

Streamflow and Groundwater Conditions in Rhode Island

August 2022

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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
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.

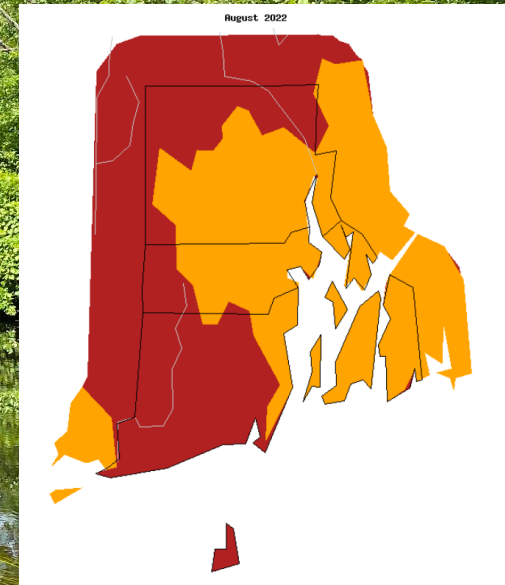
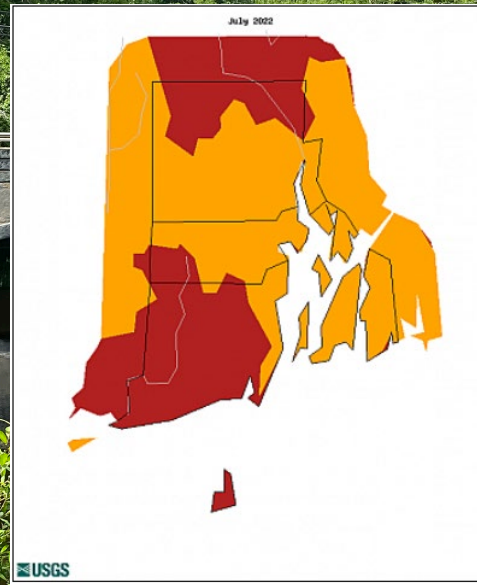
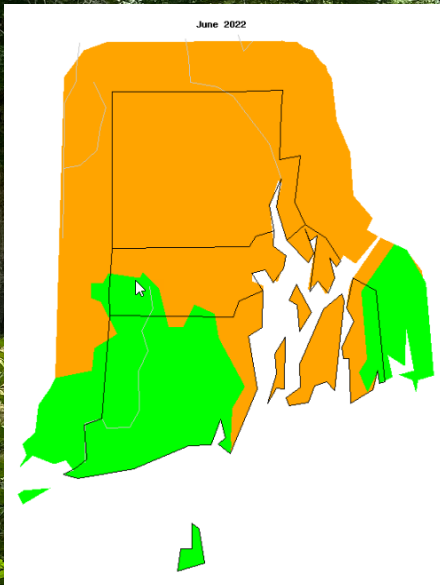
"Normal" is defined as the statistical average of the data for the period of record. Percentages for precipitation are relative to normal.

Average Streamflow Conditions July - August

June

July

August



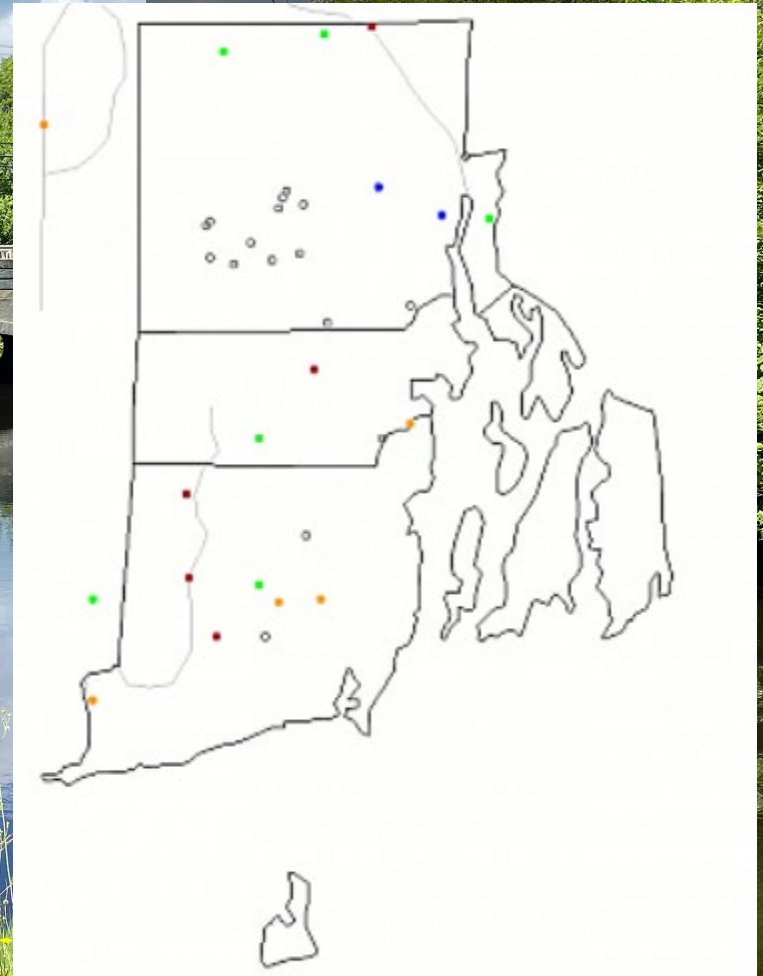
Explanation - Percentile classes							
	Low	<10	10-24	25-75	76-90	>90	High
		Much below normal	Below normal	Normal	Above normal	Much above normal	

