plot created: 2025-03-07



**Table 4**  
**Returning to Normal**

<b>Current Drought Phase</b>	<b>Next Drought Phase</b>	<b>Reduce Drought Phase by one category</b>
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# Statewide/Regional GW Recap

- Recovery from advisory to normal is two consecutive months of normal groundwater.
- Ground Water Statewide Average
  - Jan 26% Feb 32%
- Only Two of six measured regions meet criteria for recovery.
  - Southern and North East (barely) meet recovery criteria.
  - North West, Central West, Central East, Eastern, do not meet recovery criteria.
- Regions Meeting Watch Criteria
  - North West and Central West



Table 2, Rhode Island Drought Indices and Phases

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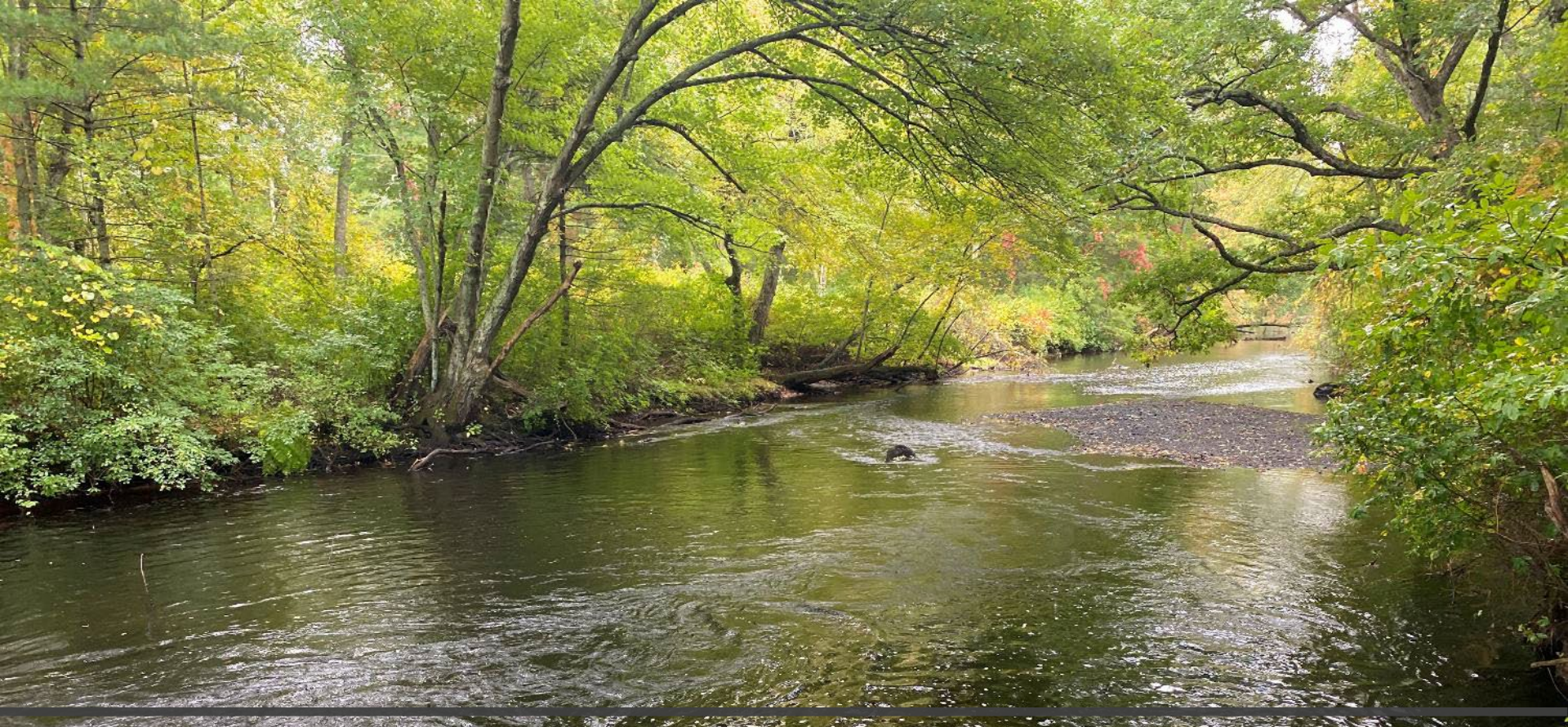




# Statewide/Regional SW Recap

- 5 regions are measured
- Statewide averages for February 14%
- Statewide averages meet Watch Criteria
- Two regions meet Warning Criteria
  - North West and Central East
- Two regions meet Watch Criteria
  - North East and Central West
- Southern Region has returned to below normal for first time since November.





# Questions?



# Bonus Recap

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

Drought Phase	Precipitation +	Ground Water** +	Stream flow +
<b>Watch</b>	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
<b>Warning</b>	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