Hydrologic Conditions

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Water Resource Operations

October 16th, 2024

Water Management Advisory Committee Meeting

Delaware River Basin Commission
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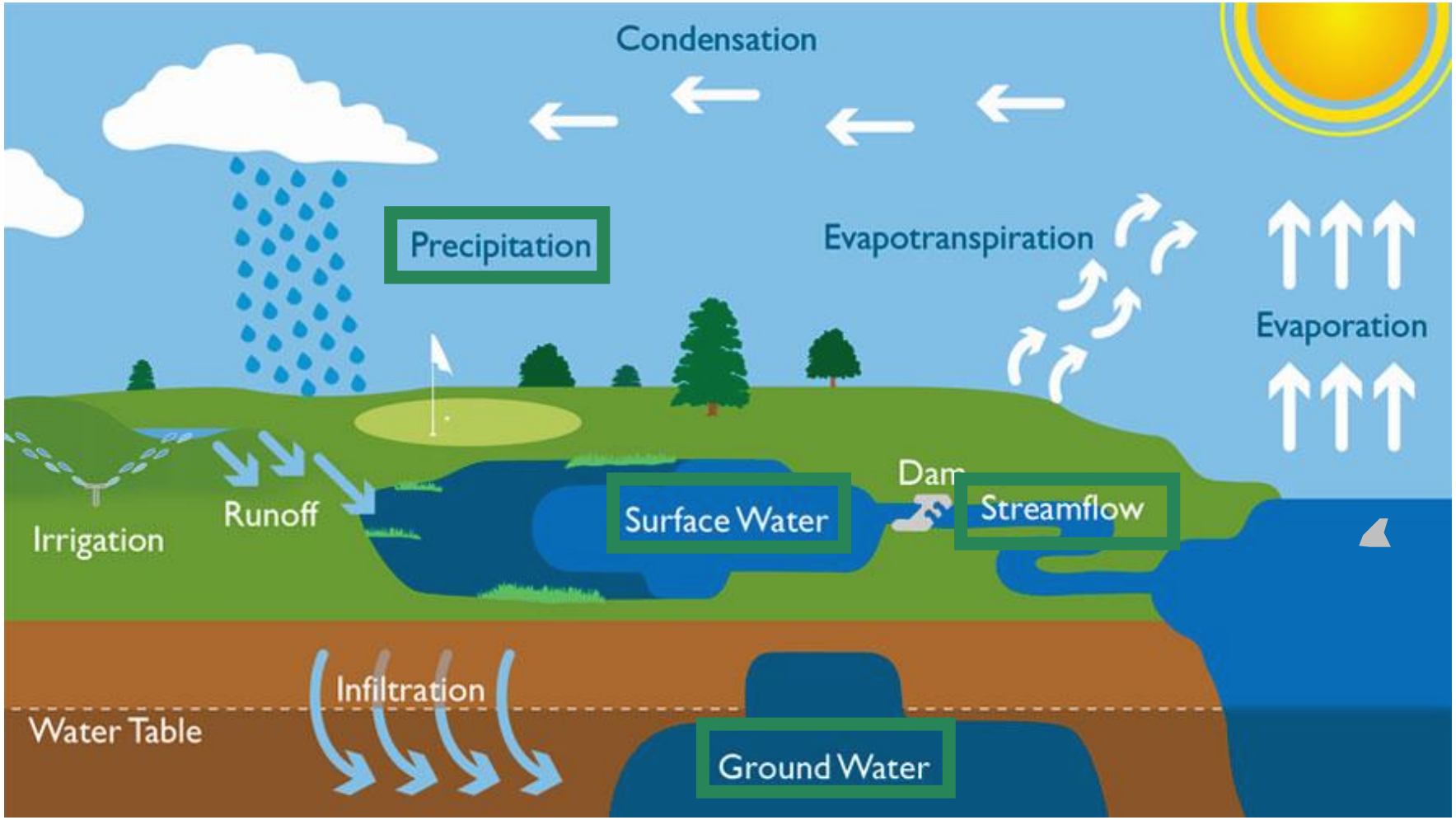
The Hydrologic Cycle

Water moves around the earth through air, soil, and over land.



Graphic courtesy of Pike County Soil Conservation District

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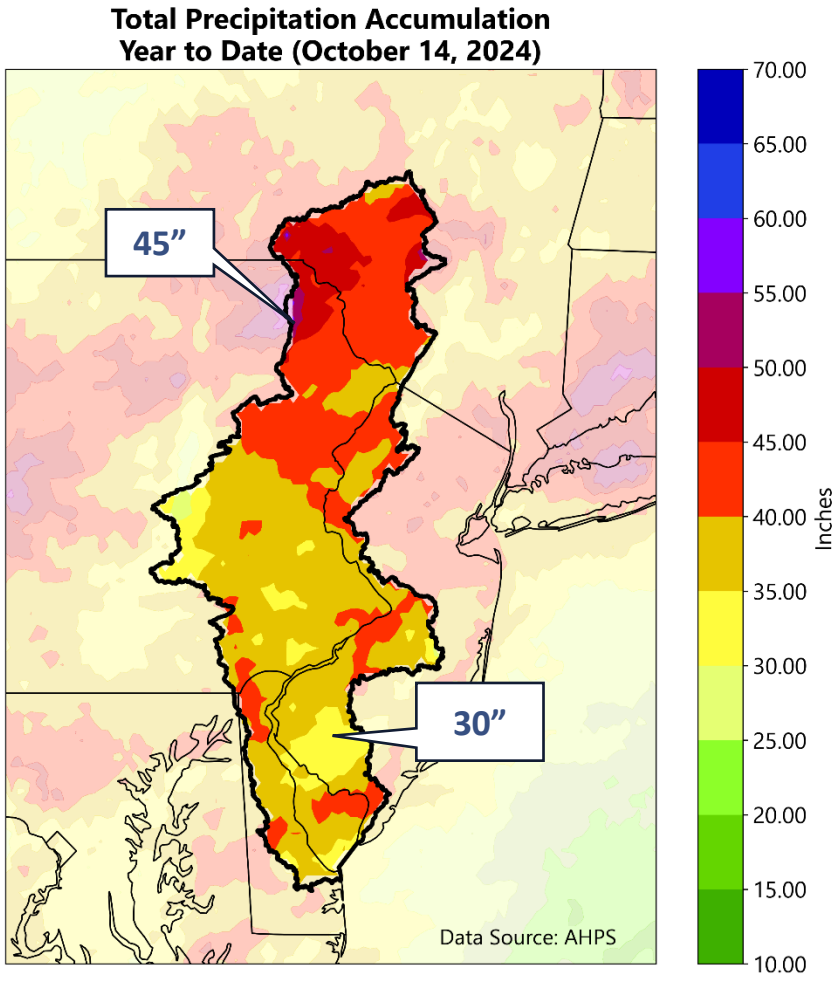
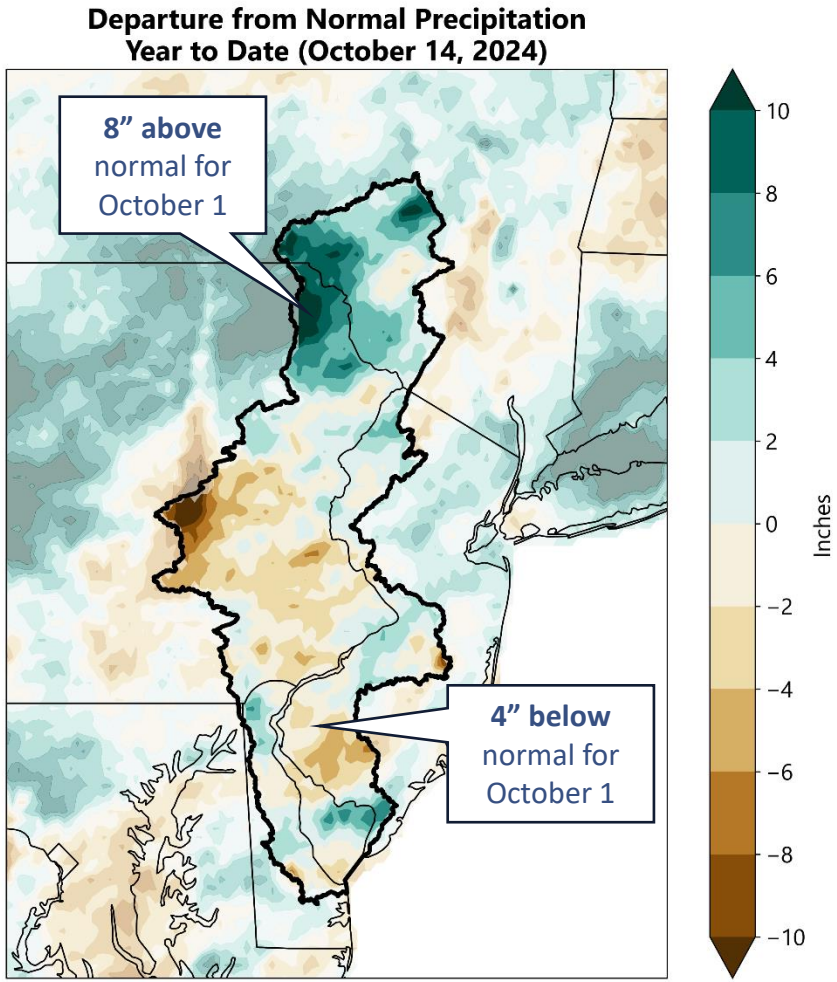
Precipitation since January 1

The Upper basin has received much more than normal rainfall so far this year while the Lower basin has received below normal rainfall.