7 - Day Maps

August 31, 2022



September 08, 2022



Region Average Percentages

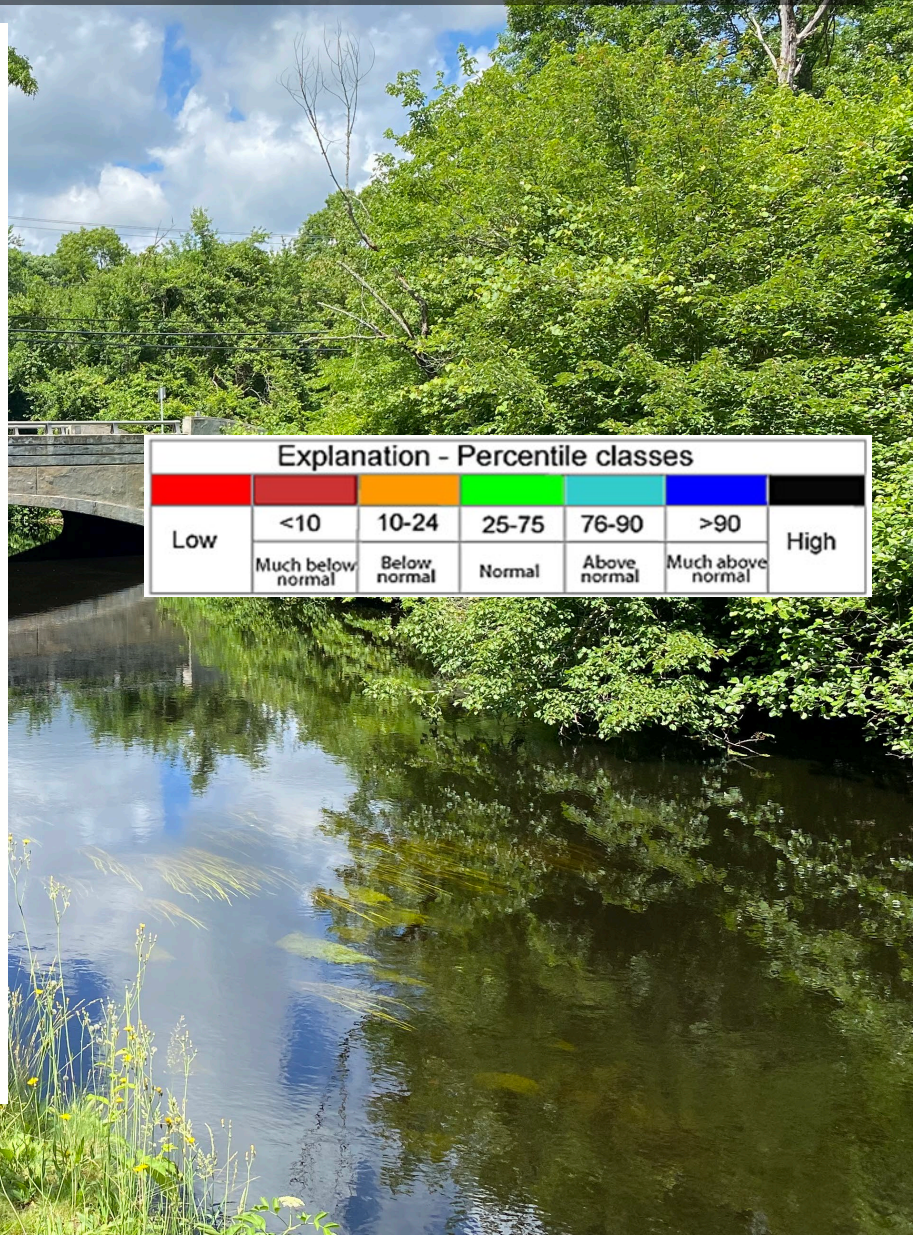
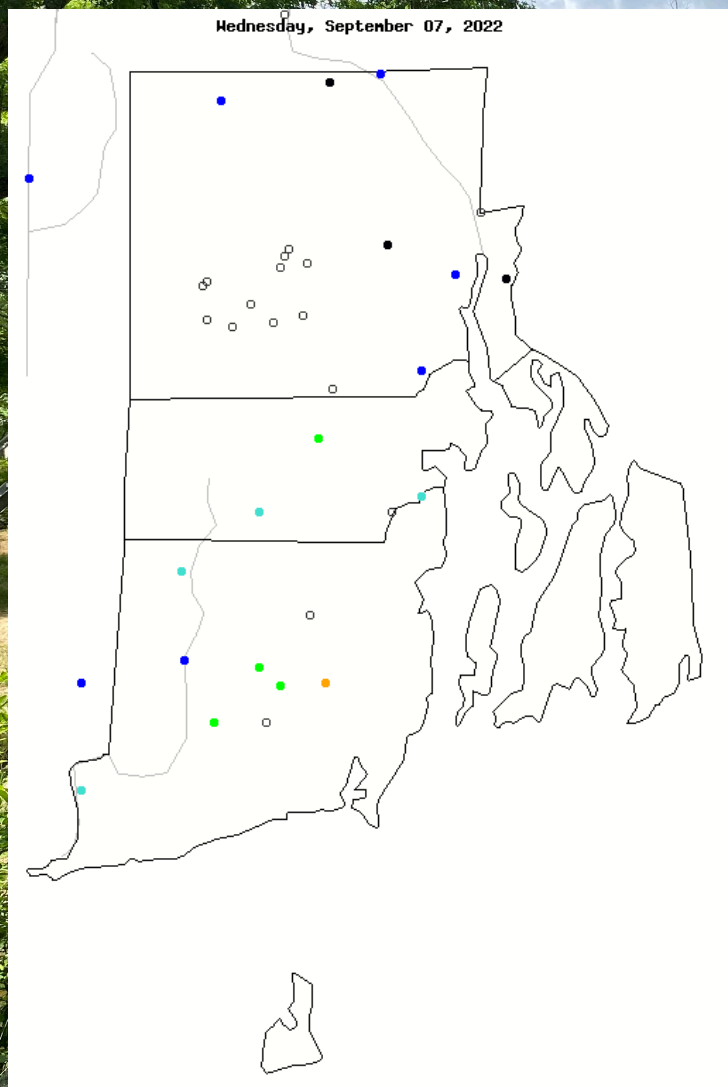
Regions	Q 3/2022	Q 4/2022	Q 5/2022	Q 6/2022	Q 7/2022	Q 8/2022
Northwest	66	36	3	21	19	2
Northeast	59	38	11	9	9	3
Central West	25	40	10	28	23	49
Central East	56	42	6	11	19	14
Eastern	No Gages-----					
Southern	57	31	17	30	14	10
New Shoreham	No Gages-----					

	March 2022	April 2022	May 2022	June 2022	July 2022	August 2022
statewide Q	55	35	13	23	16	10

***Pawcatuck at Wood River Junction, March=61%, April =41%, May=23%, June=25%, July=6%, August=2%**



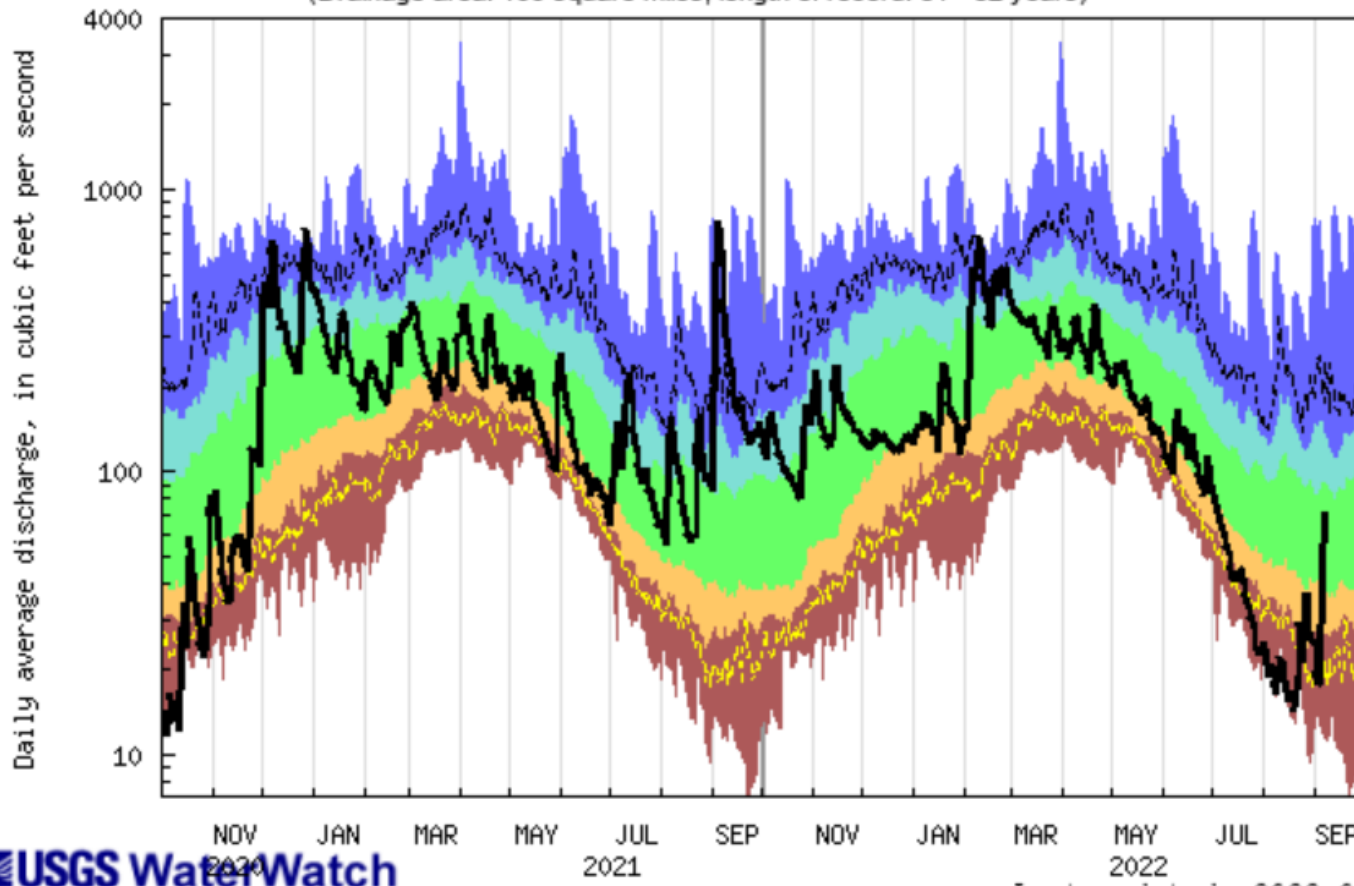
Current Streamflow Conditions – September 07, 2022



