



Hydrologic Conditions Report



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Commission Business Meeting

June 5, 2024

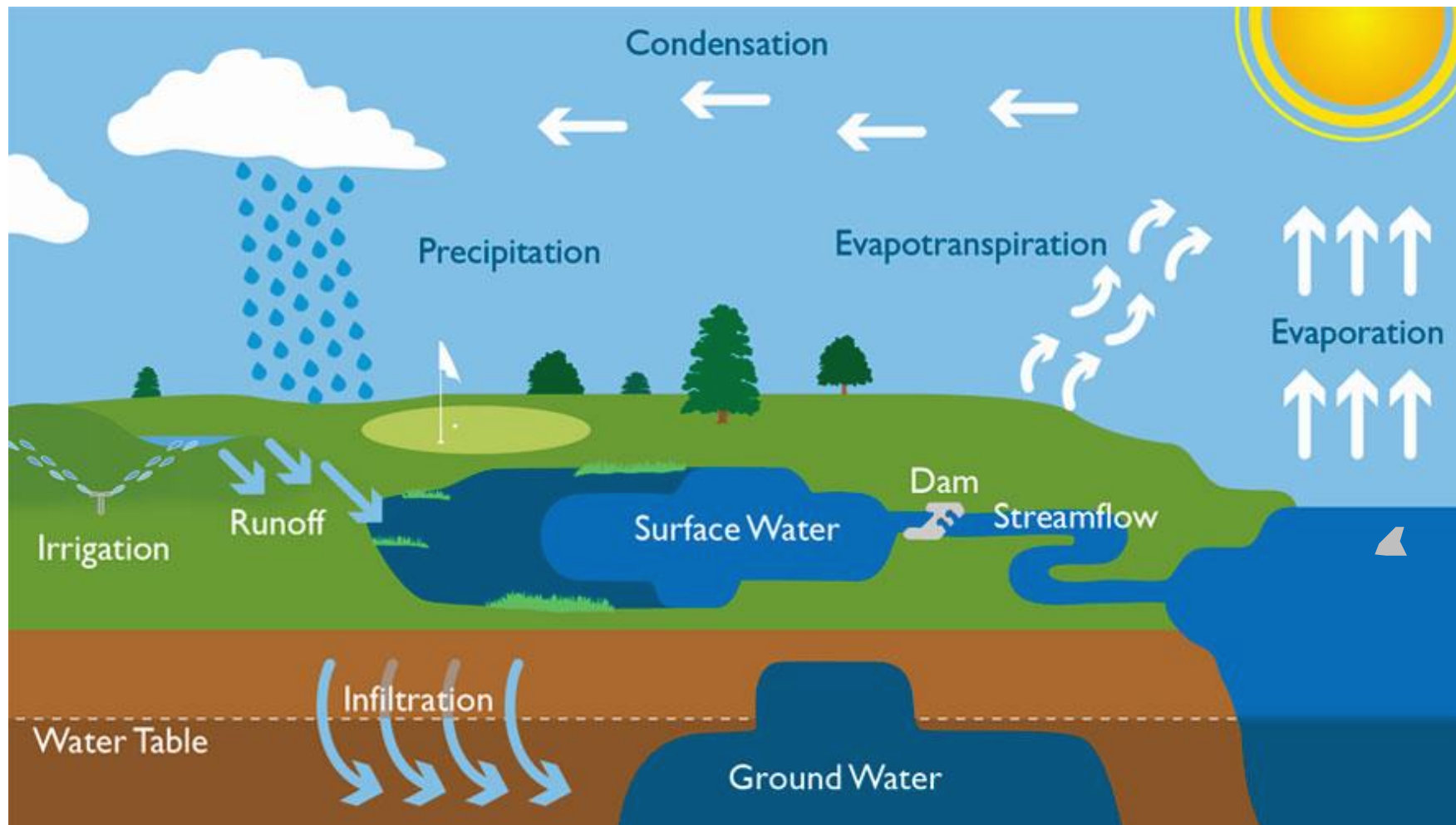


Delaware River Basin Commission

DELAWARE • NEW JERSEY
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The Hydrologic Cycle

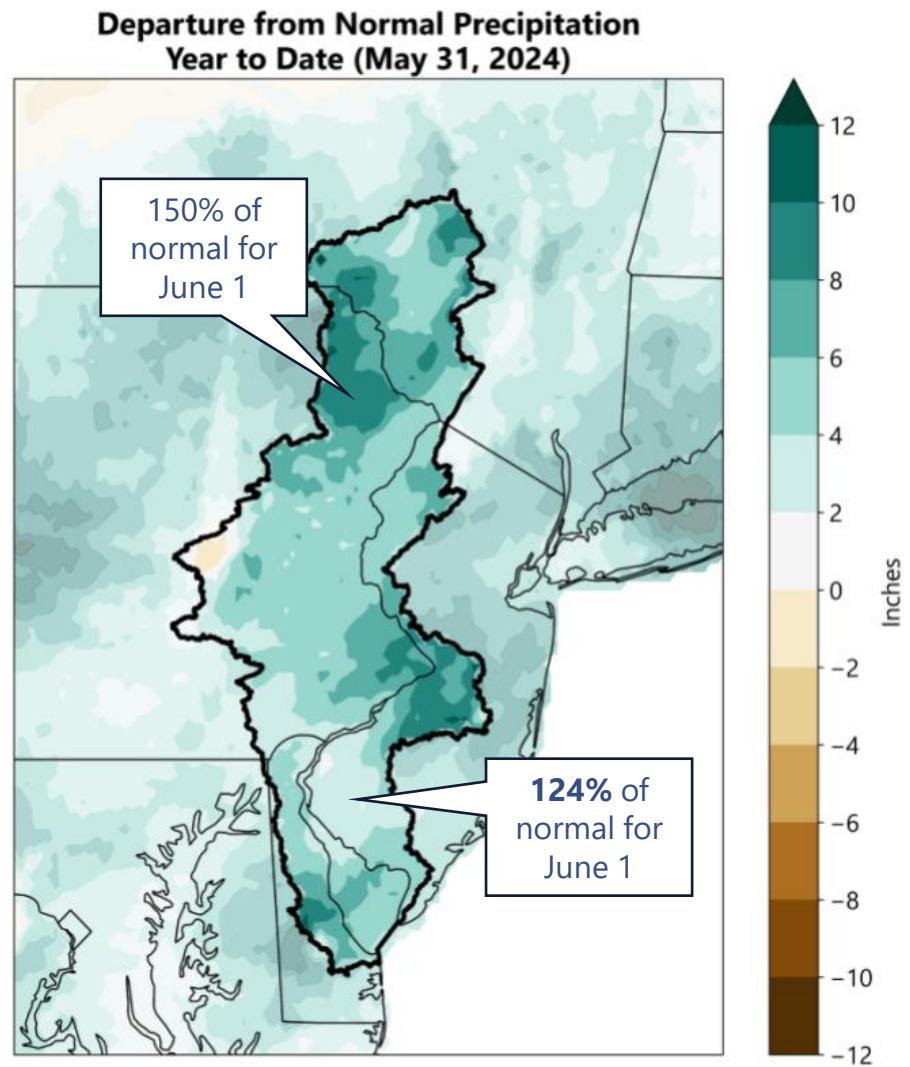
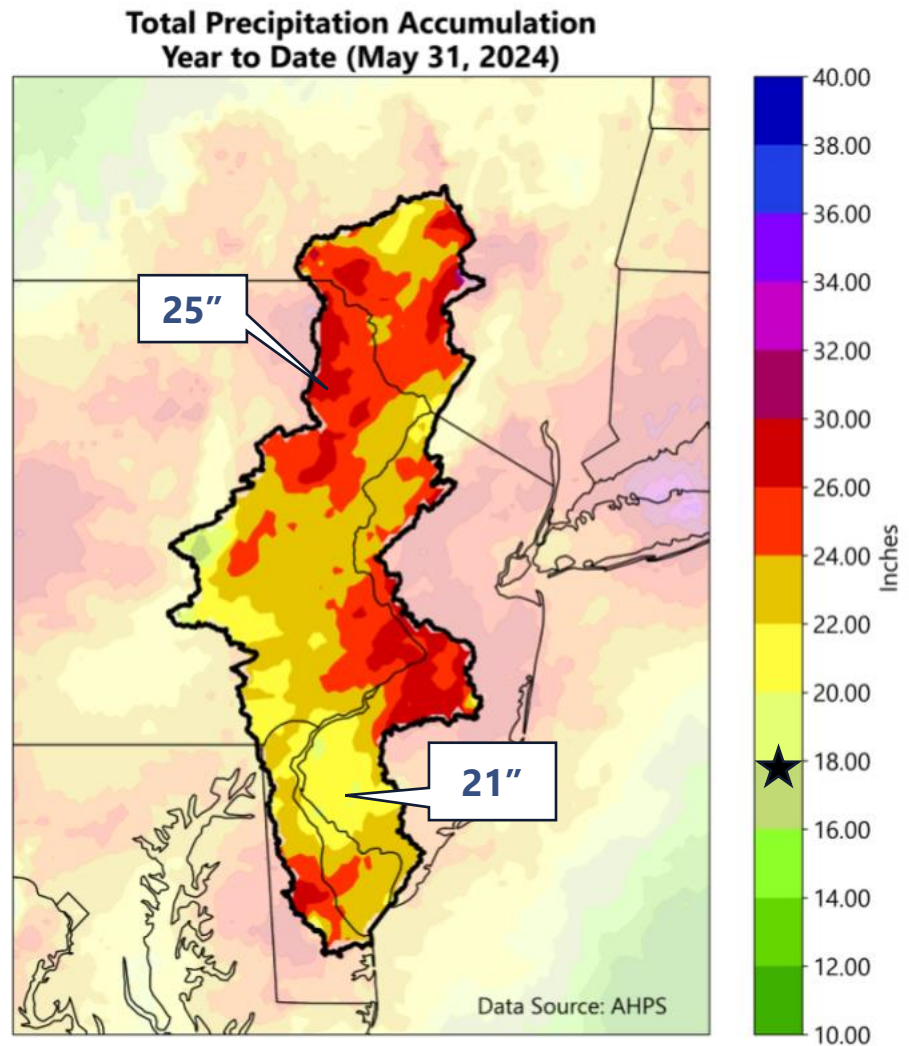
Water moves around the earth through air, soil, and over land.