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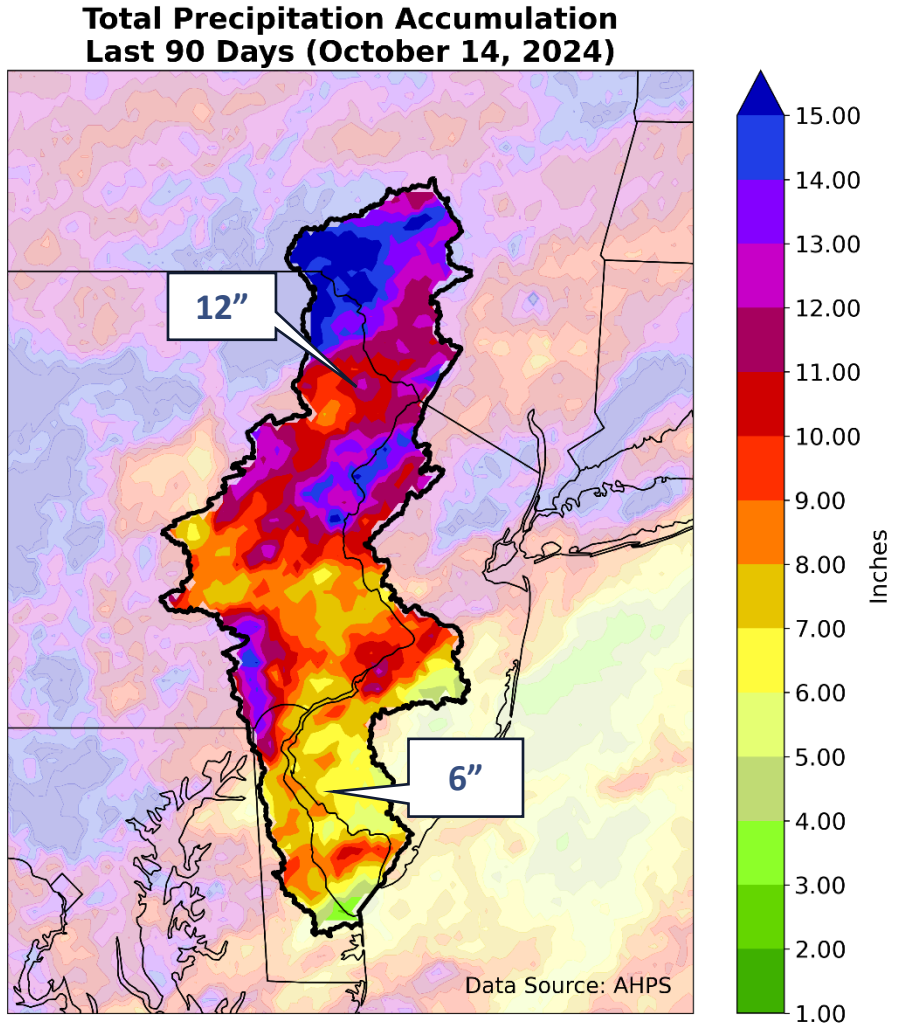
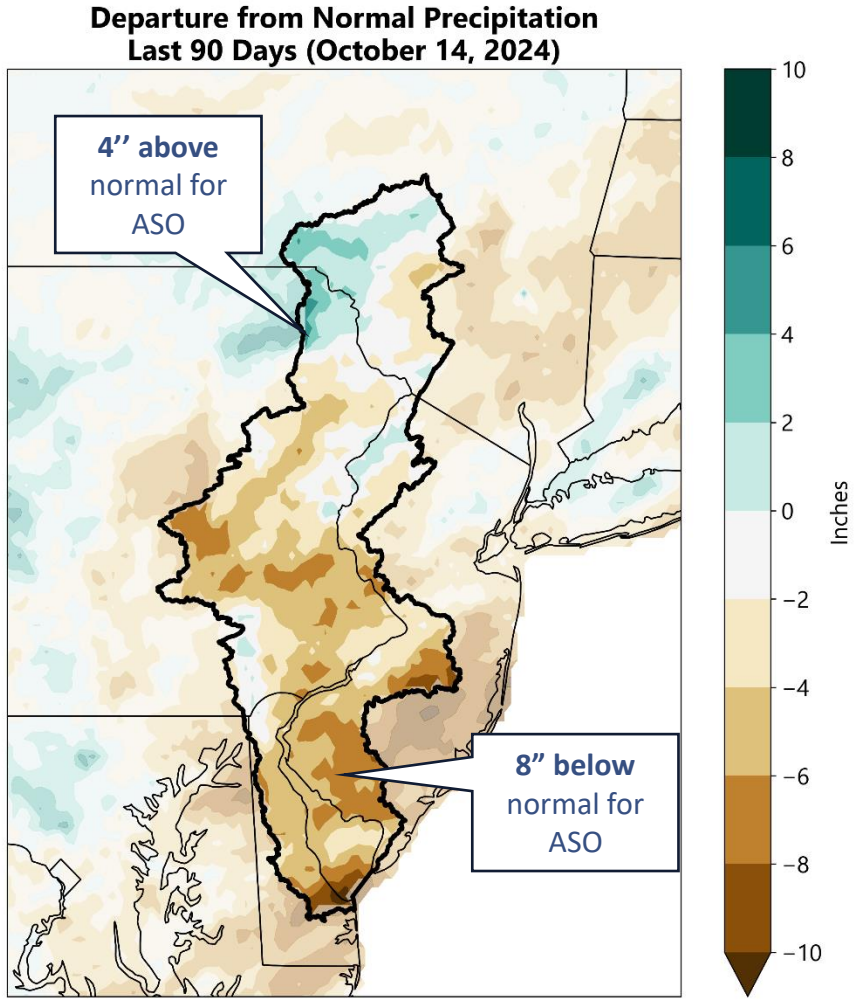
Precipitation – 90 days

The past three-month period is not as relatively wet as the past five months.