Explanation - Percentile classes

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

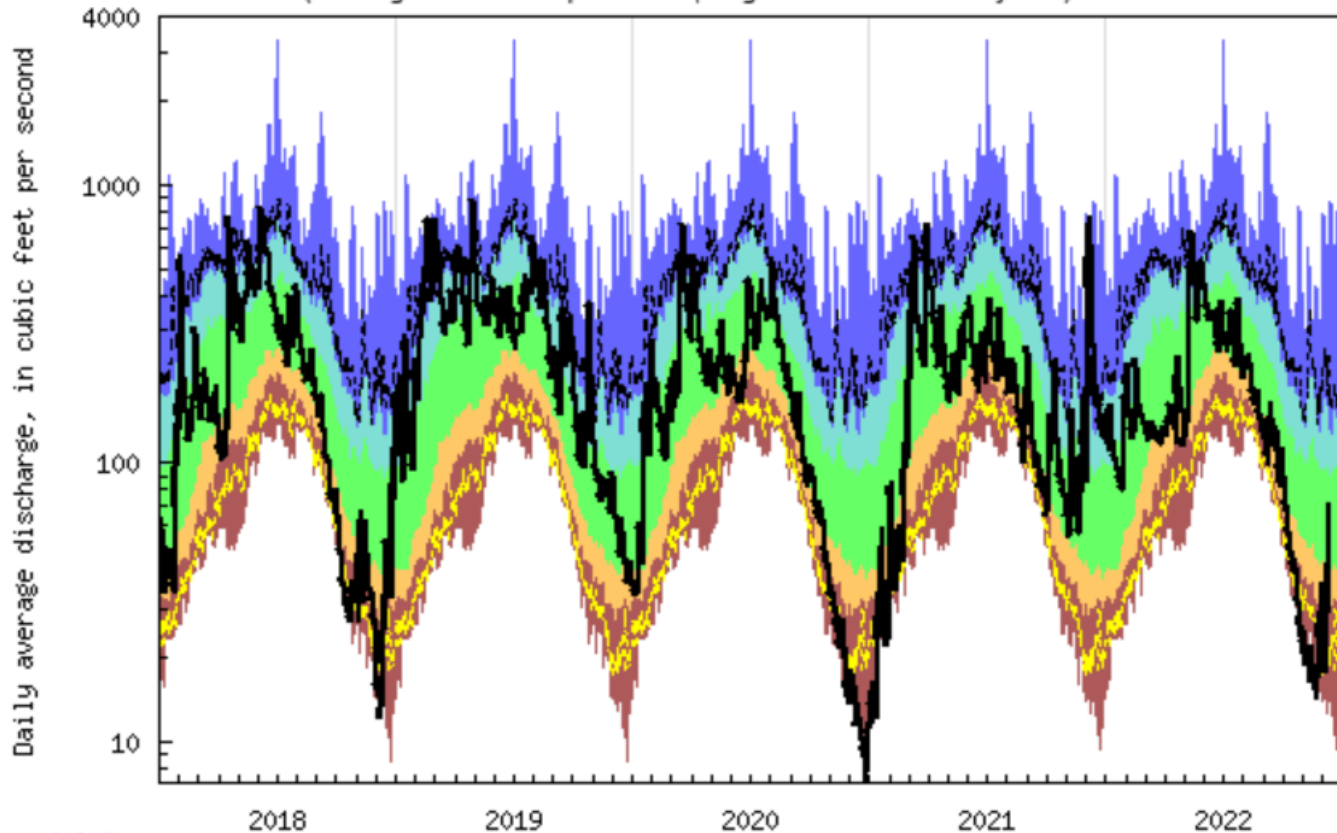
USGS 01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI
 (Drainage area: 100 square miles, length of record: 81 - 82 years)



Explanation - Percentile classes

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

USGS 01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI
 (Drainage area: 100 square miles, length of record: 81 - 82 years)

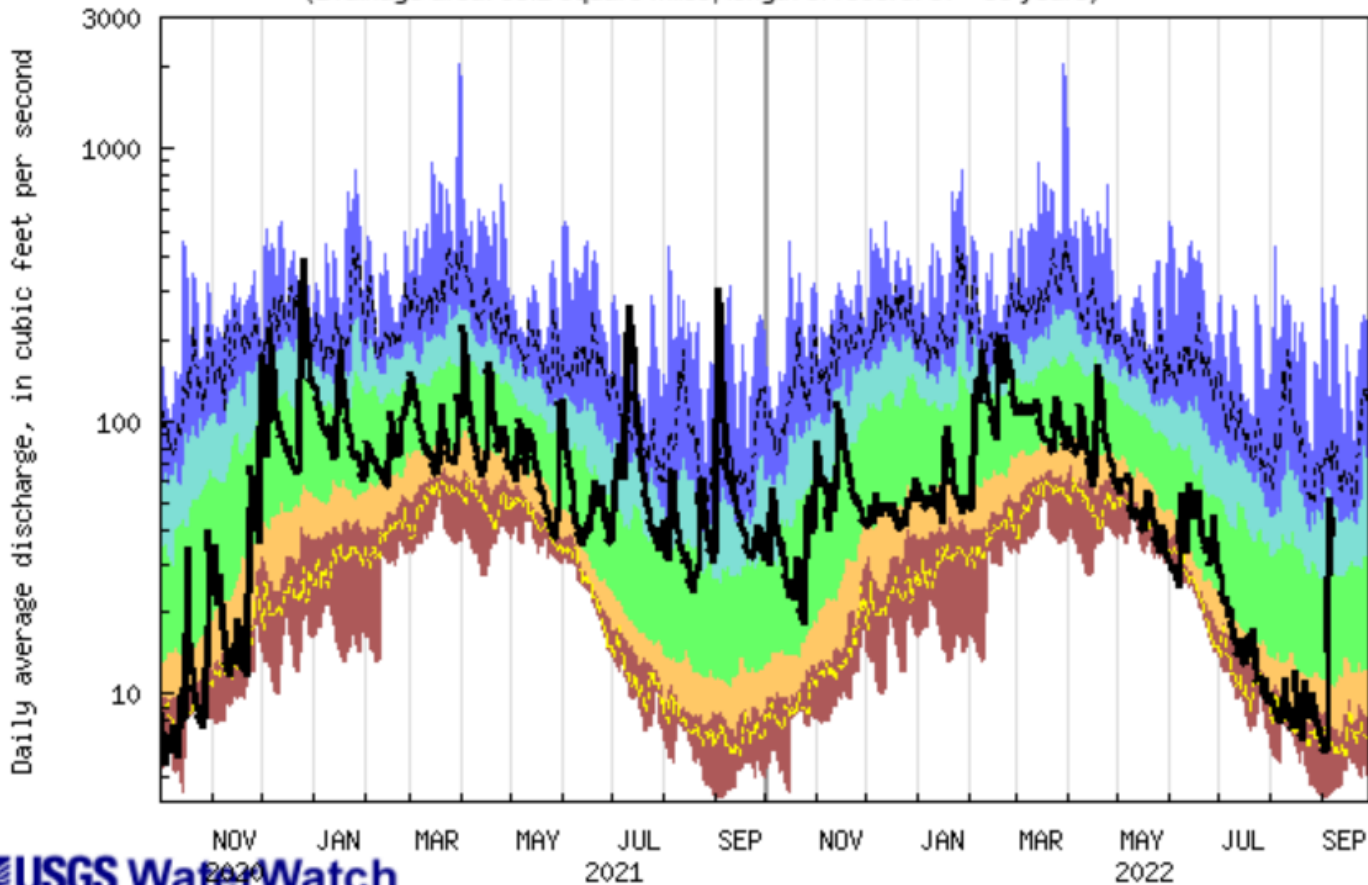


USGS WaterWatch

Last updated: 2022-09-08

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

USGS 01117800 WOOD RIVER NEAR ARCADIA, RI
 (Drainage area: 35.2 square miles, length of record: 57 - 58 years)