Graphic courtesy of Pike County Soil Conservation District

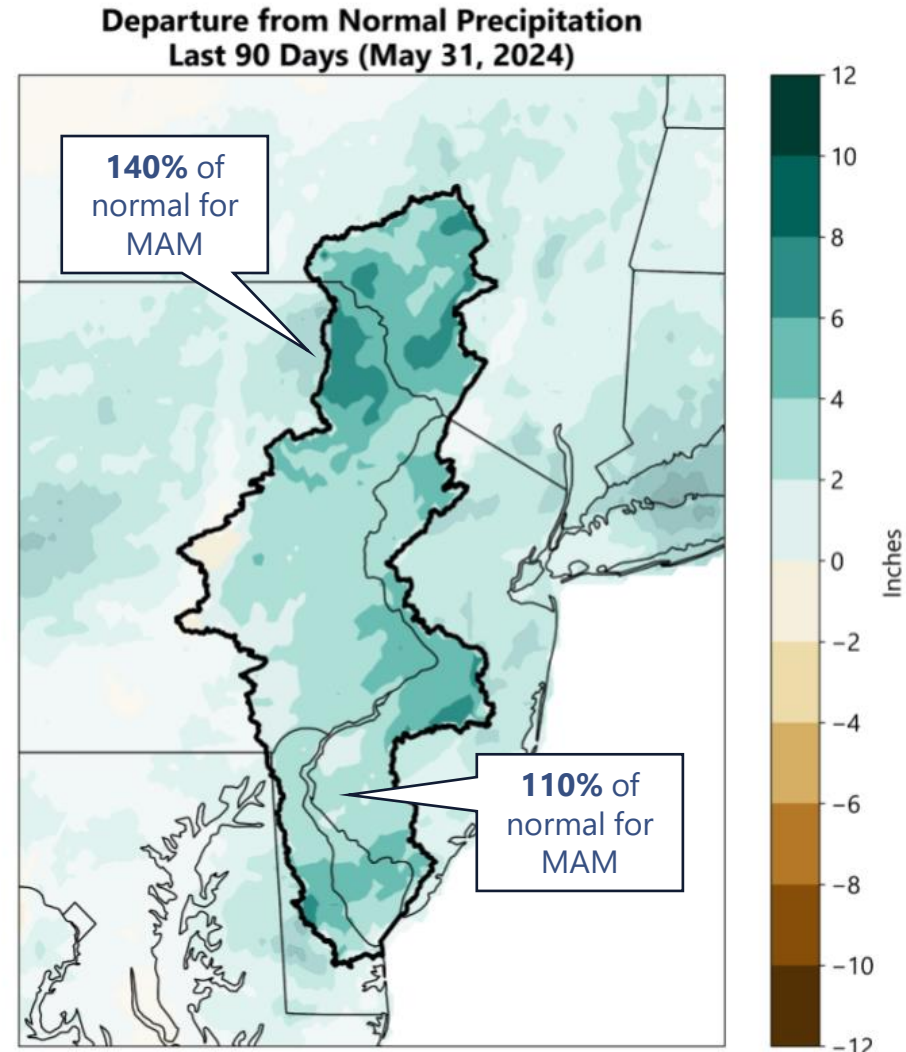
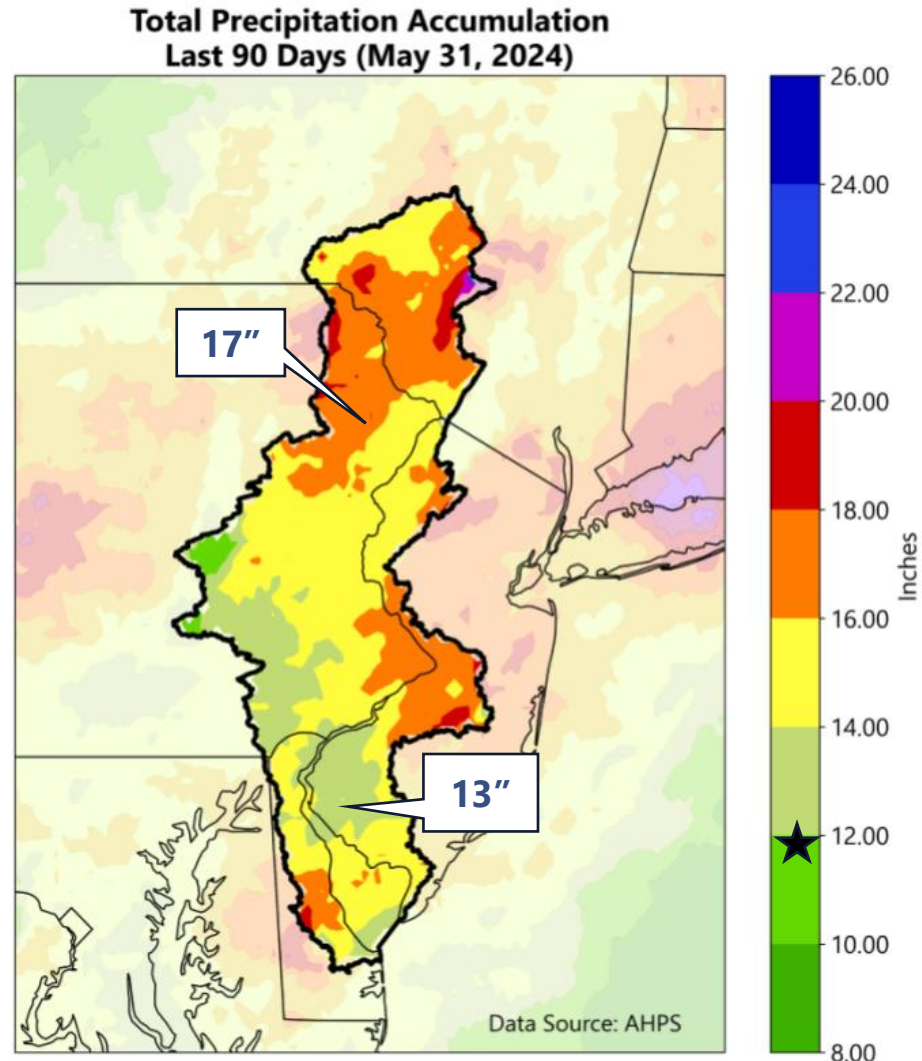
Precipitation since January 1

The basin has received much more than normal rainfall so far this year.



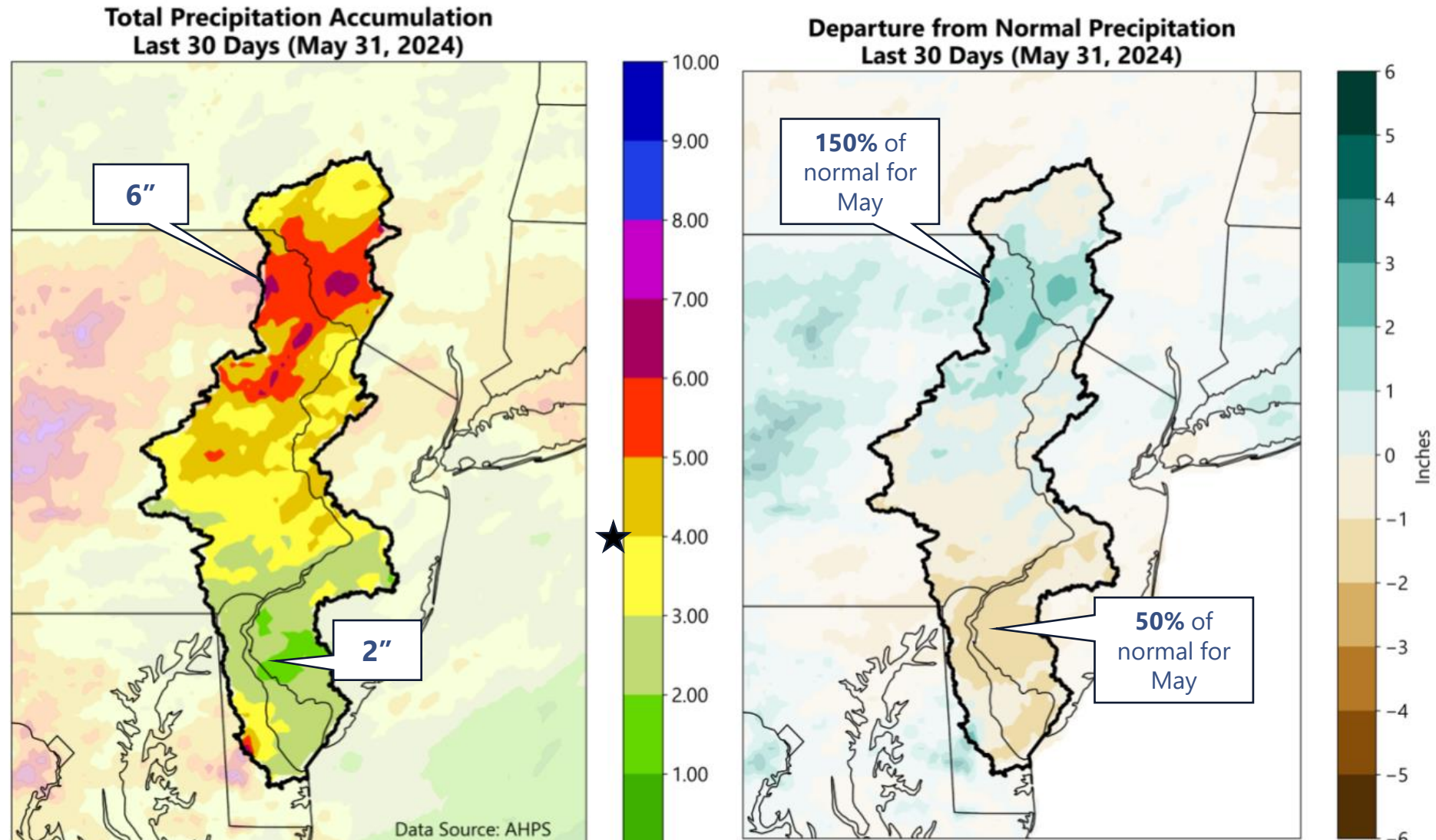
Precipitation – 90 days

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



Precipitation – past 30 days

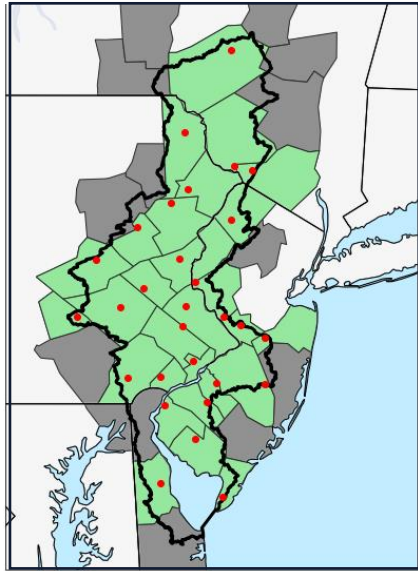
May was relatively drier in the lower basin than the past few months.