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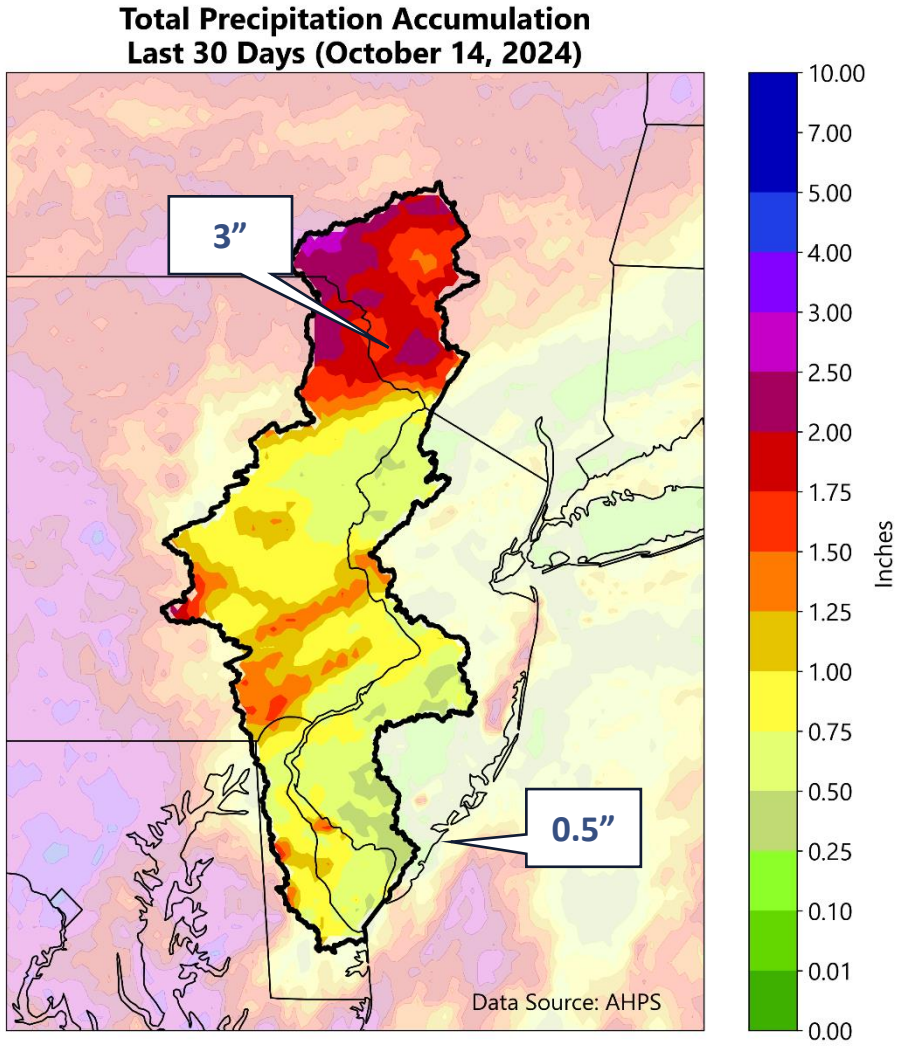
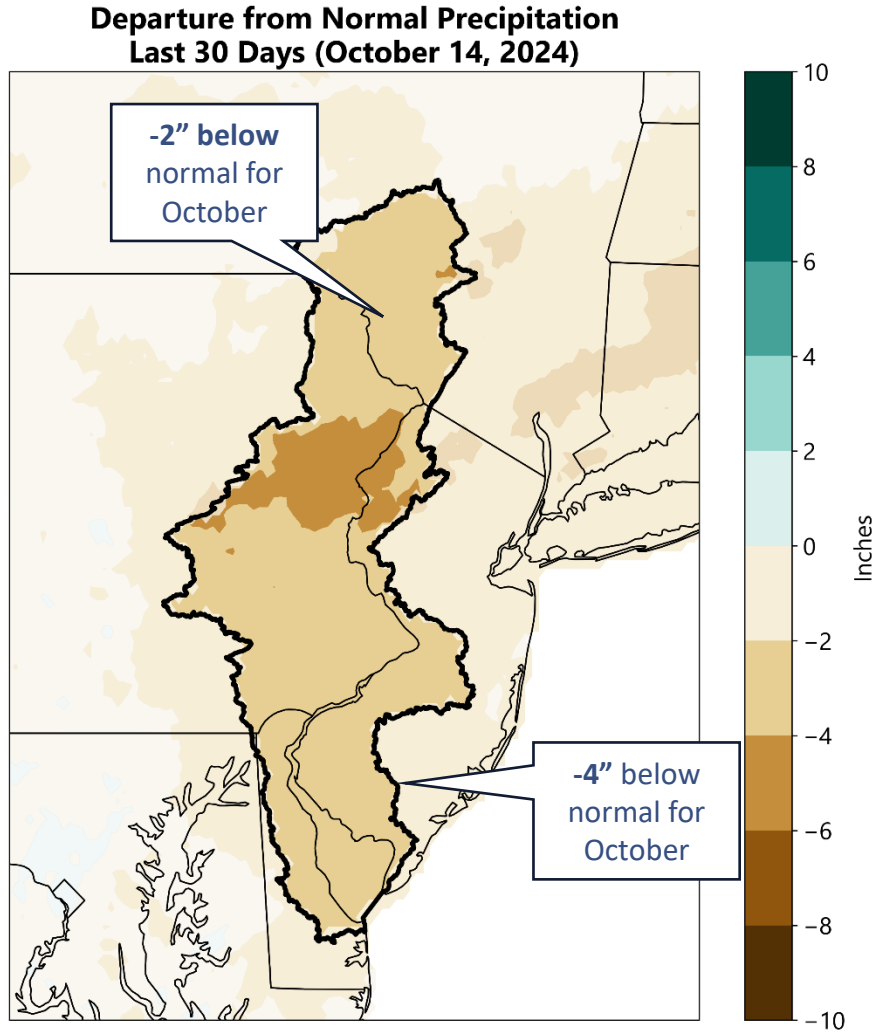
Precipitation – past 30 days

September was much drier than normal throughout the basin.





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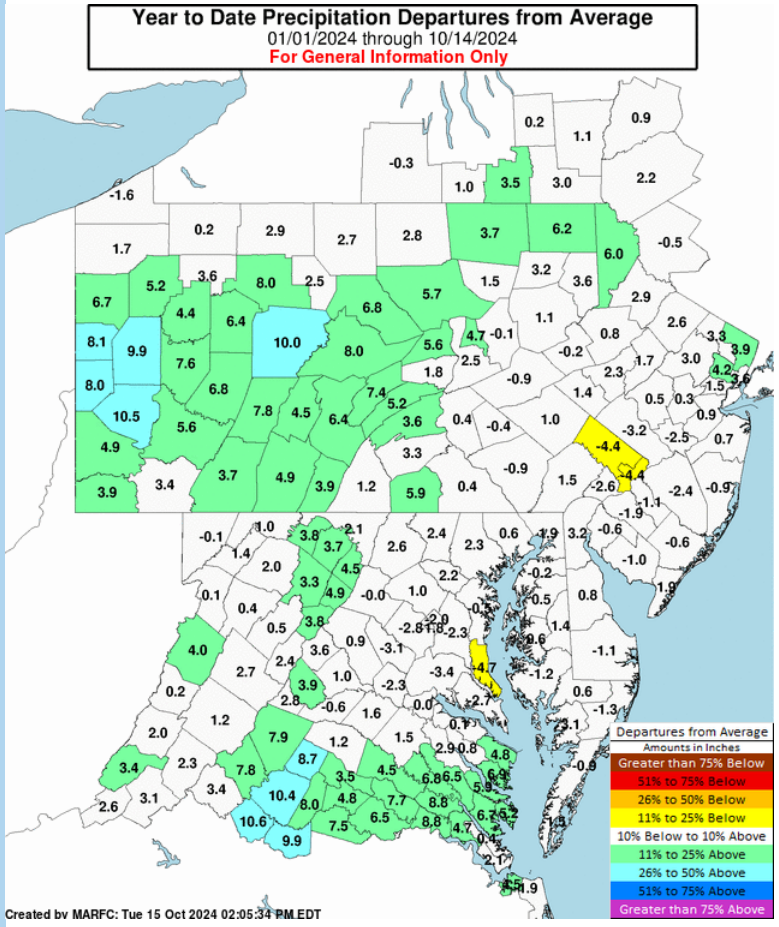
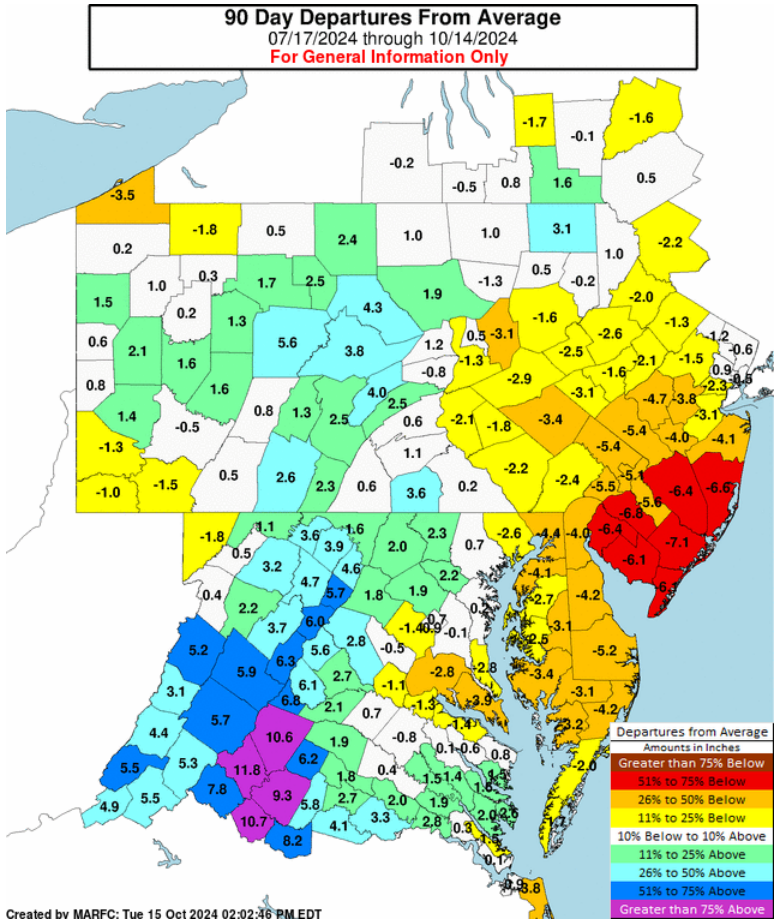
Precipitation Departures

Conditions have continued to become drier over the past quarter and month.