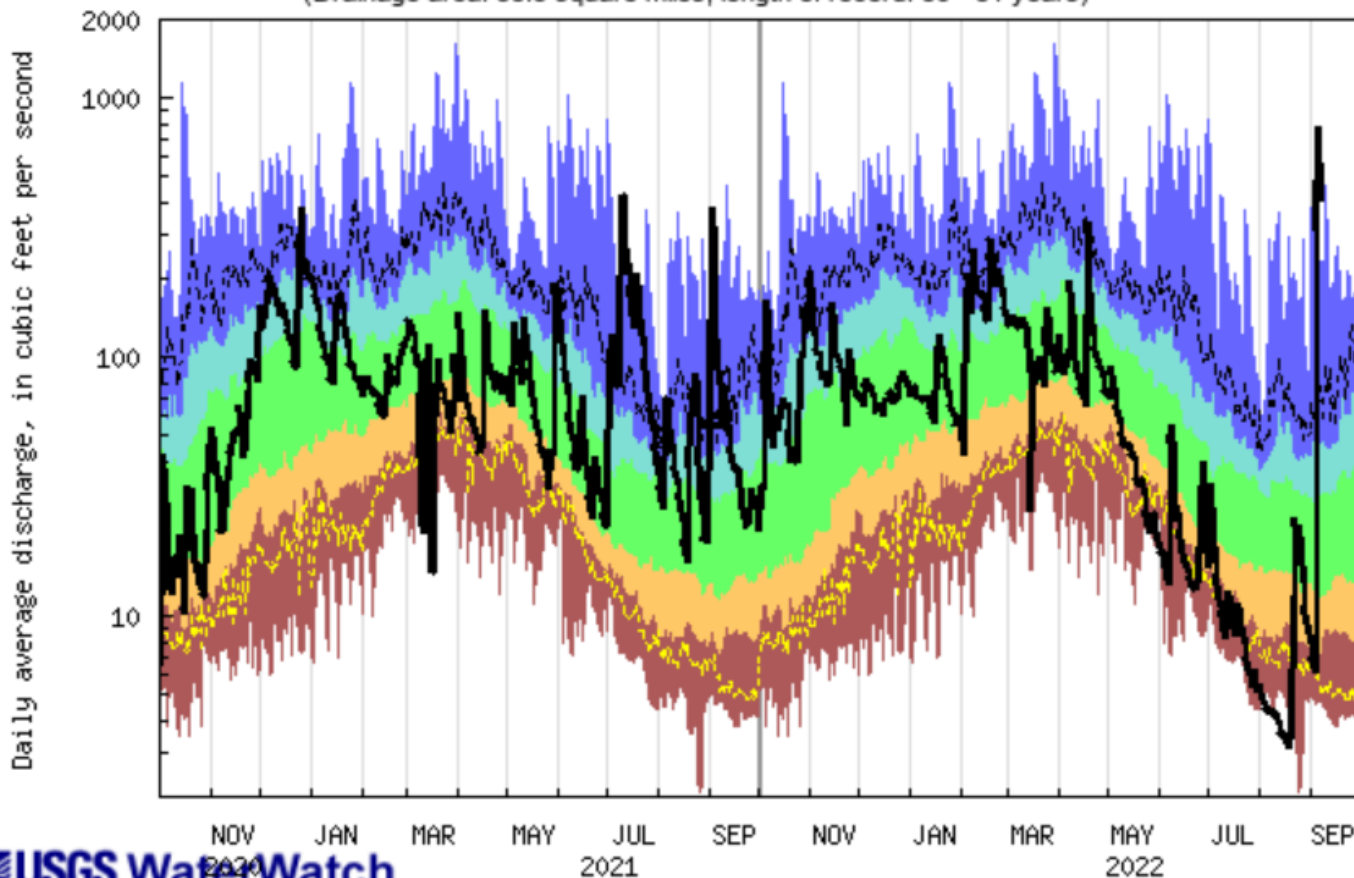


USGS WaterWatch

Last updated: 2022-09-08

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

USGS 01114500 WOONASQUATUCKET RIVER AT CENTERDALE, RI
 (Drainage area: 38.3 square miles, length of record: 80 - 81 years)

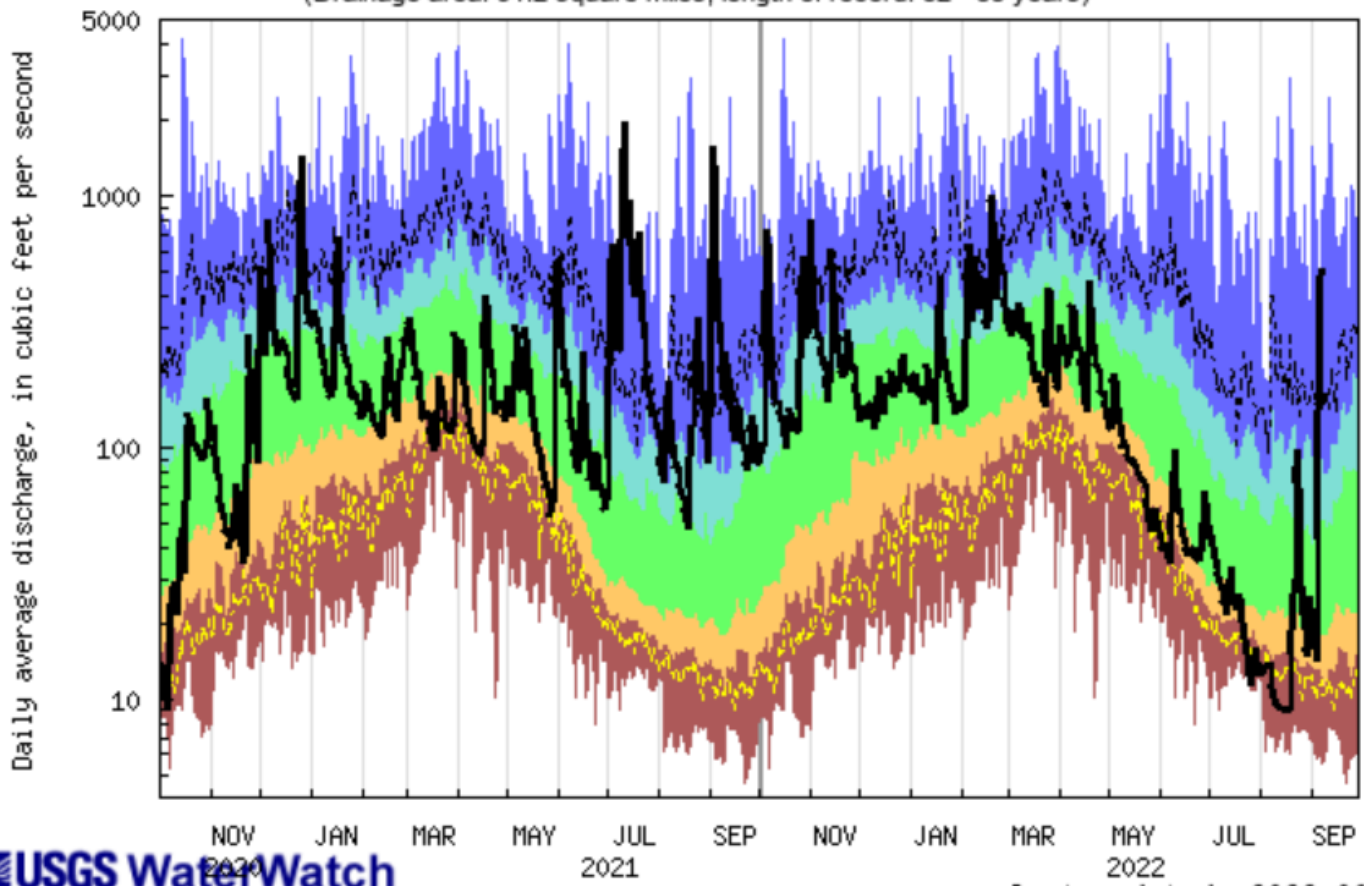


USGS WaterWatch

Last updated: 2022-09-08

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

USGS 01111500 BRANCH RIVER AT FORESTDALE, RI
 (Drainage area: 91.2 square miles, length of record: 82 - 83 years)