Groundwater Levels

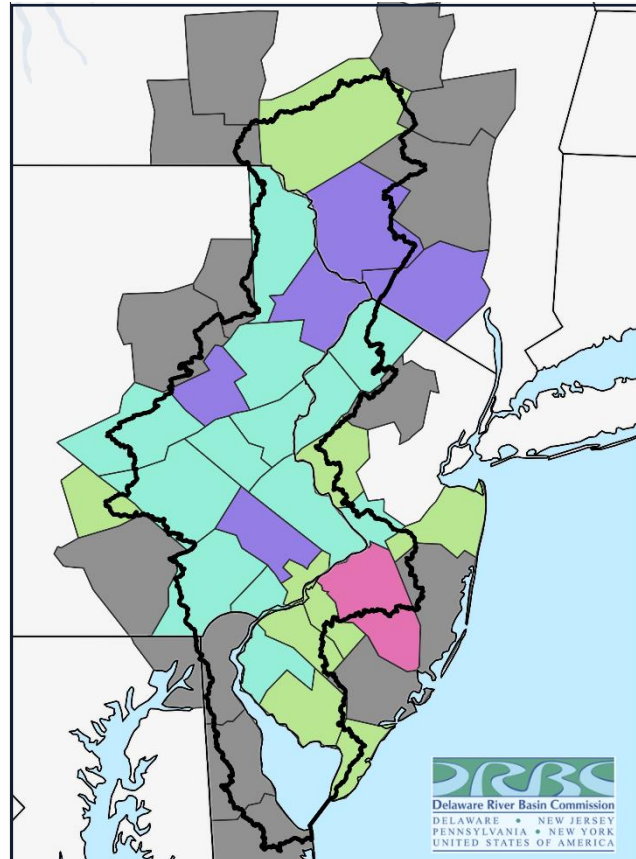
Groundwater levels improved over the spring with higher rainfall.

Reference Wells

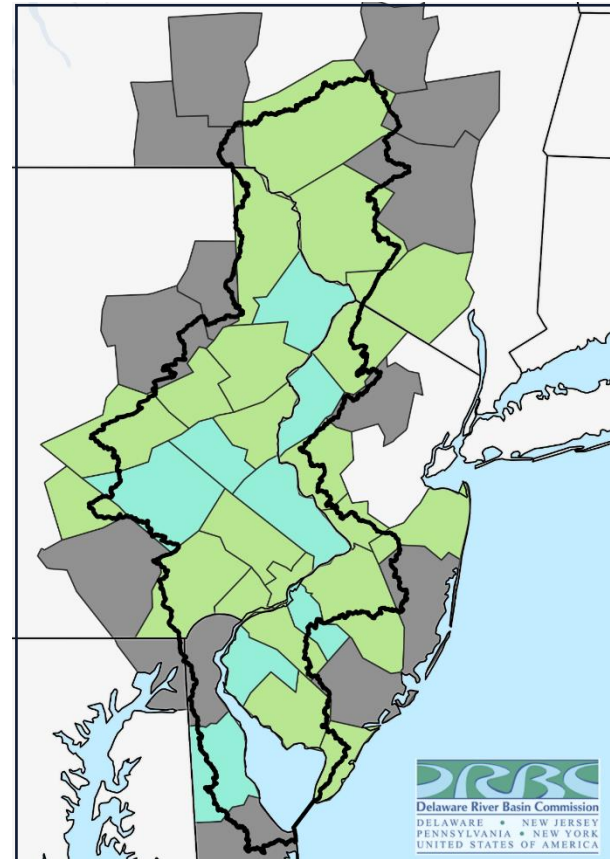


— Basin Boundary ■ County contains well
● Well Location ■ No well available within D

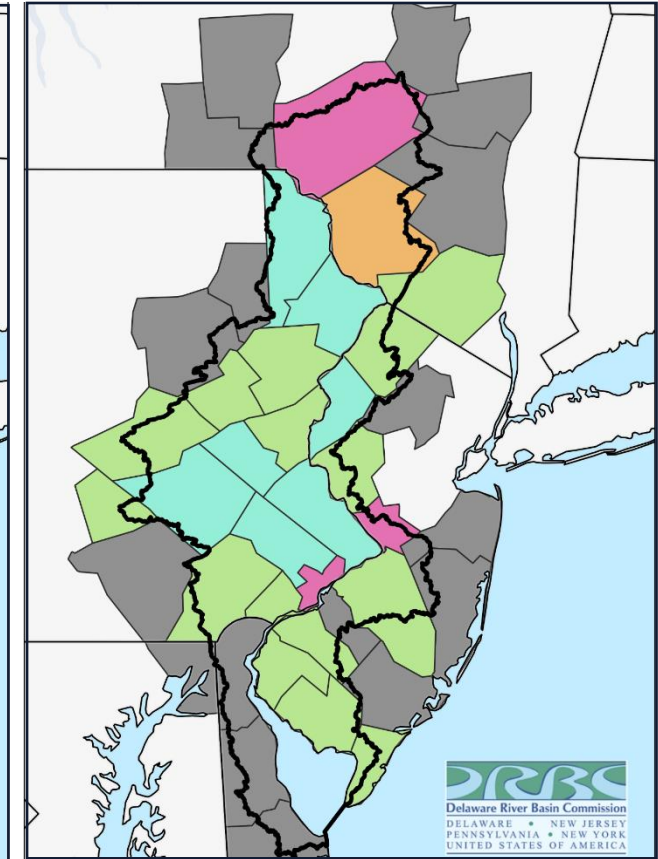
December 4, 2023



March 1, 2024



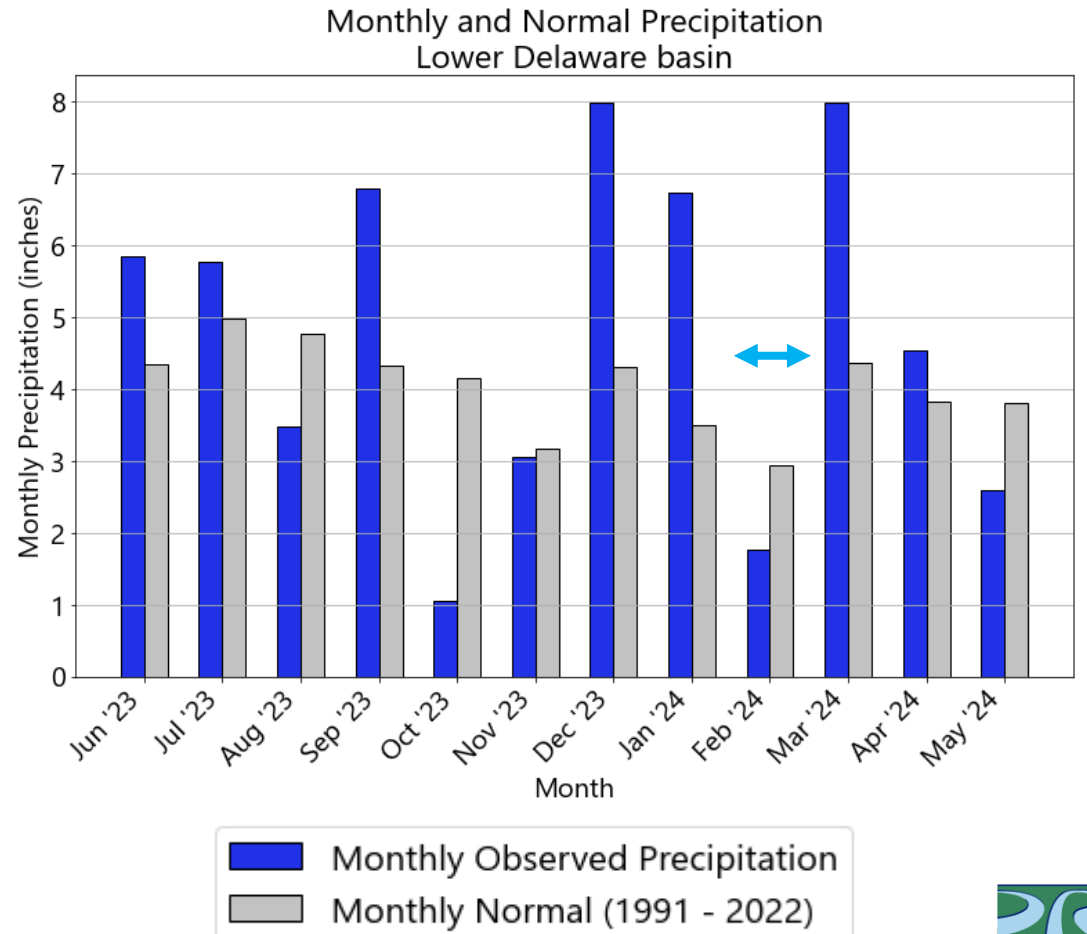
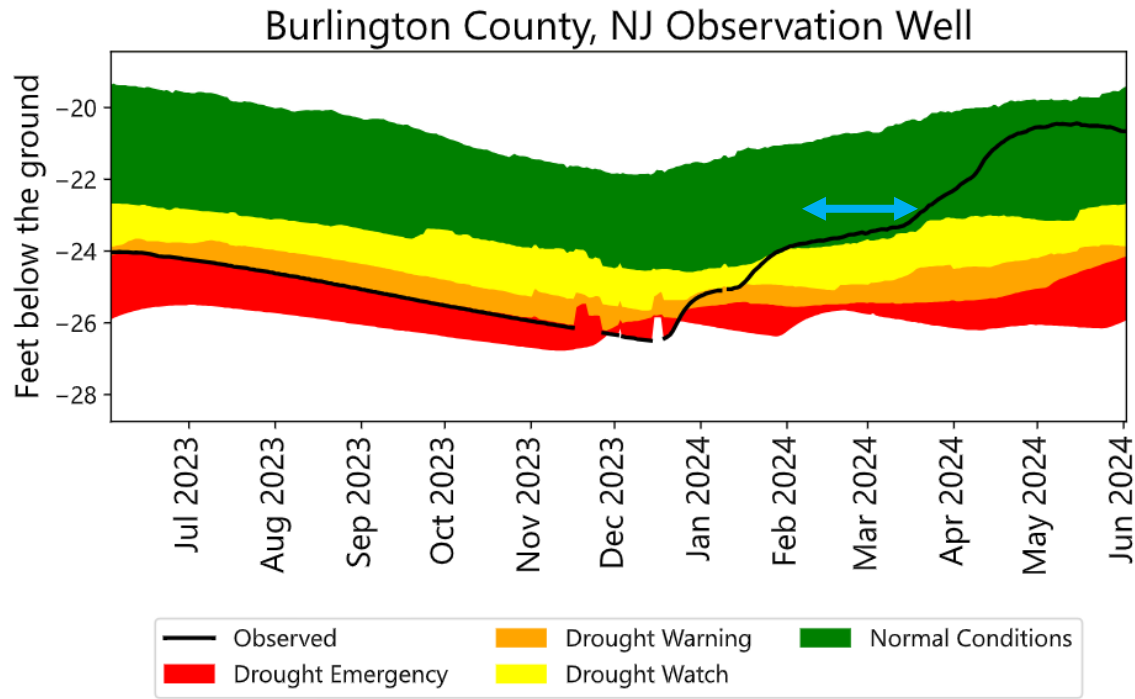
June 2, 2024