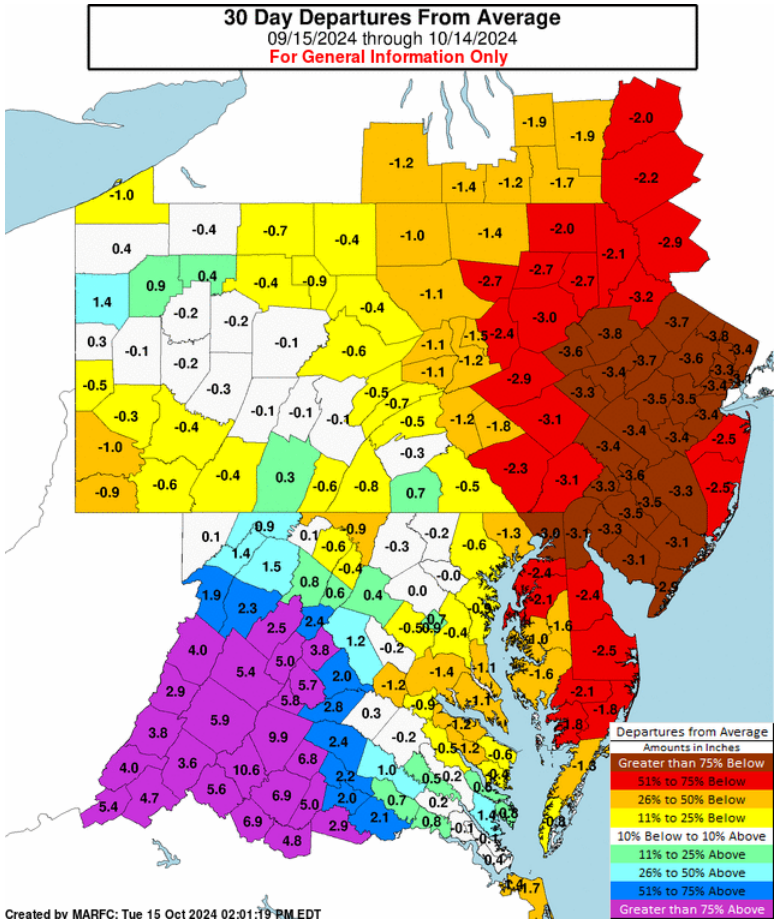
Year-to-date



90-day



30-day



Streamflow

Smaller streams are impacted more quickly than larger rivers by longer periods without rain.

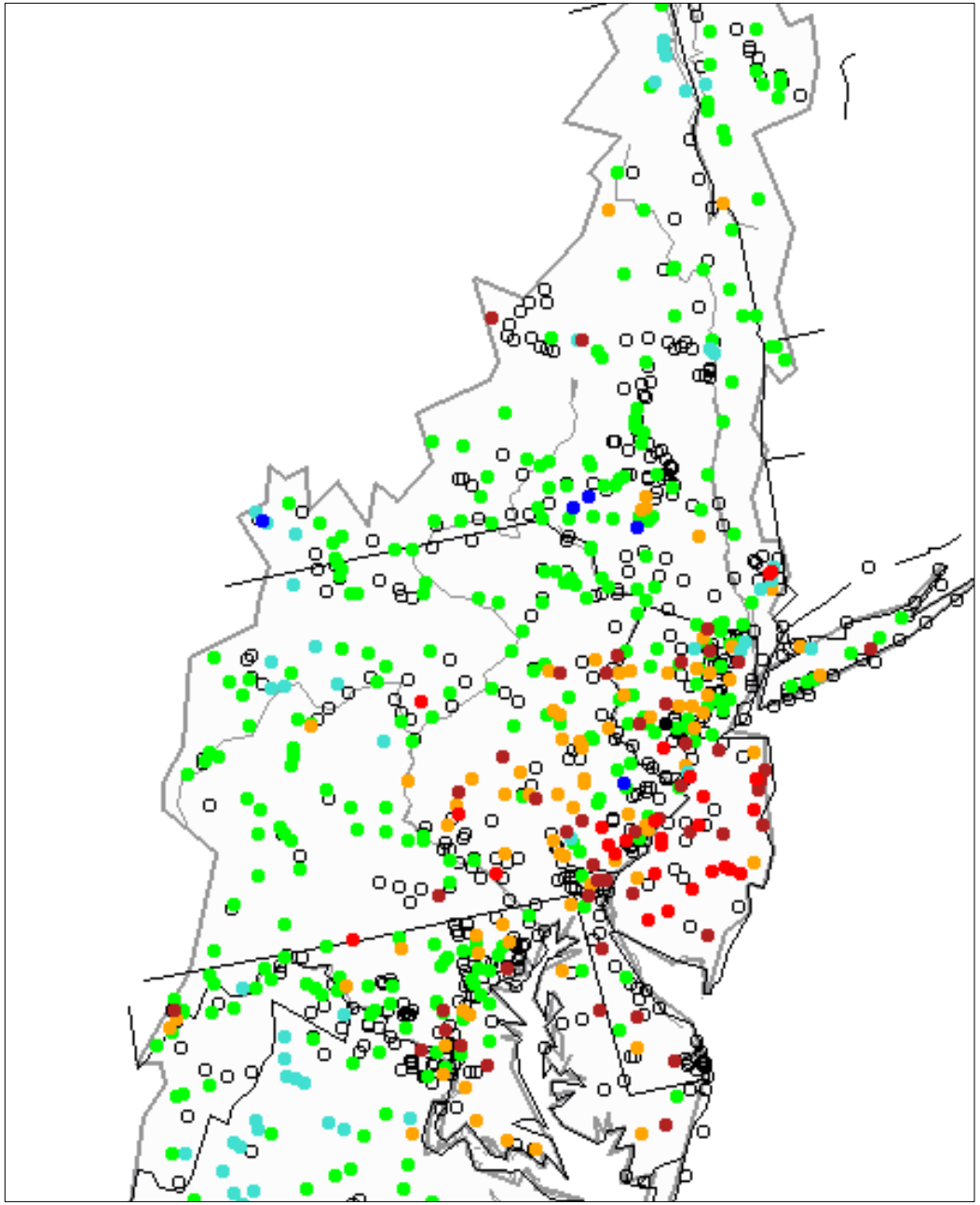
<u>Flow Conditions</u>:

Upper Basin: Normal

Central Basin: Normal/Below Normal

Lower Basin: Below Normal

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		



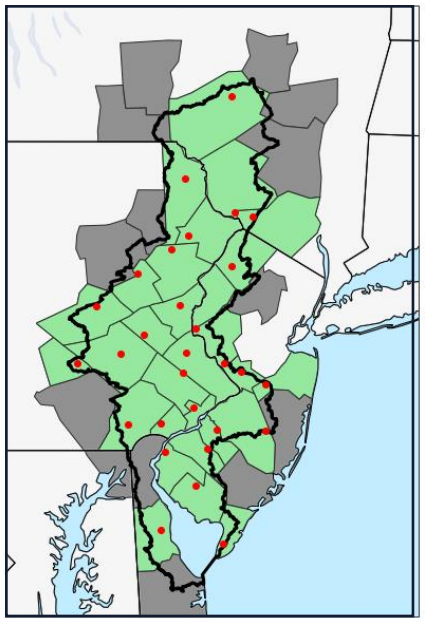
Map last updated:
8:00 am, October 16, 2024

Data Source: USGS

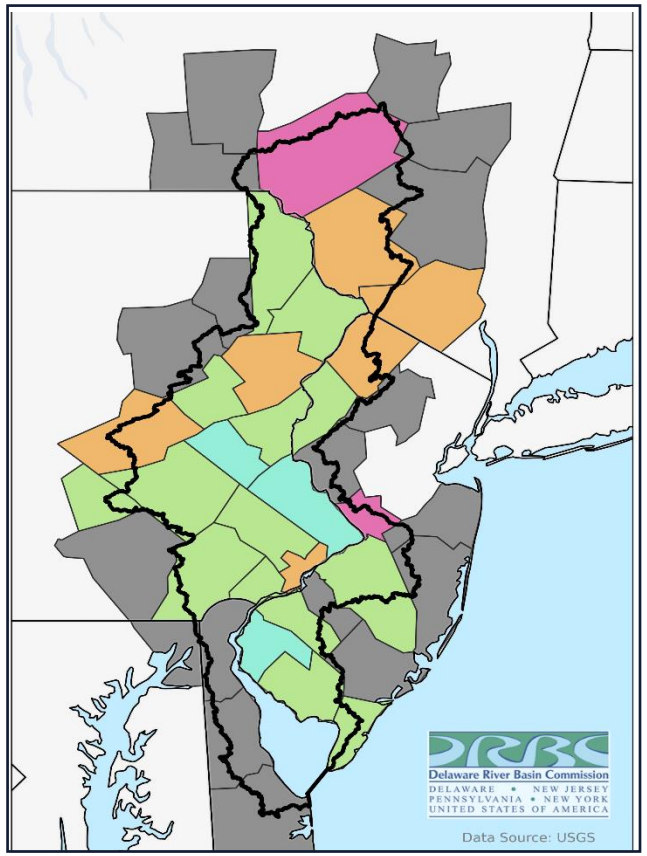
Groundwater Levels

Groundwater levels have recovered in many places around the basin.