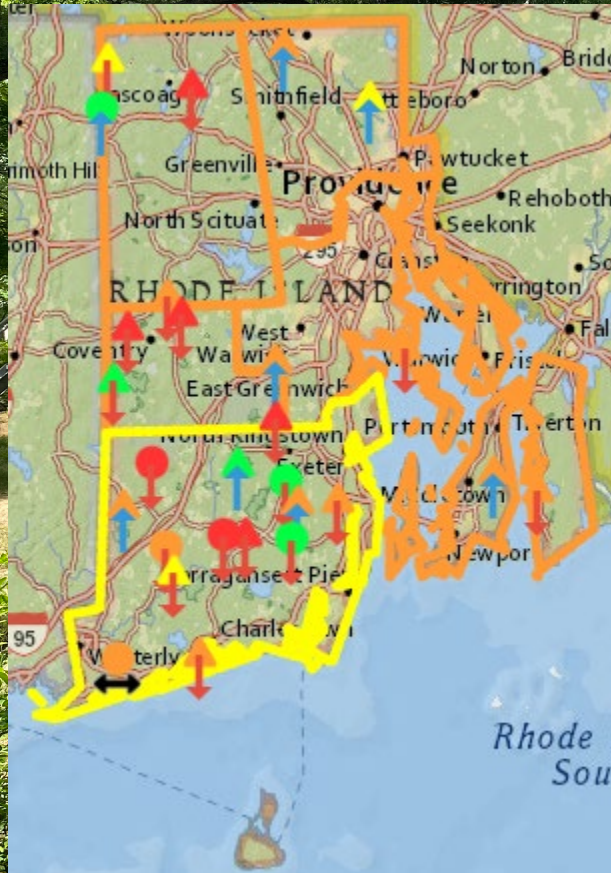
USGS WaterWatch

Last updated: 2022-09-08

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

Groundwater Conditions

End of June 2022

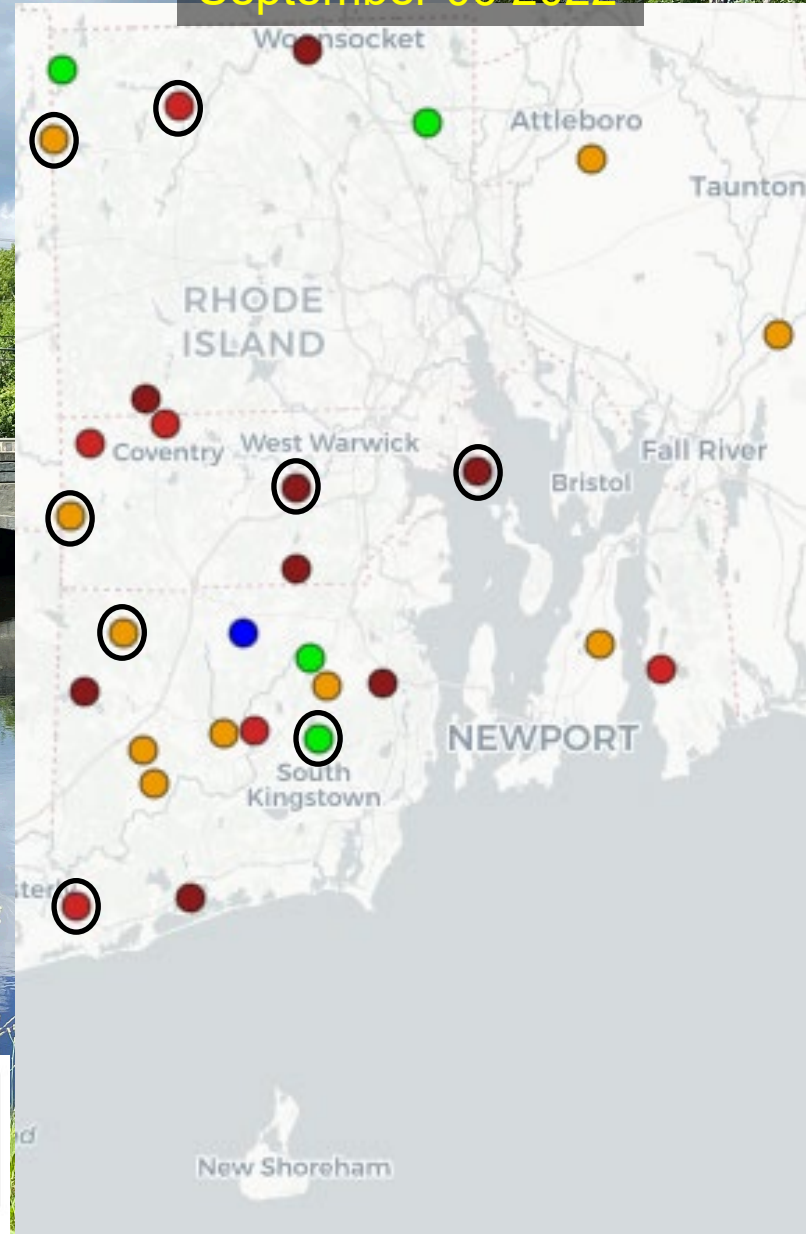


End of August 2022



Groundwater Conditions

September 06 2022



Explanation - Percentile classes									
●	●	●	●	●	●	●	●	○ Real Time	
New	<10	10-24	25-75	76-90	>90	New	Not	□ Continuous	
Low	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal	High	Ranked	△ Periodic Measurements	



Average Groundwater Conditions

Advisory (two out of past three months below 25%)

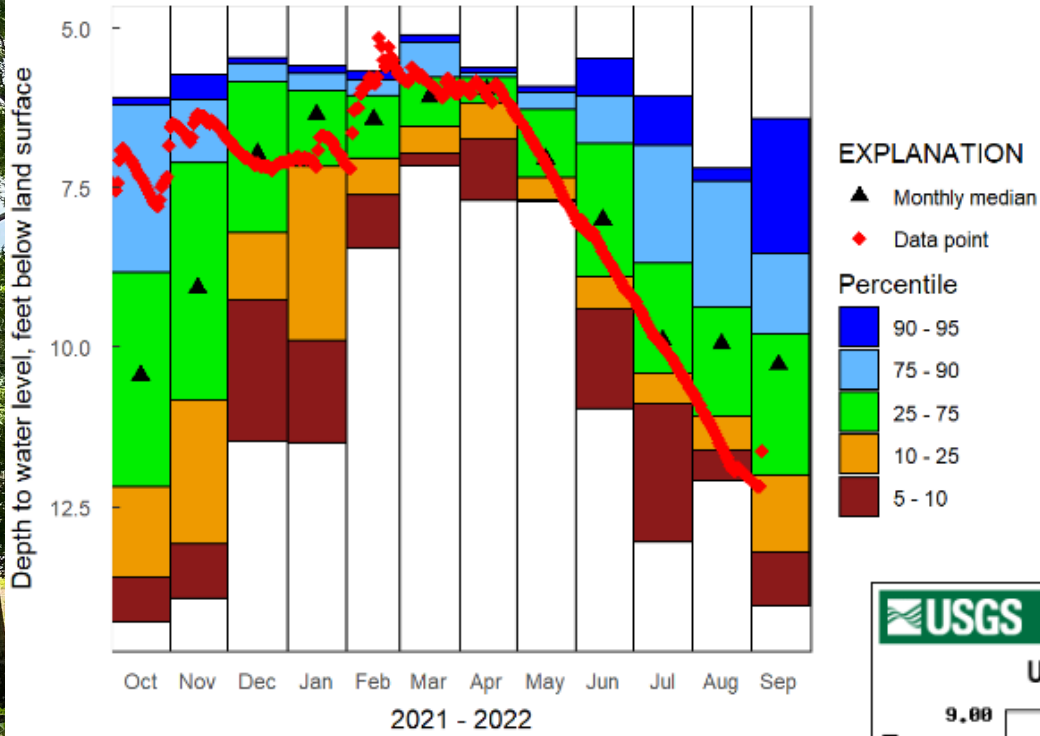
Regions	GW 3/2022	GW 4/2022	GW 5/2022	GW 6/2022	GW 7/2022	GW 8/2022
Northwest	52	43	19	31	22	13
Northeast	31	52	12	16	24	19
Central West	35	31	10	27	14	7
Central East	41	32	14	20	20	9
Eastern	33	37	17	15	17	9
Southern	55	44	33	30	26	17
New Shoreham	No Wells-----					

	March 2022	April 2022	May 2022	June 2022	July 2022	August 2022
statewide GW	47	41	24	27	22	14