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

Groundwater Levels

Groundwater levels recovered during and after high rainfall months.



Streamflow

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

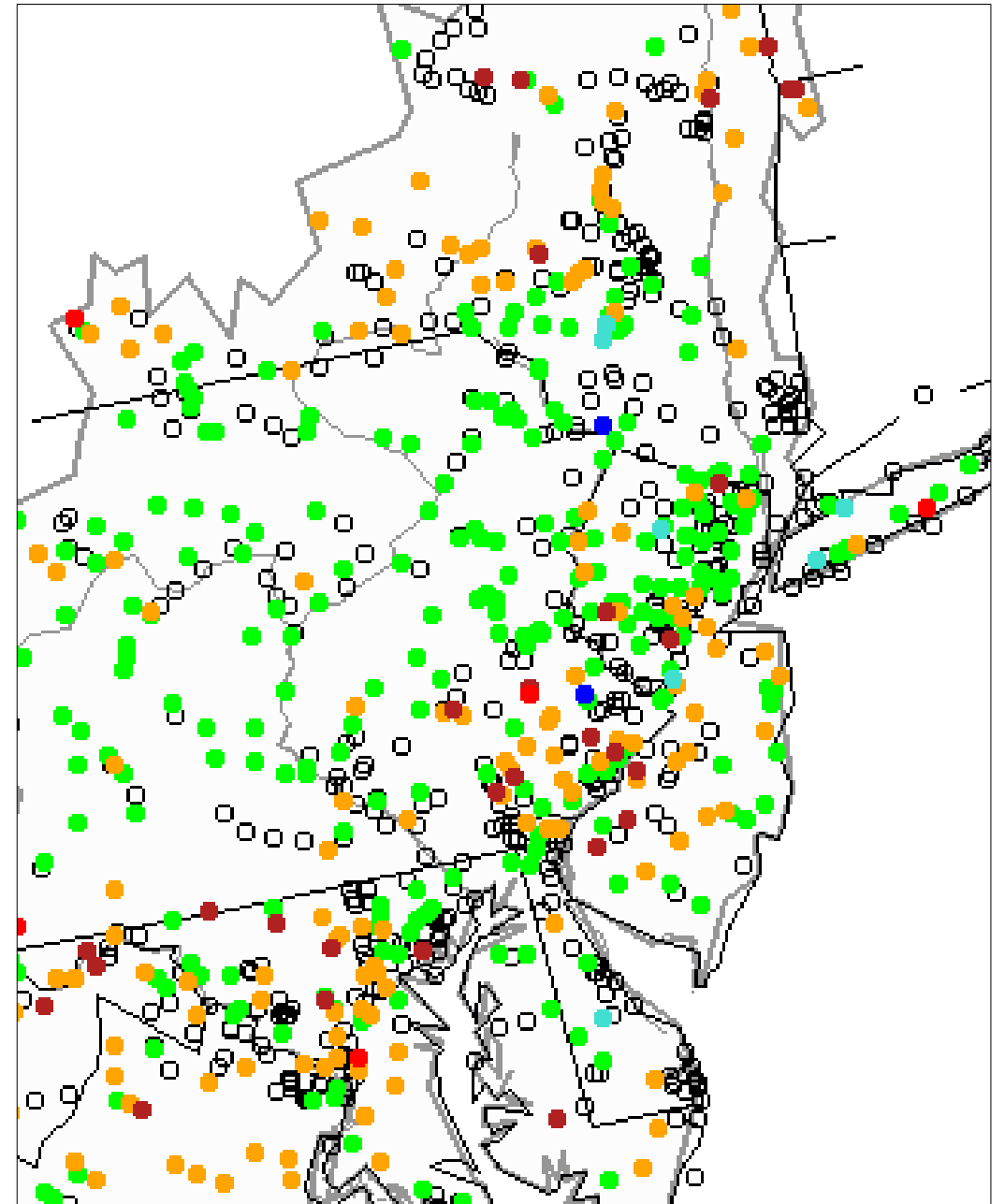
Flow Conditions:

Upper Basin: Normal

Central Basin: Normal

Lower Basin: Normal/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 pm, June 3, 2024

Data Source: USGS

Reservoirs and Releases

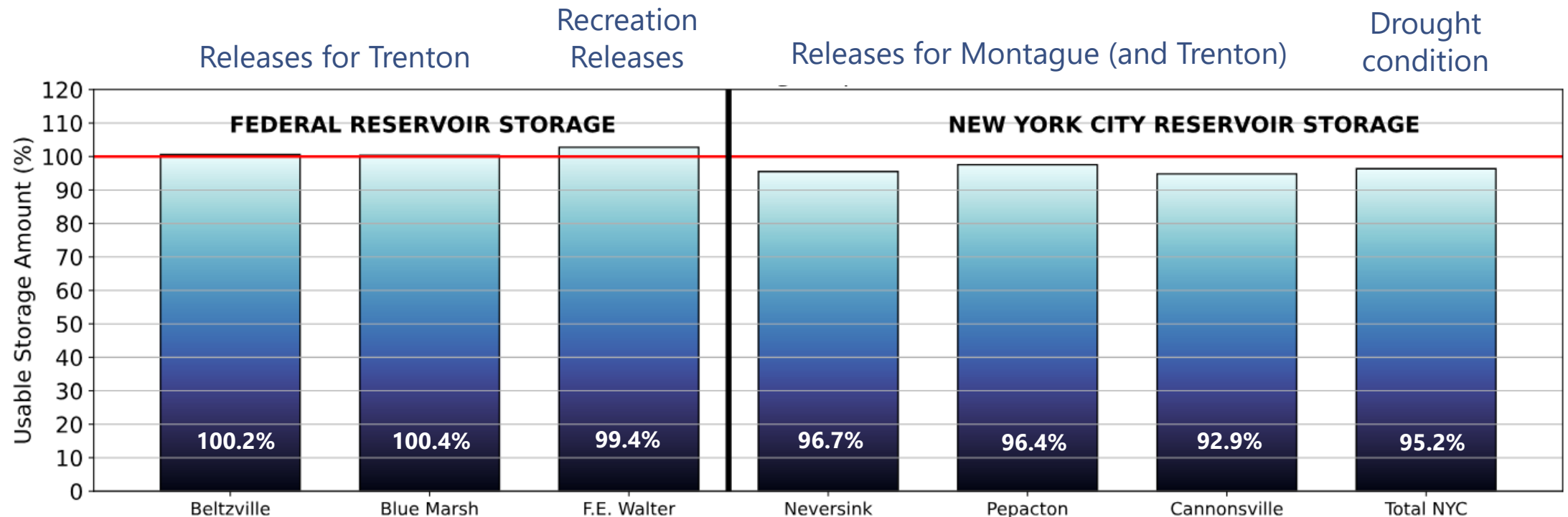
- Thirteen major reservoirs in the basin's drought management plan
- Two Flow Objectives
 - Montague, NJ
 - Releases from NYC Reservoirs
 - Compensation for out-of-basin diversions
 - Trenton, NJ
 - Releases from DRBC Storage in federal reservoirs
 - **“Manage” salinity** to protect water users
- More than 60 percent of Trenton Flow can be from Reservoir Releases



Reservoir Storage for Flow Management

The reservoirs are full or near full as expected for late spring.