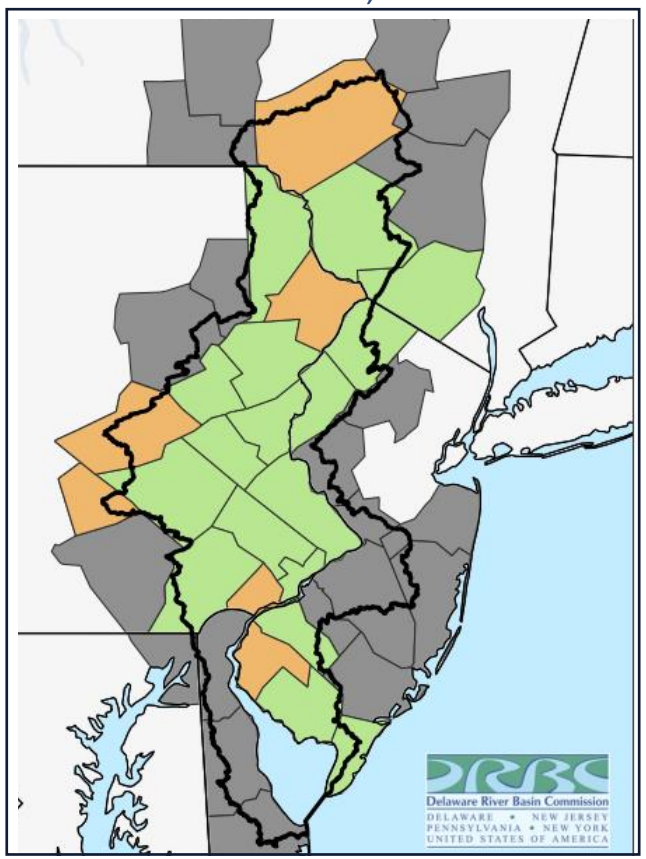
Reference Wells



June 25, 2024



October 15, 2024



Basin Boundary
Much Above Normal
Above Normal
Normal
Below Normal
Much Below Normal
Data unavailable

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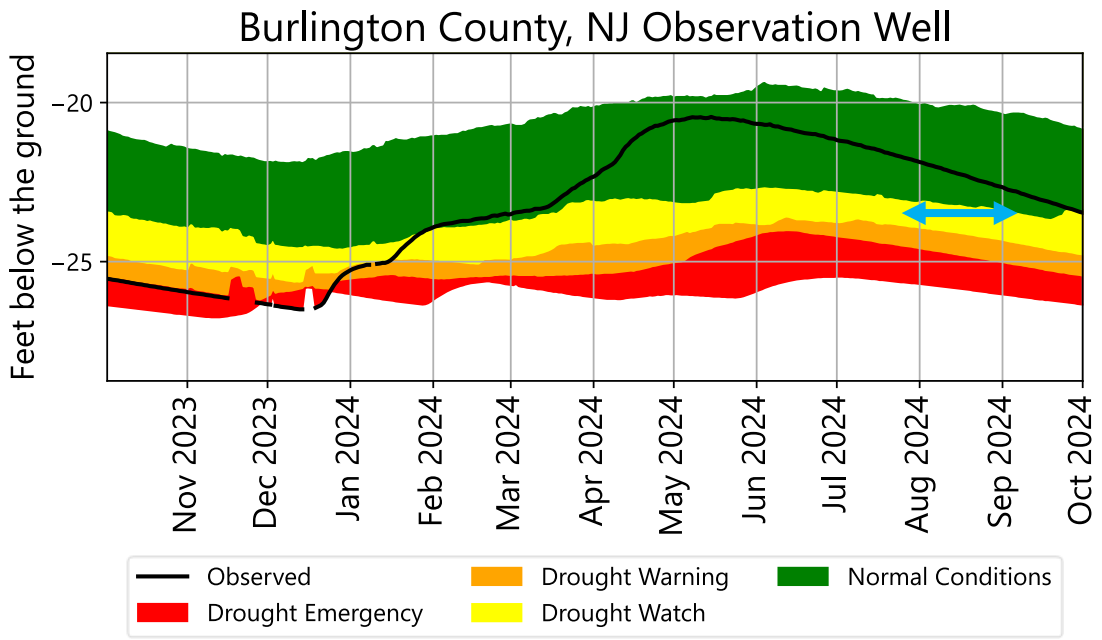
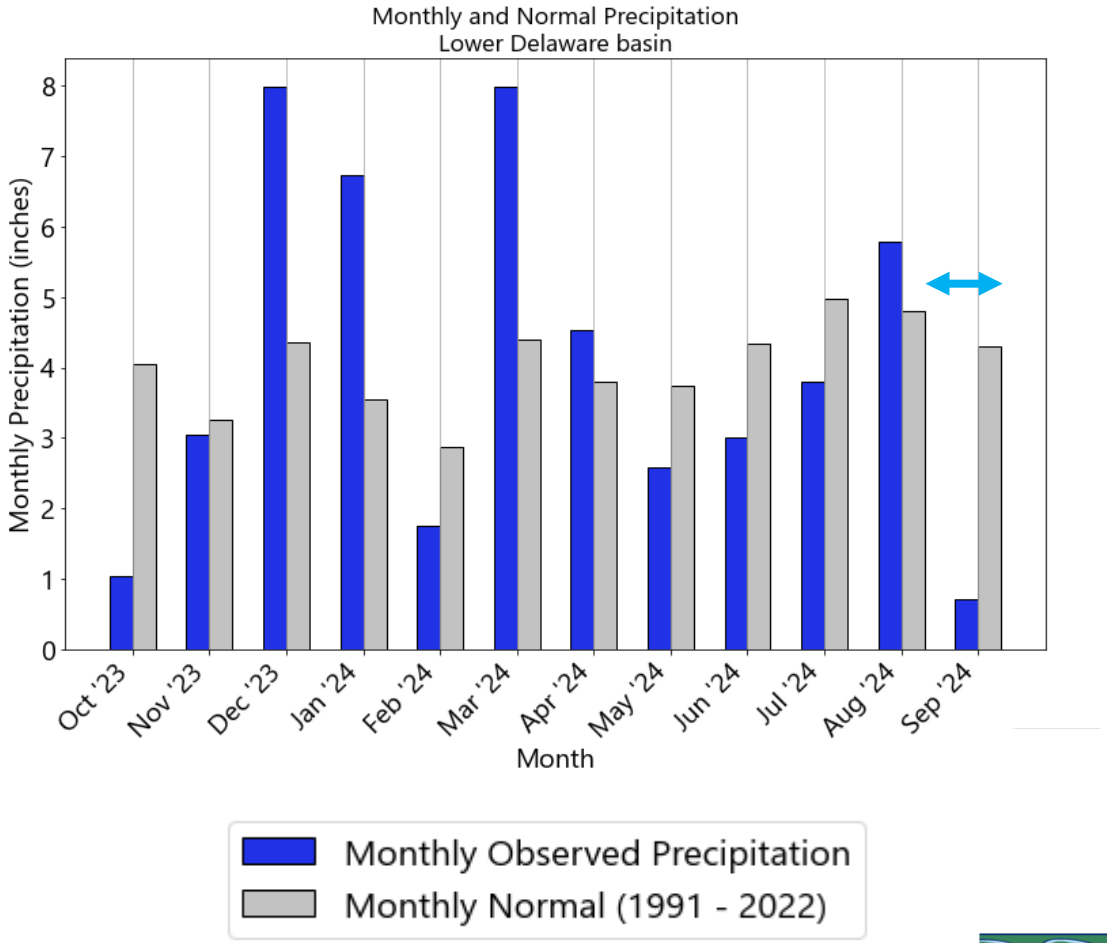
Groundwater Levels

Groundwater levels starting to show a decline with lack of rainfall.





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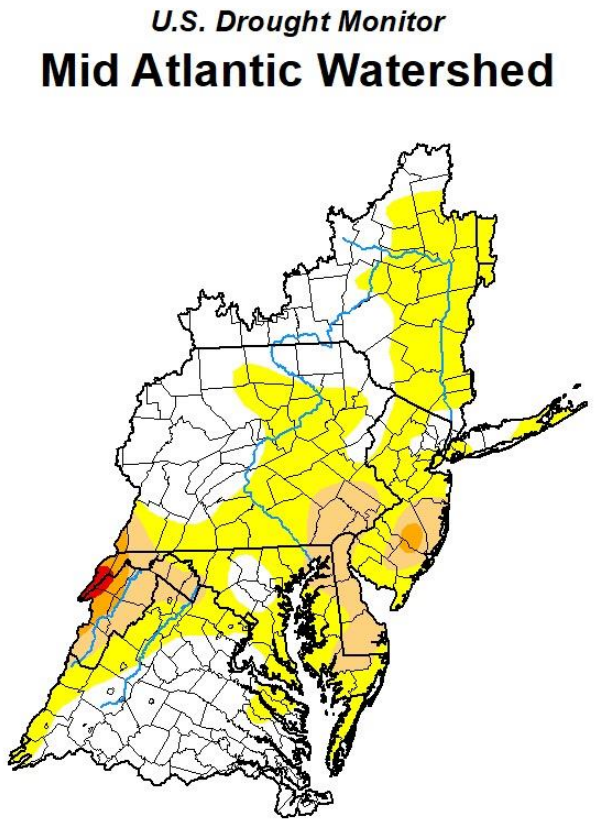
Drought Monitor

Conditions are beginning to become dry with a lack of rainfall.