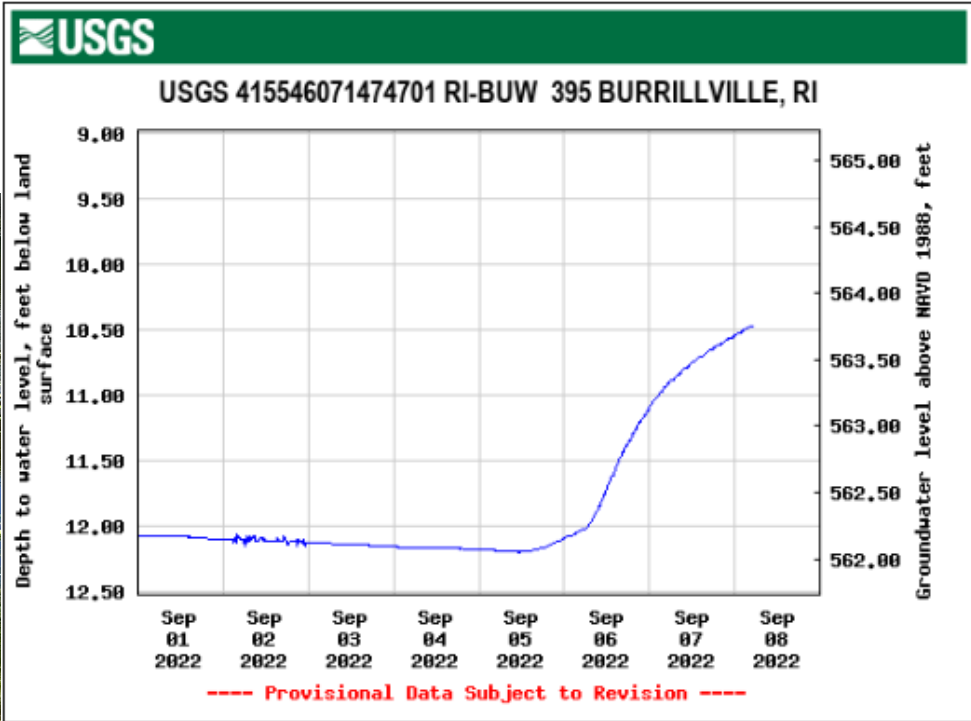


415546071474701 RI-BUW 395 BURRILLVILLE, RI

U.S. Geological Survey

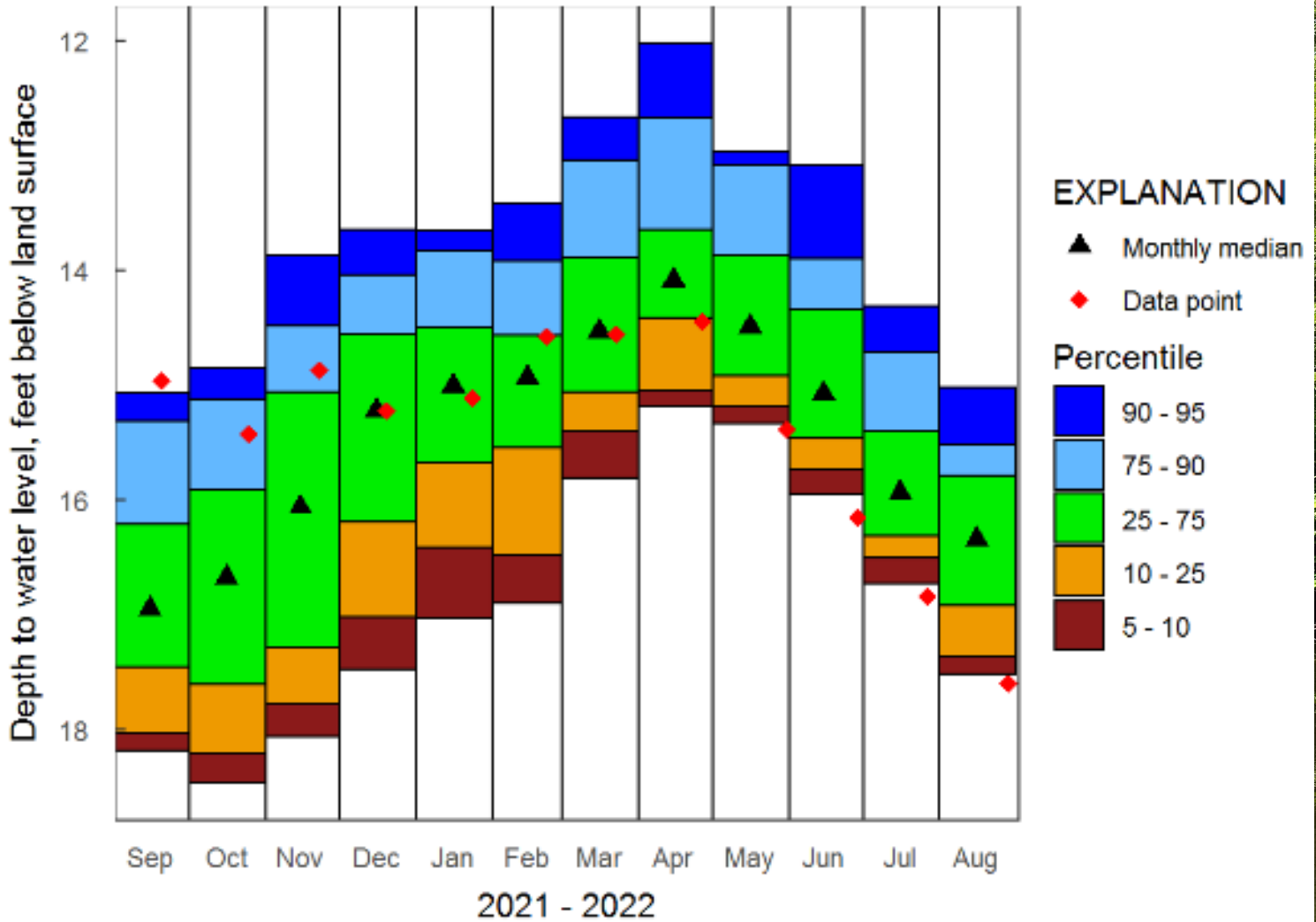


Plot created: 2022-09-08



415710071402201 RI-BUW 187

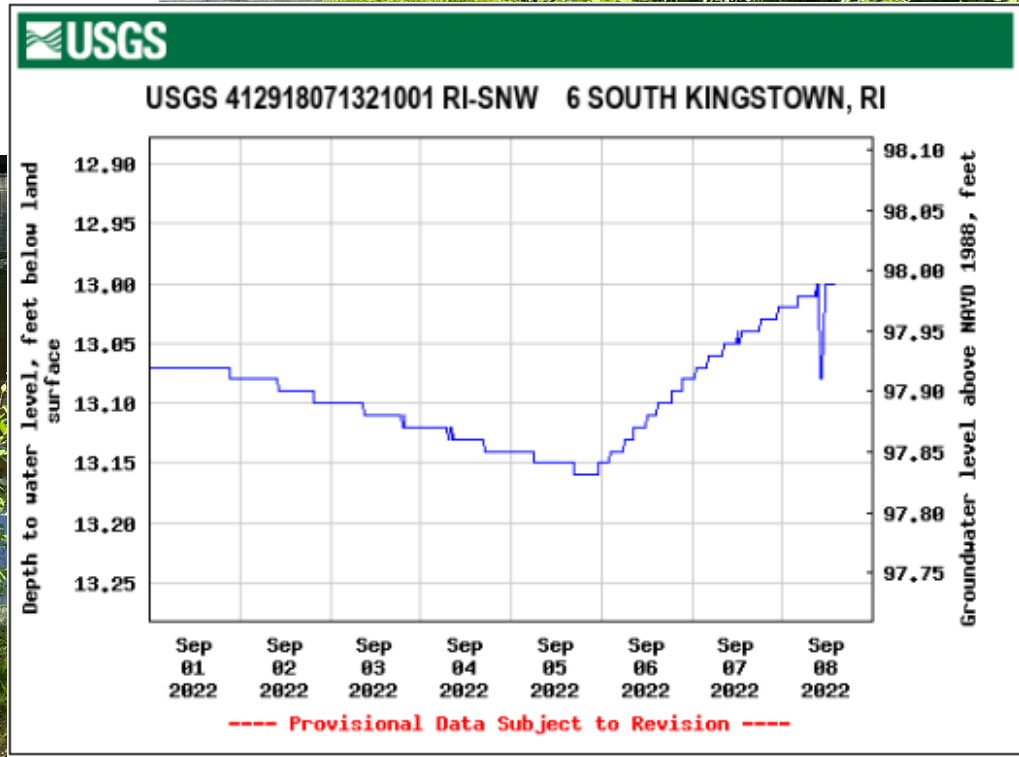
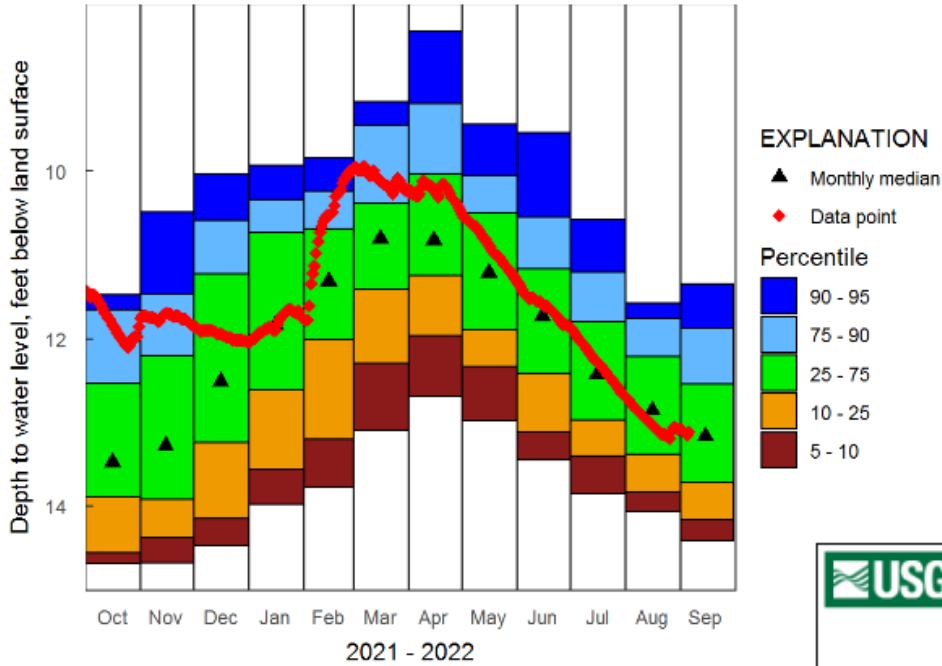
U.S. Geological Survey