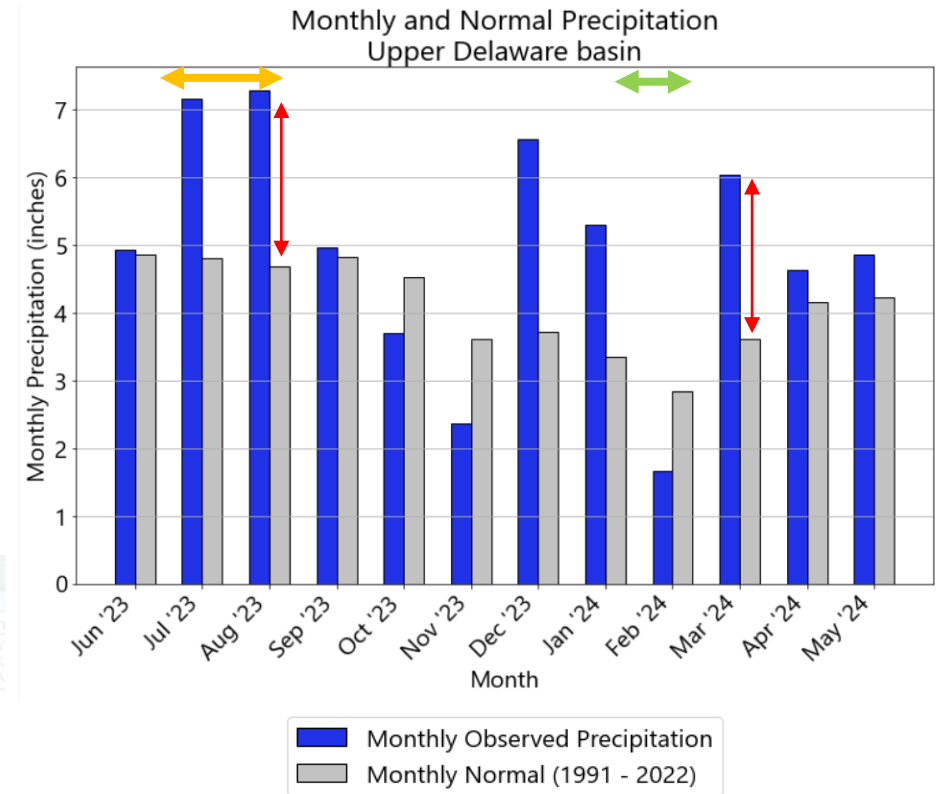
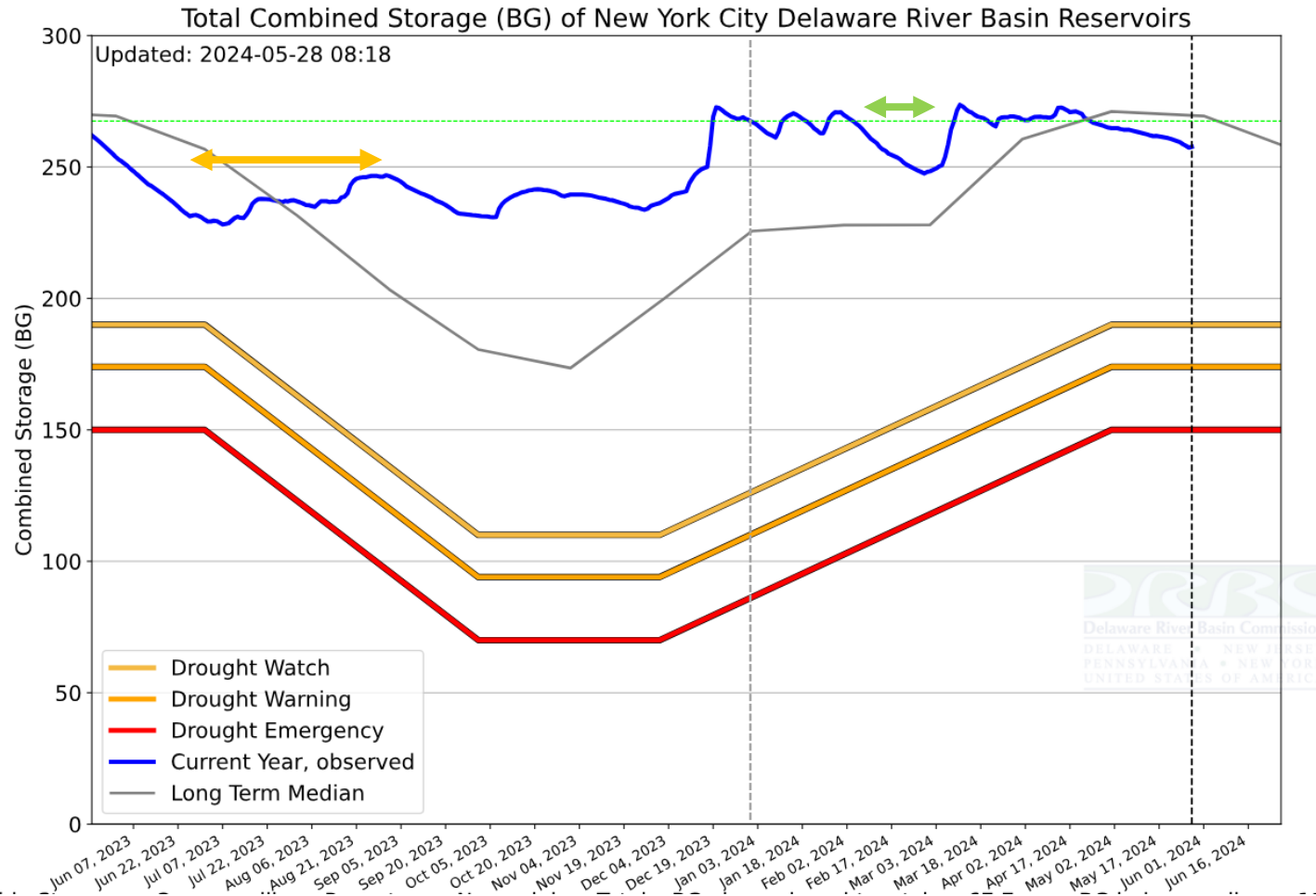
Releases from Lower and Upper Basin Reservoirs are used to meet flow objectives.



DRBC's Surface Water Charging Program pays for reservoir storage for releases to meet Trenton.

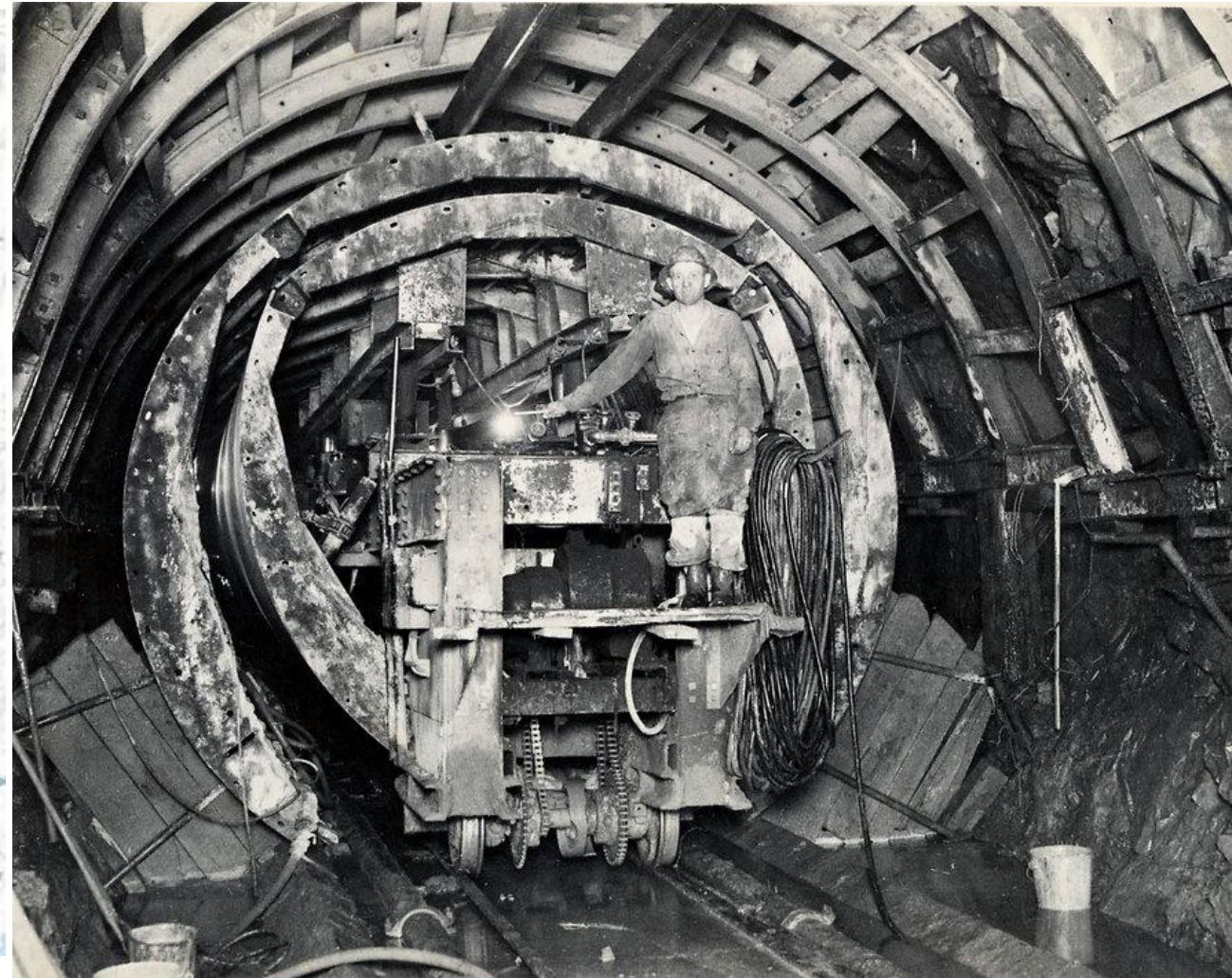
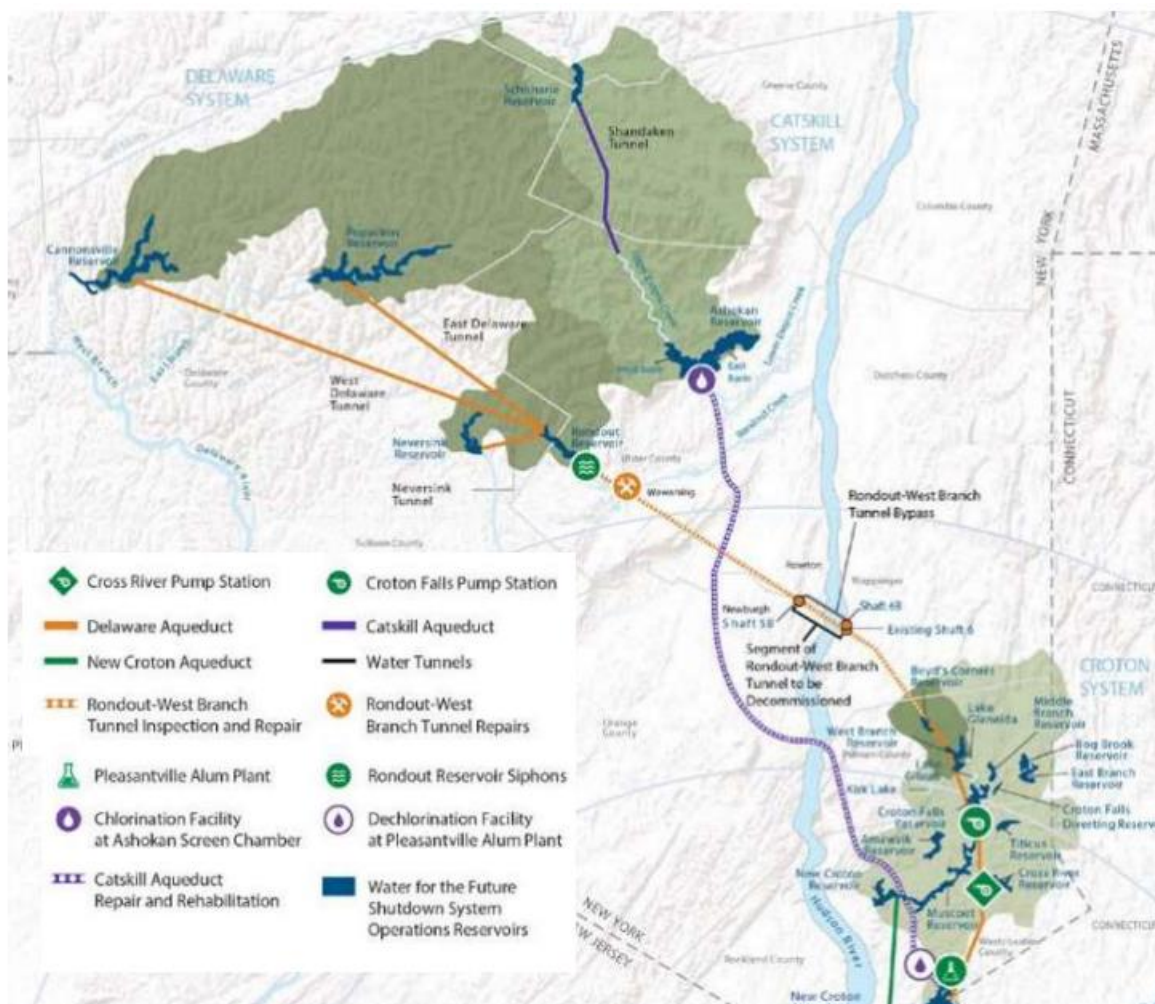
New York City Reservoir Storage