October 8, 2024
(Released Thursday, Oct. 10, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

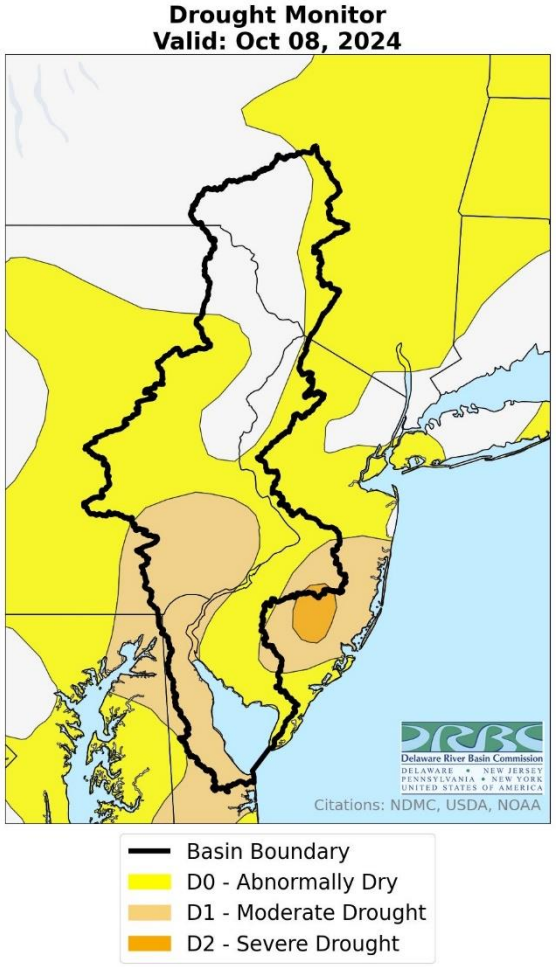
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	45.21	54.79	12.55	1.77	0.39	0.00
Last Week 10-01-2024	54.36	45.64	11.61	2.50	0.40	0.00
3 Months Ago 07-09-2024	35.03	64.97	34.52	15.23	0.00	0.00
Start of Calendar Year 01-02-2024	75.01	24.99	9.47	1.82	0.00	0.00
Start of Water Year 09-26-2023	76.65	23.35	11.19	2.68	0.00	0.00
One Year Ago 10-10-2023	76.78	23.22	11.19	3.51	0.00	0.00

Intensity:
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:
Richard Tinker
CPC/NOAA/NWS/NCEP

droughtmonitor.unl.edu



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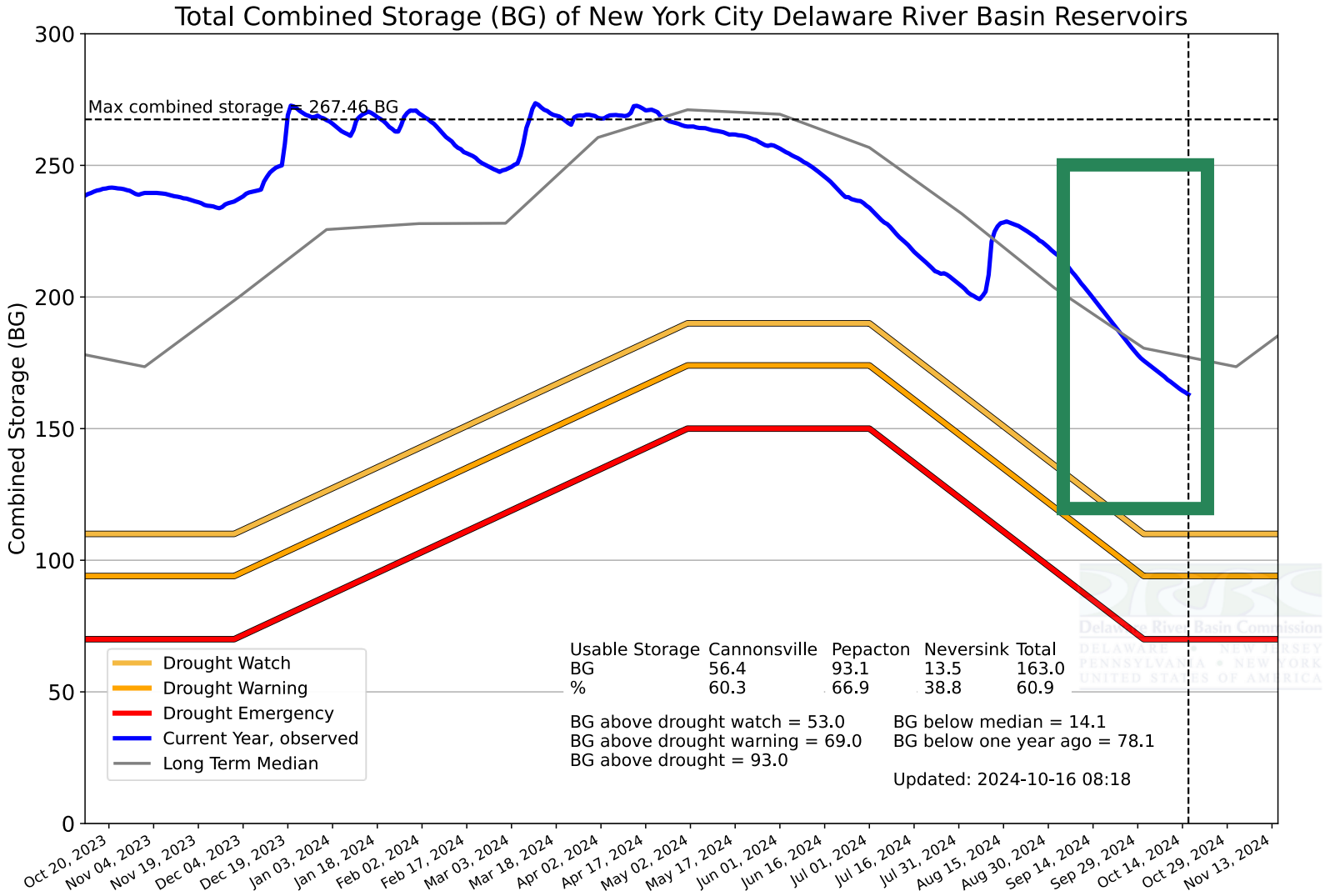
New York City Reservoir Storage

Low rainfall and high diversions are reflected in the combined storage.



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Delaware Aqueduct Repair (shutdown)

Operations will be in accordance with the **F**lexible **F**low **M**anagement **P**rogram.

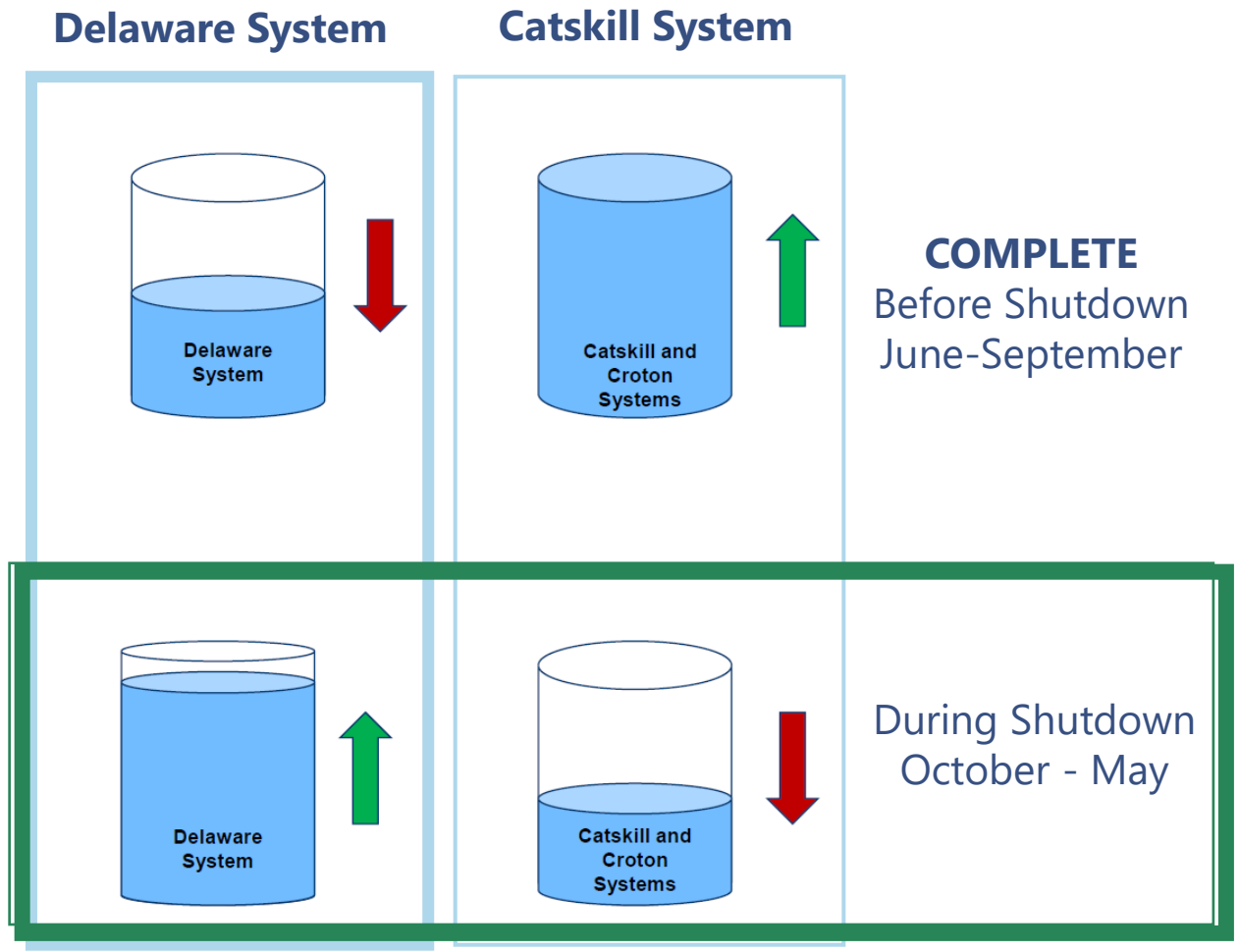
Shutdown has begun as Oct 1.