Plot created: 2022-09-08

412918071321001 RI-SNW 6 SOUTH KINGSTOWN, RI

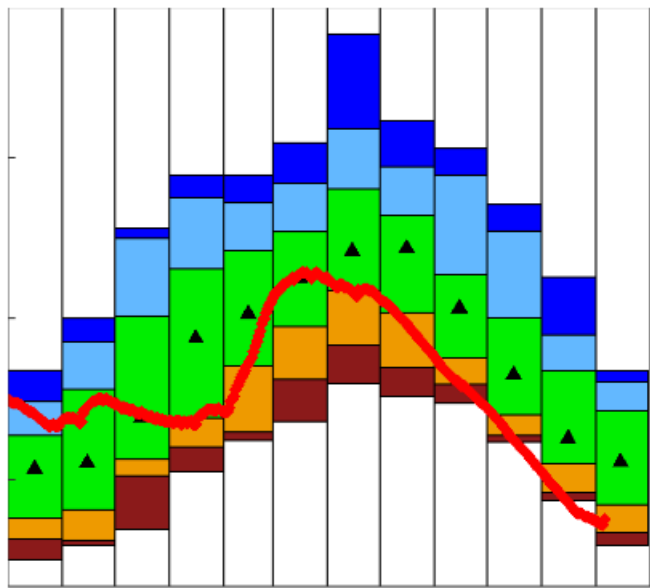
U.S. Geological Survey



413358071433801 RI-EXW 475 EXETER, RI

U.S. Geological Survey

Depth to water level, feet below land surface

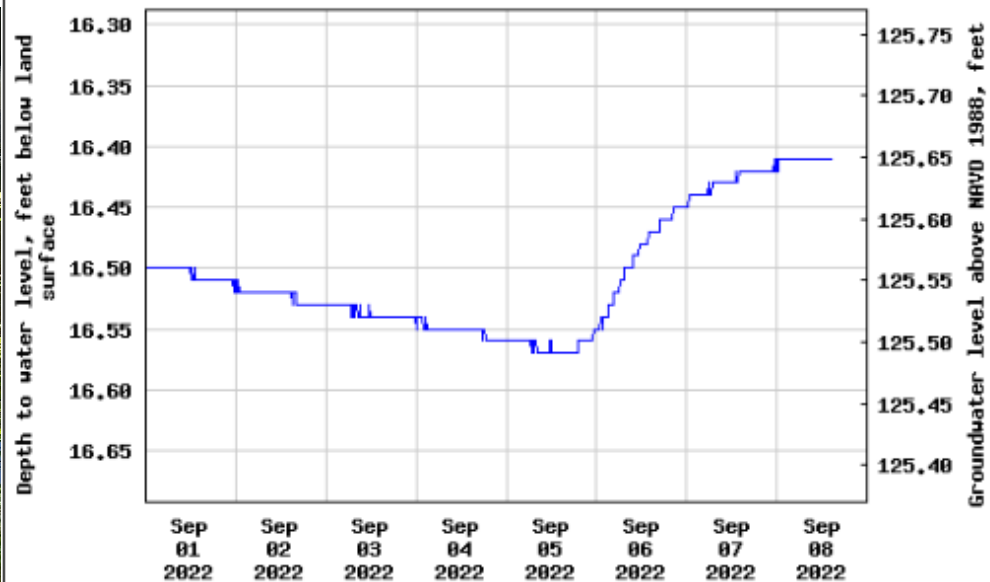


2021 - 2022

Plot created: 2022-09-08



USGS 413358071433801 RI-EXW 475 EXETER, RI

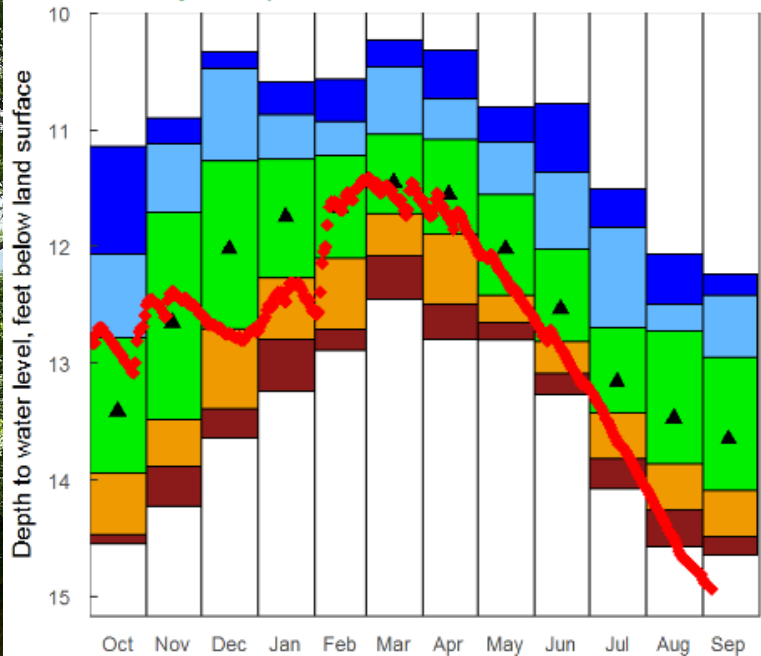


----- Provisional Data Subject to Revision -----



412154071462901 RI-WEW 522 WESTERLY, RI

U.S. Geological Survey



2021 - 2022

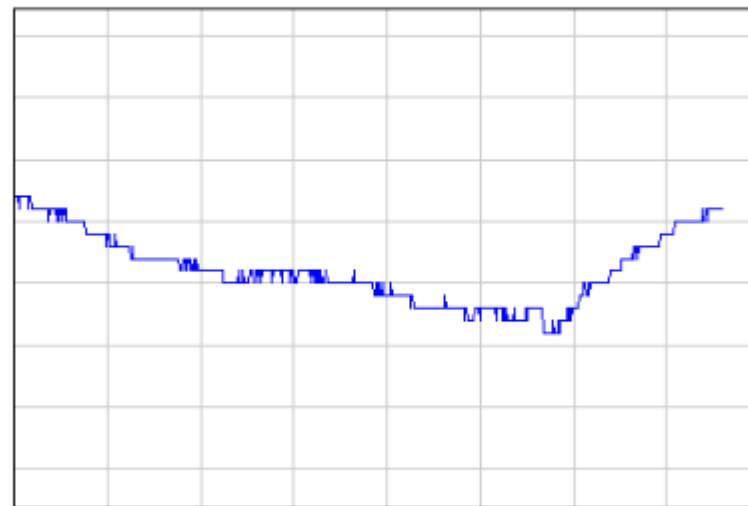
Plot created: 2022-09-08



USGS 412154071462901 RI-WEW 522 WESTERLY, RI

Depth to water level, feet below land surface

14.70
14.75
14.80
14.85
14.90
14.95
15.00
15.05



Groundwater level above NAVD 1988, feet

29.35
29.30
29.25
29.20
29.15
29.10
29.05
29.00

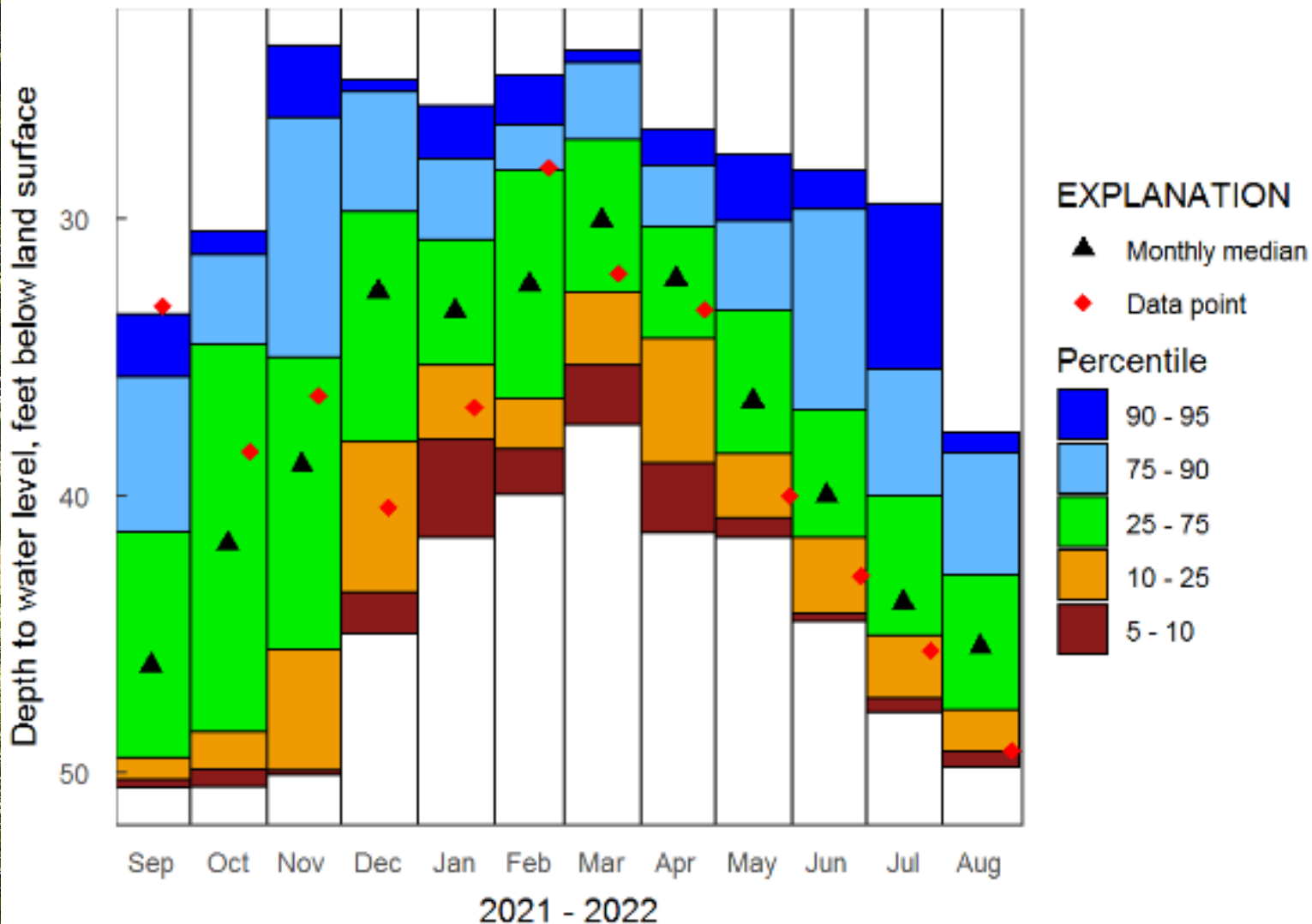
Sep 01 2022 Sep 02 2022 Sep 03 2022 Sep 04 2022 Sep 05 2022 Sep 06 2022 Sep 07 2022 Sep 08 2022