The combined storage shows how releases and diversions can offset rainfall.



Delaware Aqueduct Repair (shutdown)

Water will not be diverted from the Delaware Basin Reservoirs during the shutdown.



Links to more information:

<https://www.nj.gov/drbc/programs/flow/nyc-aqueduct-shutdown.html>

Delaware Aqueduct Repair (shutdown)

Operations will be in accordance with the **Flexible Flow Management Program**.

Shutdown is happening.

FFMP provisions are unaffected.

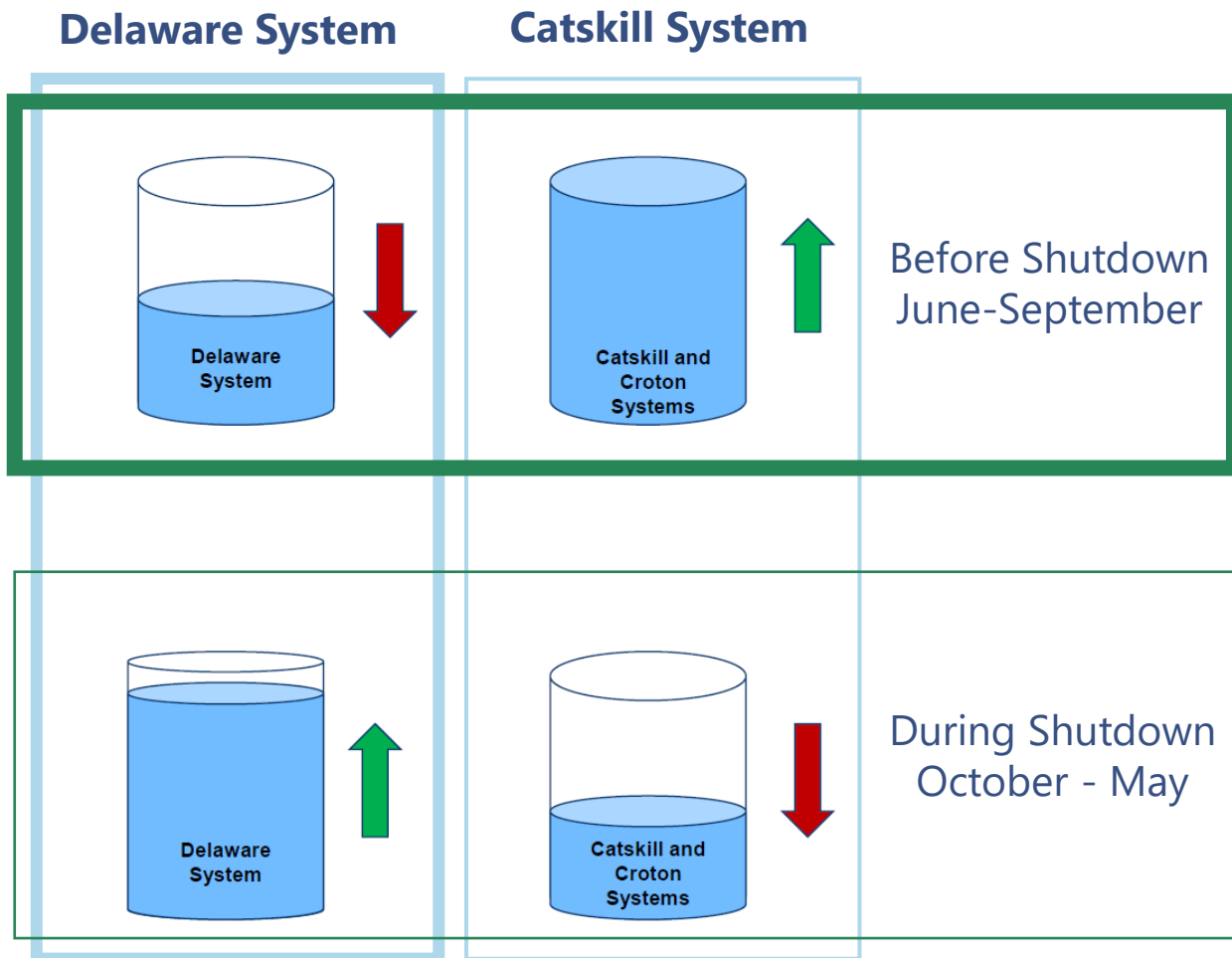
Inflow forecasts inform operations.

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.



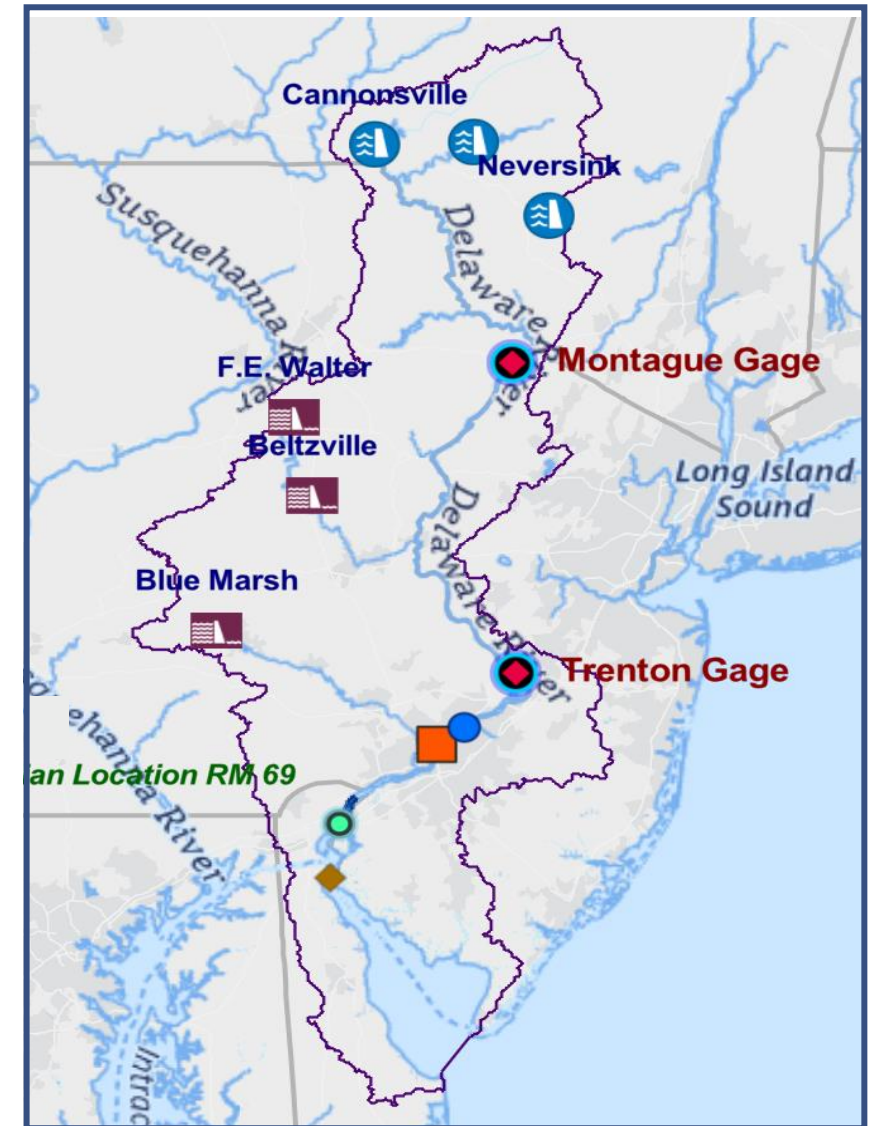
Releases are expected to be at the best levels for fishing and recreation



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

Salinity Management

- Salinity affects drinking water treatment and industrial/manufacturing process.
- The **salt front** is used to monitor salinity.
- Estimated location where the 7-day average concentration of chlorides is 250 mg/l.
- Trenton Flow Objective was established to “manage” salinity.
- DRBC directs releases for the flow objective from Beltzville and Blue Marsh
- Other reservoirs can be directed to contribute during drought emergencies