FFMP provisions are unaffected.

Inflow forecasts inform operations.

Release rates selected based on current AND predicted storage.

FFMP limits the maximum diversion not when water is diverted.



Links to more information:
https://www.nj.gov/drbc/programs/flow/nyc-aqueduct-shutdown.html

Potential Impacts During Shutdown

Impacts are within the range of standard operations under the FFMP.

Drought Conditions are unlikely.

Releases are expected to be at the best levels for fishing and recreation

Risk of minor flooding has slightly increased and more likely after the hurricane season.

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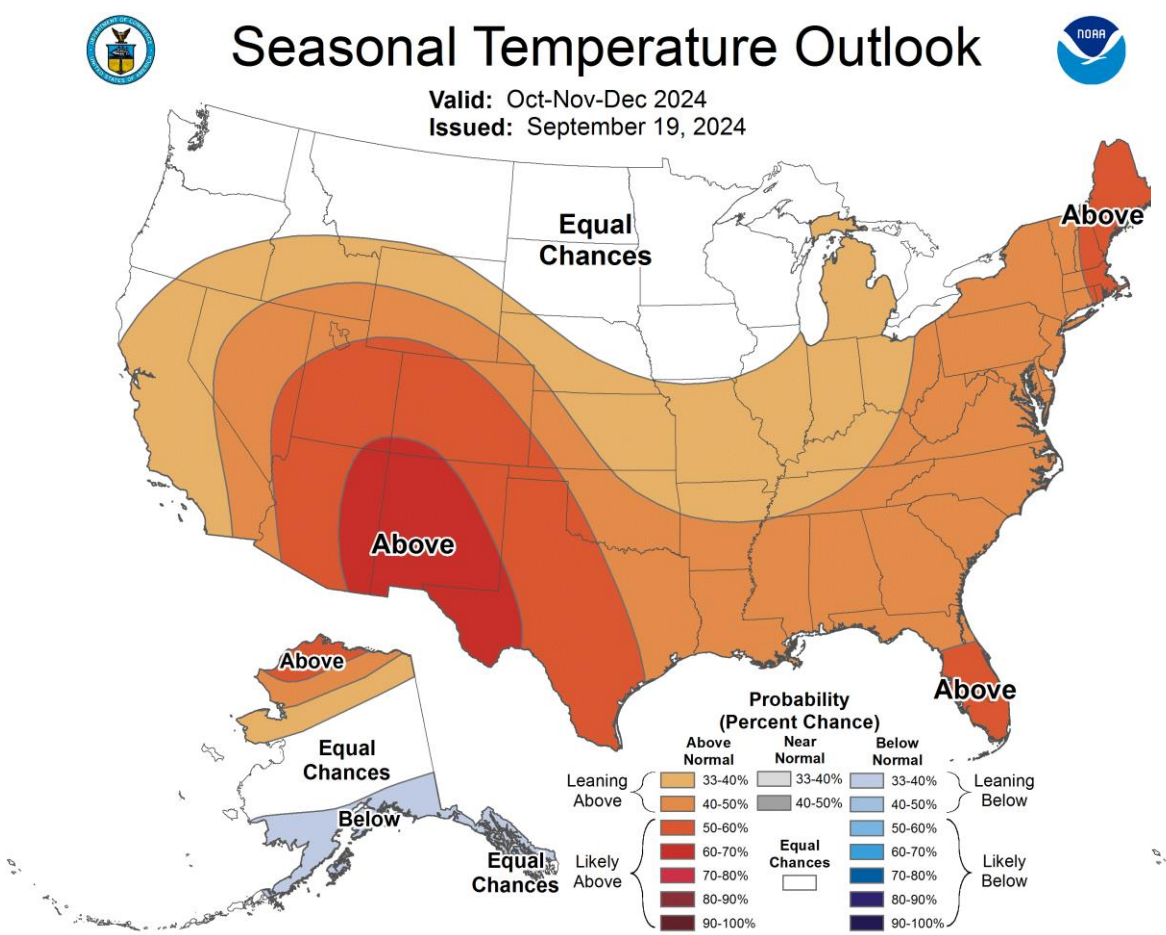
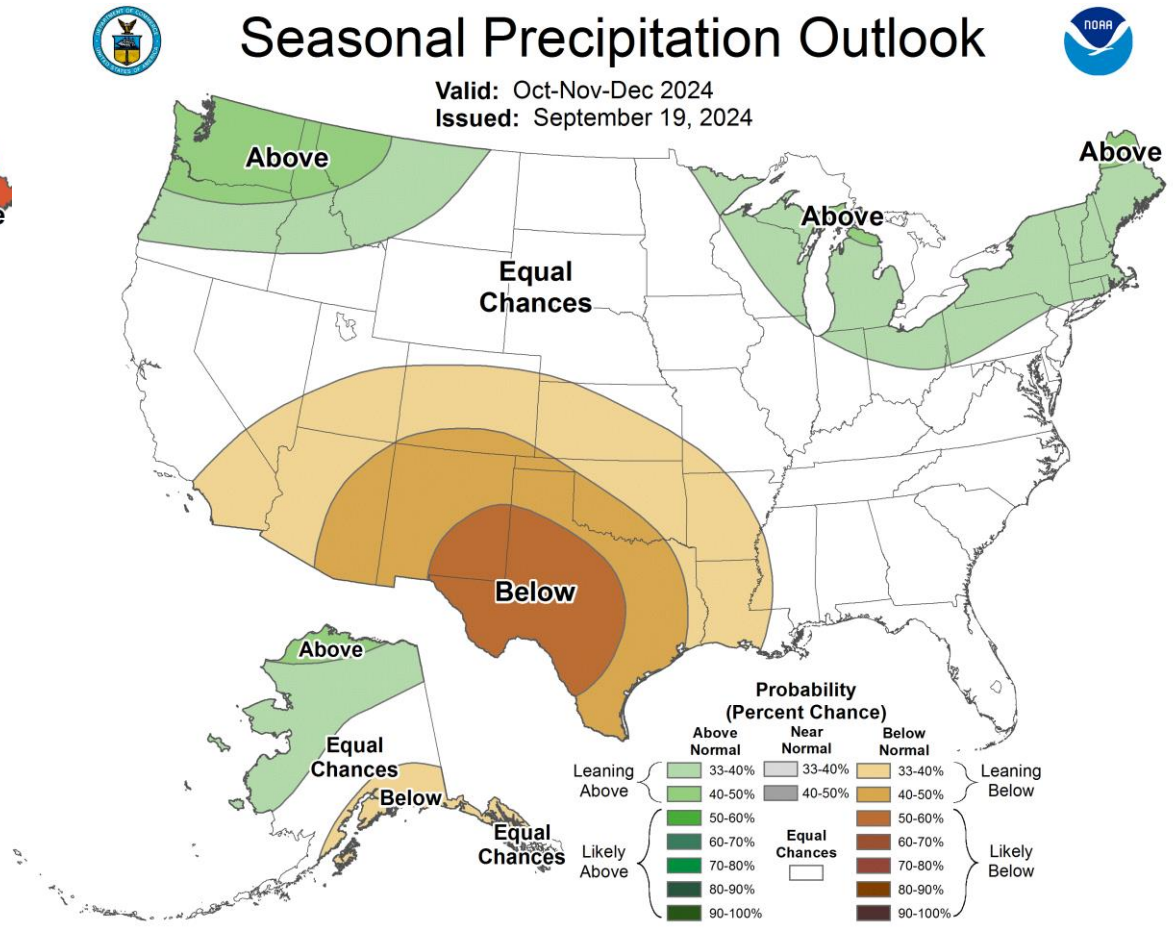
NOAA Seasonal Outlook

Warm fall predicted with average rainfall.