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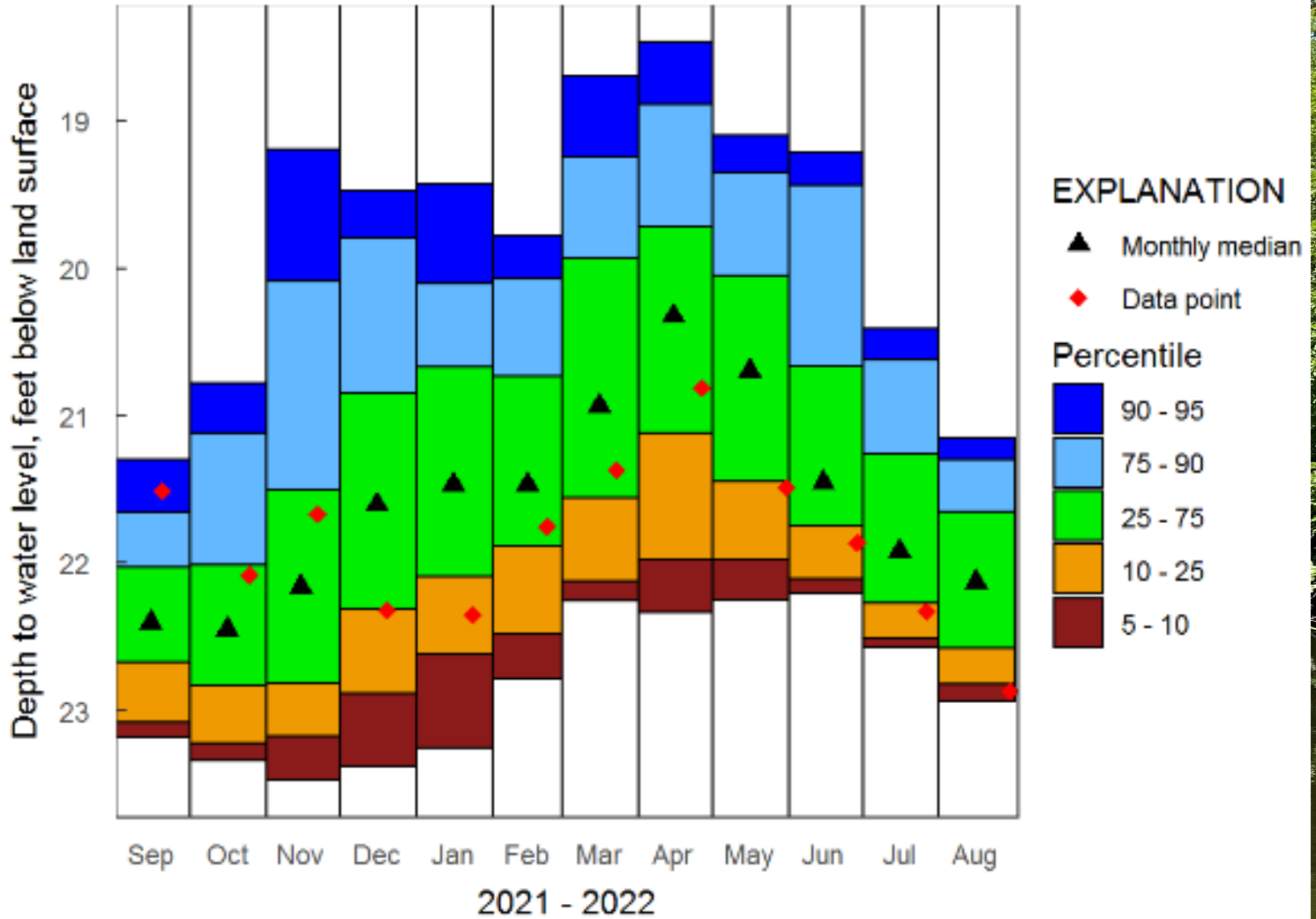
413325071152401 RI-POW 551

U.S. Geological Survey



414022071332801 RI-COW 411

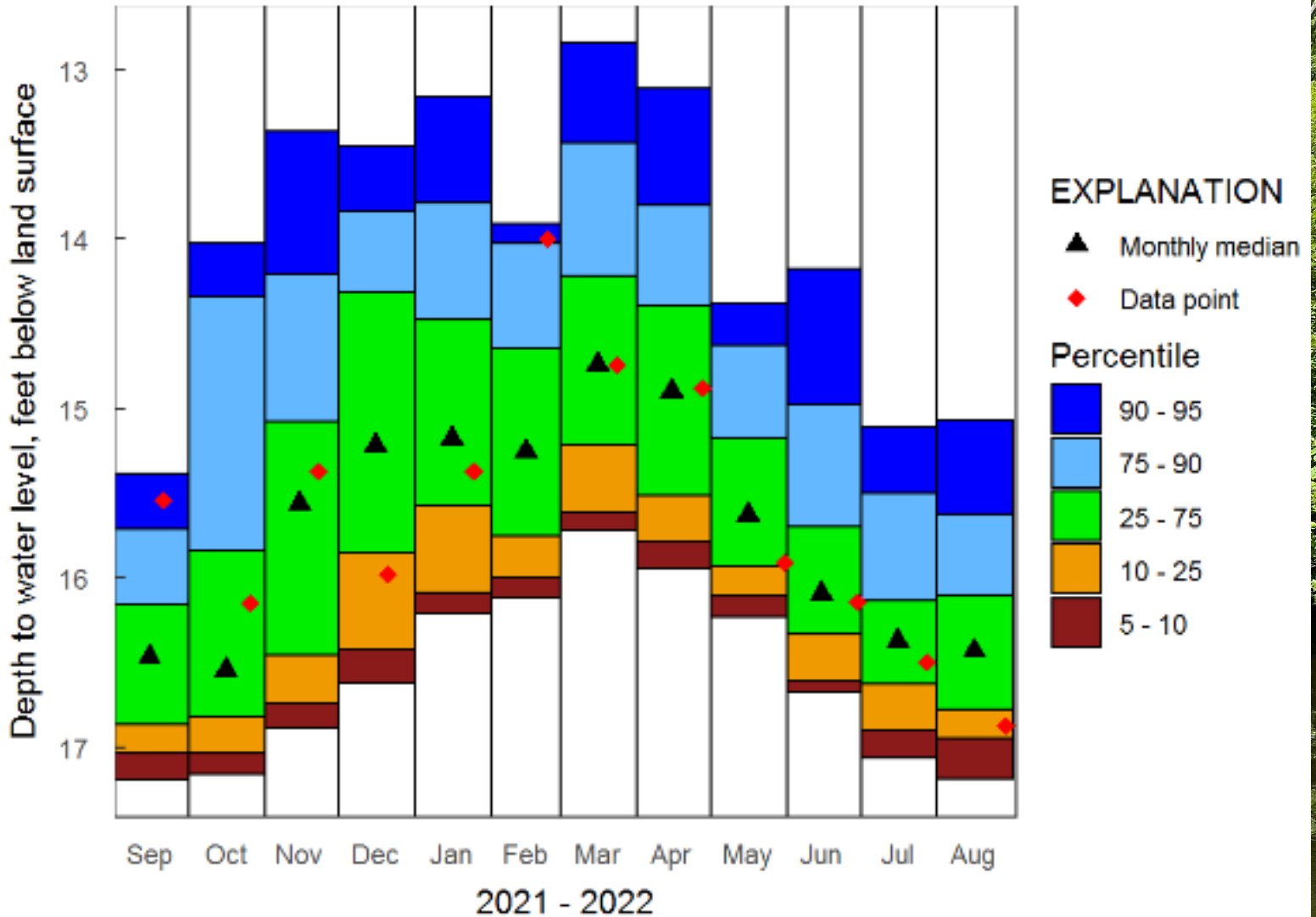
U.S. Geological Survey



Plot created: 2022-09-08

413907071465001 RI-WGW 181

U.S. Geological Survey



Plot created: 2022-09-08

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Summary: Streamflow - Recap

- Based on the State Guide Plan 721 there
 - Drought advisory calls for three consecutive months of below normal streamflow
 - June 22%
 - July 16%
 - August 10%

Summary: Groundwater - Recap

- Based on the State Guide Plan 721 there
 - Drought advisory calls for at least two out of 3 months of below normal.
 - June 27%
 - July 22%
 - August 14%



Questions?