NOAA Seasonal Outlook

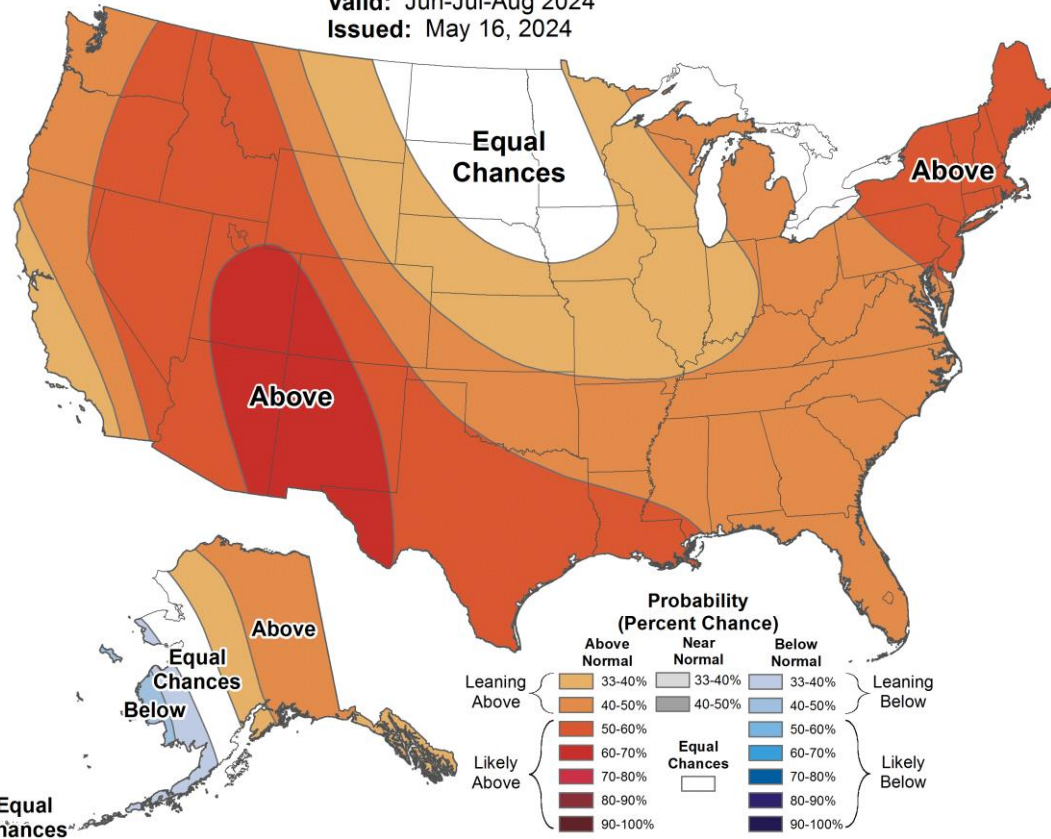
Above normal precipitation forecast is due to active hurricane season forecast.



Seasonal Temperature Outlook



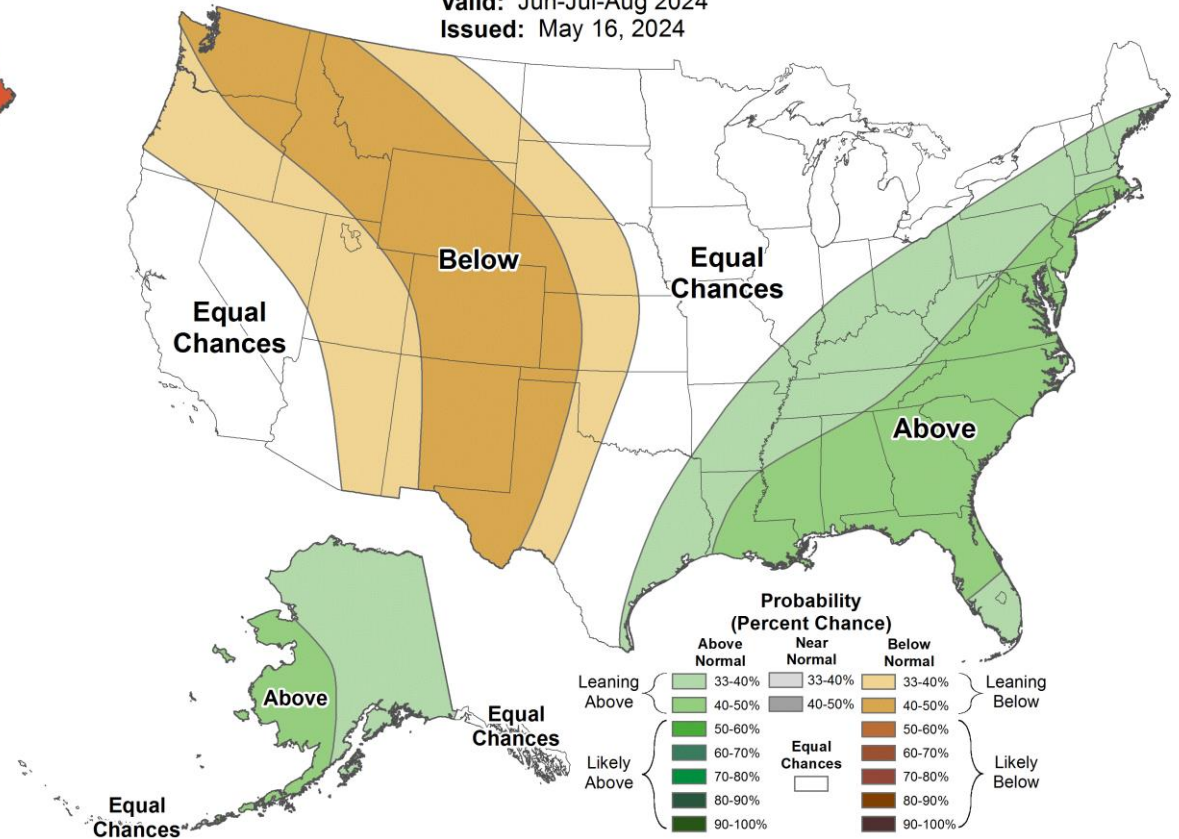
Valid: Jun-Jul-Aug 2024
Issued: May 16, 2024



Seasonal Precipitation Outlook



Valid: Jun-Jul-Aug 2024
Issued: May 16, 2024



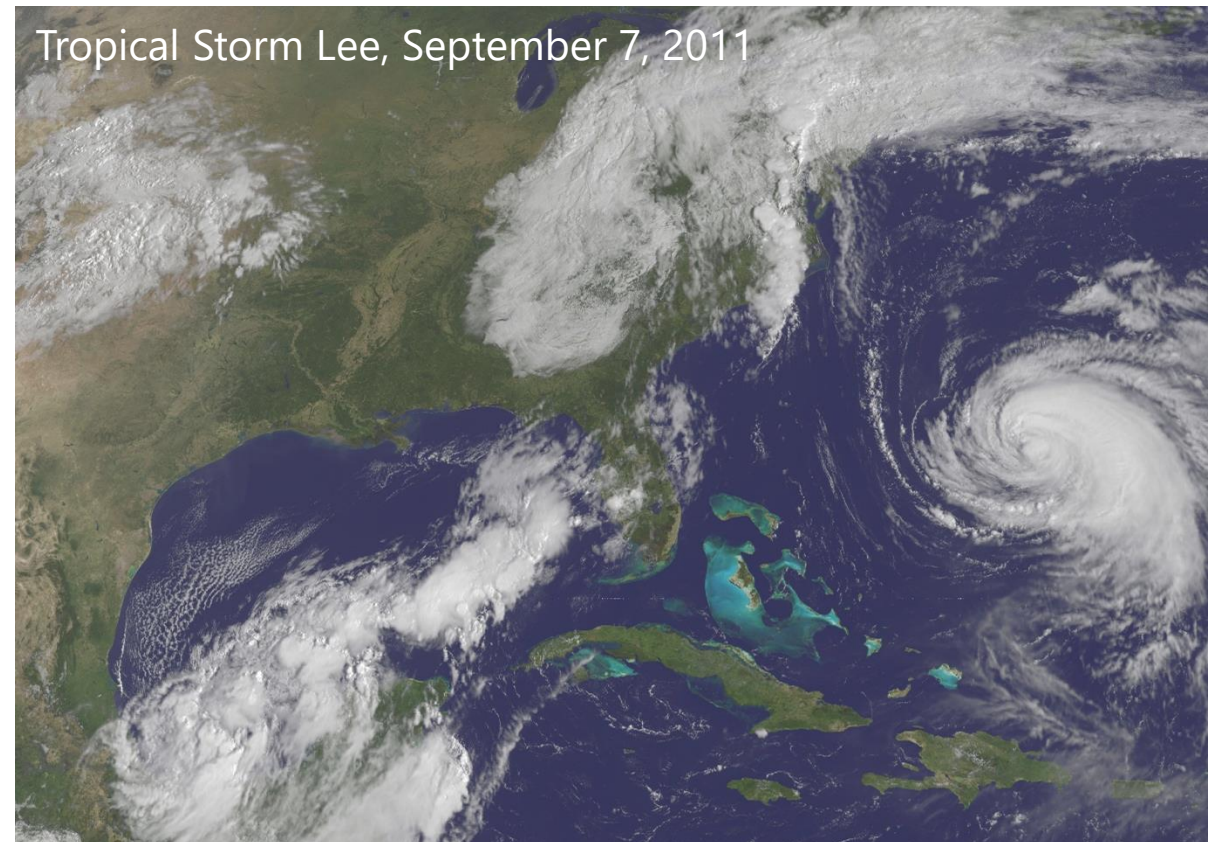
Hurricane Forecast for 2024

Back-to-back hurricanes have produced basin-wide flooding, but not always.