Climate Prediction Center: https://www.cpc.ncep.noaa.gov/.

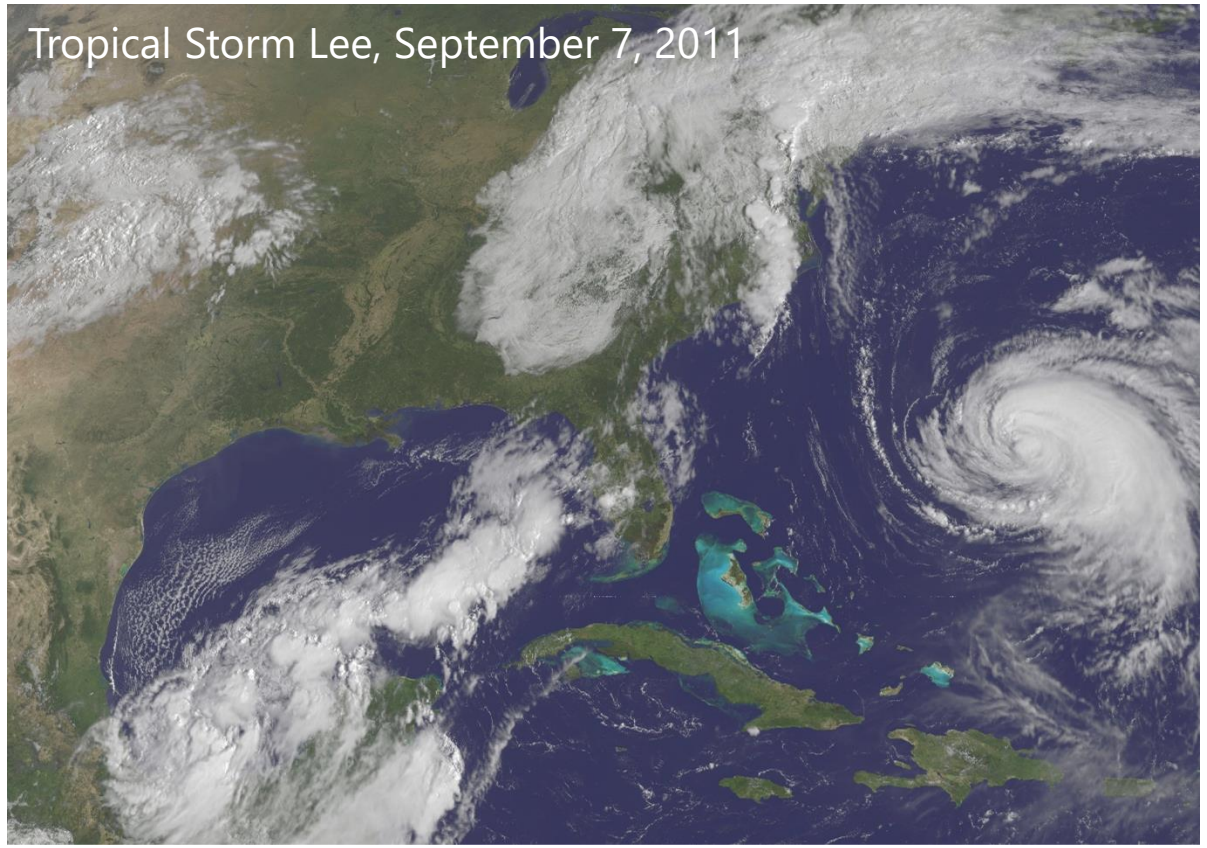
Hurricane Forecast for 2024

One month remains for hurricane season and there have been 13 named storms.

	Forecast 2024	2023	30-year Average
Named Storms	20 - 25	19	14
Hurricanes	8 - 12	7	7
Major Hurricanes	4 - 7	3	3
Likely to Impact US	4 - 6	4	4

The 30-year average was based on 1990-2020 Seasons
NOAA – May 2024; Probability of an above normal season = 85%

Hurricane Names for 2024: Alberto, Beryl, Chris, Debby, Ernesto, Francine, Gordon, Helene, **Isaac**, Joyce, Kirk, Leslie, Milton, Nadine, Oscar, Patty, Rafael, Sara, Tony, Valerie, William.

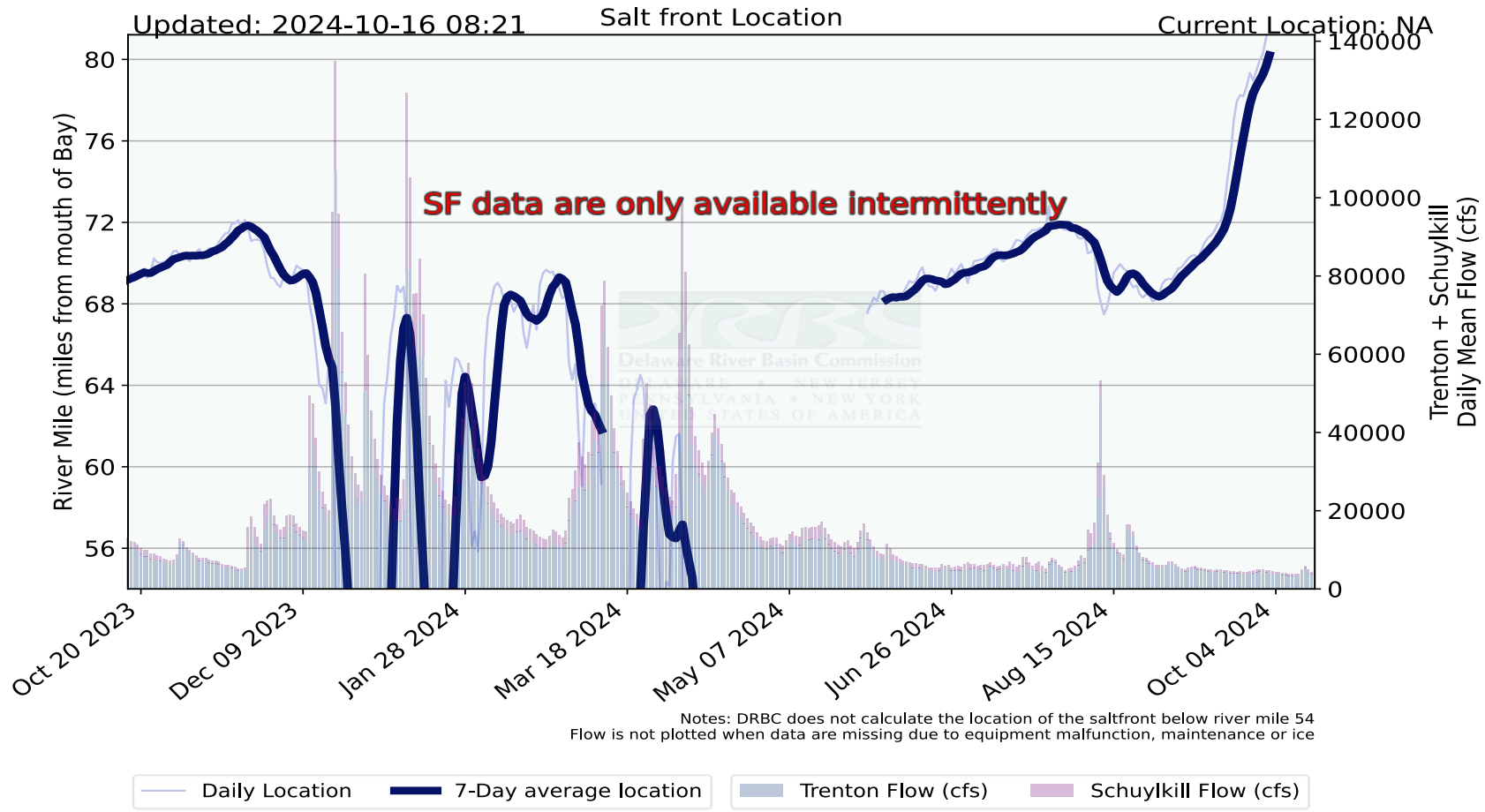


Impacts of Tropical Storm Lee in the DRB:
https://www.nj.gov/drbc/library/documents/Flood_Website/Irene-Lee2011.pdf

DRBC Flood Portal:
https://www.nj.gov/drbc/programs/flood/portal-flood.html

Salt Front Location

New permanent gage has been installed at upstream location and graph will be updated shortly



Hydrologic conditions summary

- Conditions are becoming drier in the basin
- Aqueduct shutdown proceeding as planned - impacts likely minor
- Three-month outlook – warmer weather continues, and precipitation is expected to be normal
- Reedy island gage is back online – salt front location will soon begin to populate again

Have a great fall!

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