	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>

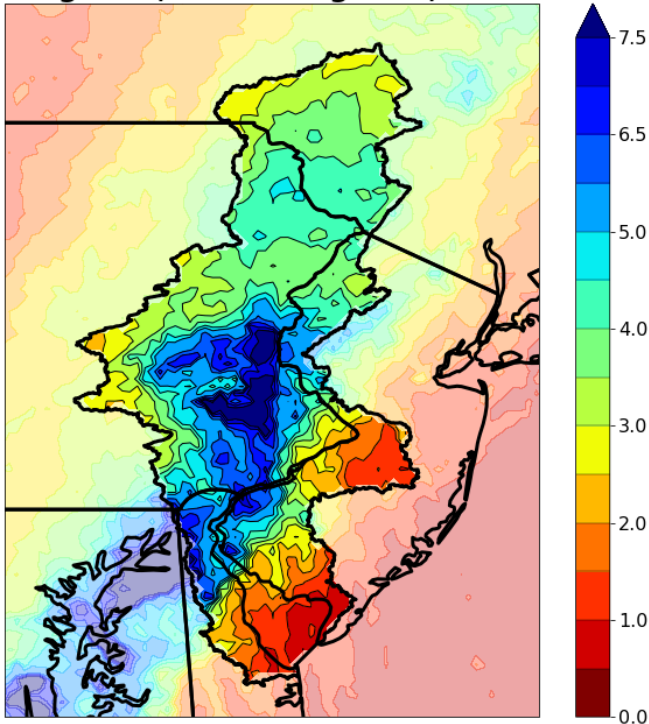
The "I" Storms

In the 21st Century, five storms with an "I" name impacted the basin.

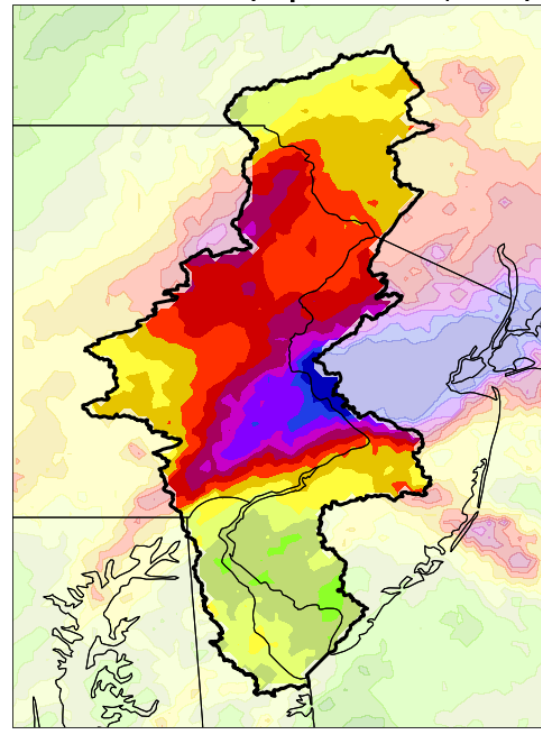
Notable "I" Storms:

Ivan 2024
Irene 2011
Isaias 2020
Ida 2021
Ian 2022

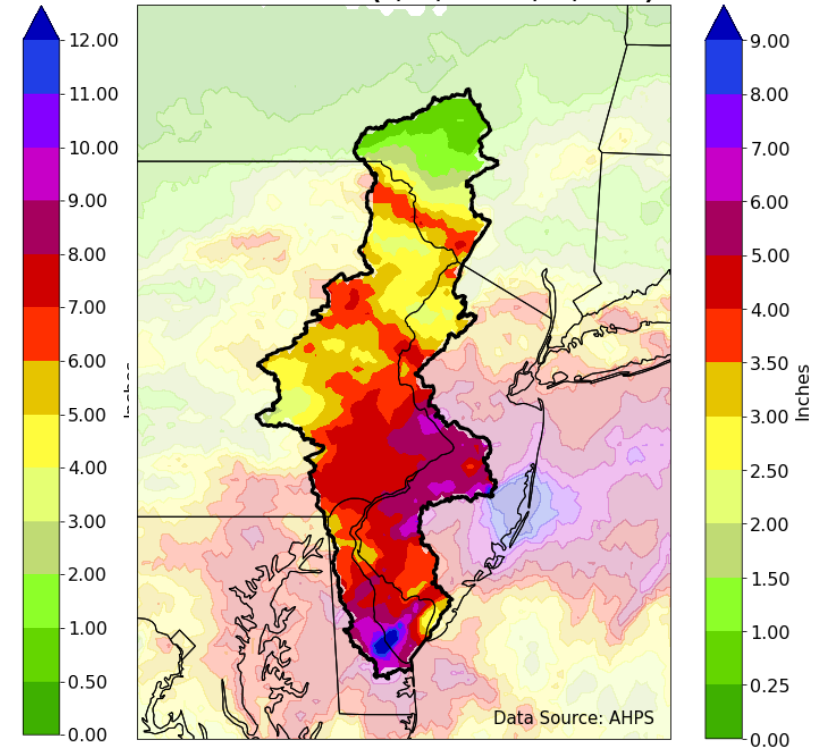
**Basin Precipitation
Tropical Storm Isaias
August 3, 2020 - August 5, 2020**



**Total Precipitation Accumulation
Remnants of Ida (September 1-2, 2021)**



**Total Precipitation Accumulation
Remnants of Ian (9/30/22 - 10/05/2022)**

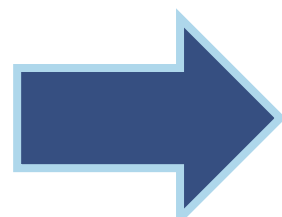
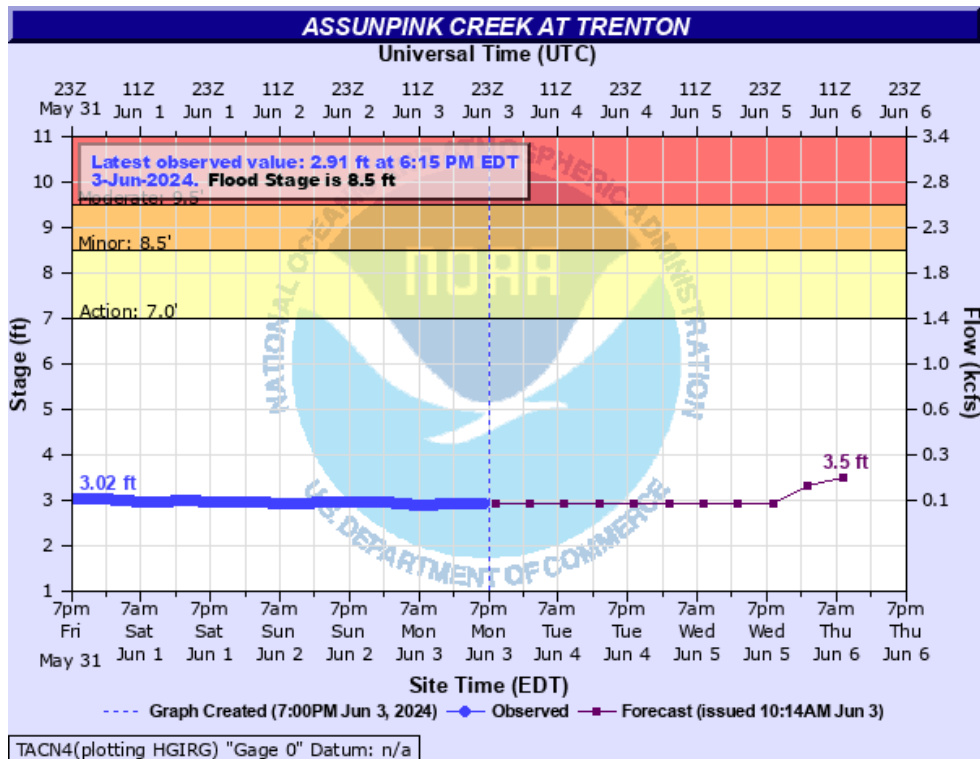


NOTE: Scales are different.

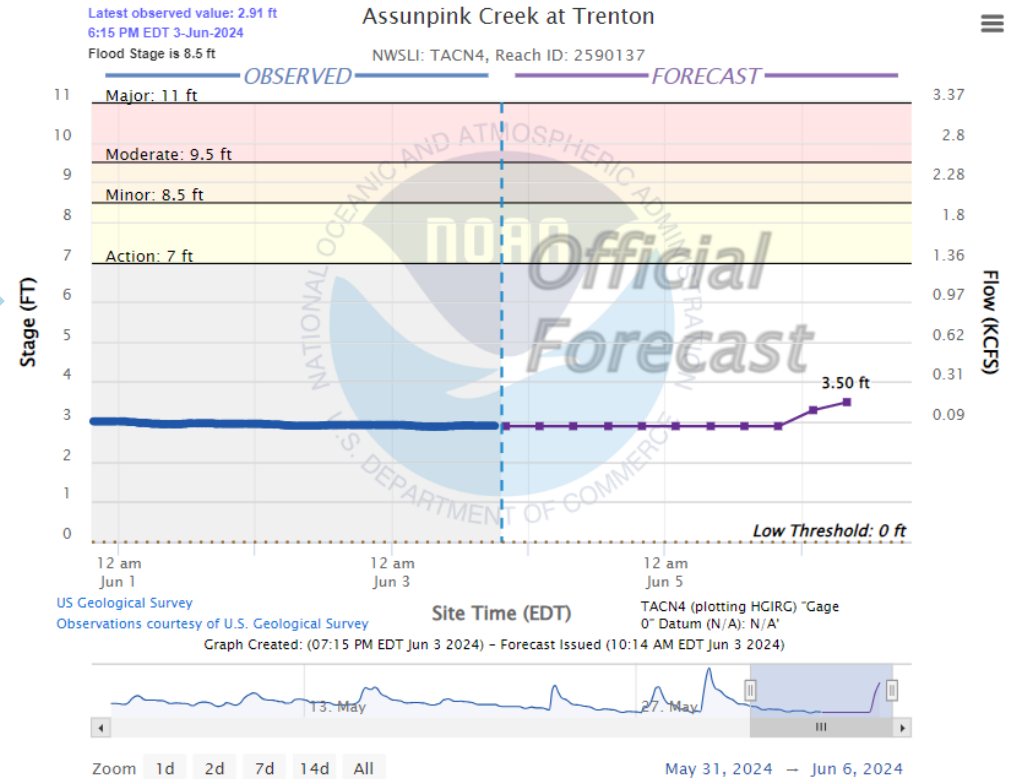
Flood Forecast Information

The NWS AHPS site was retired. For flood forecasts go to: <https://water.noaa.gov>.

Advanced Hydrologic Prediction Service (AHPS)

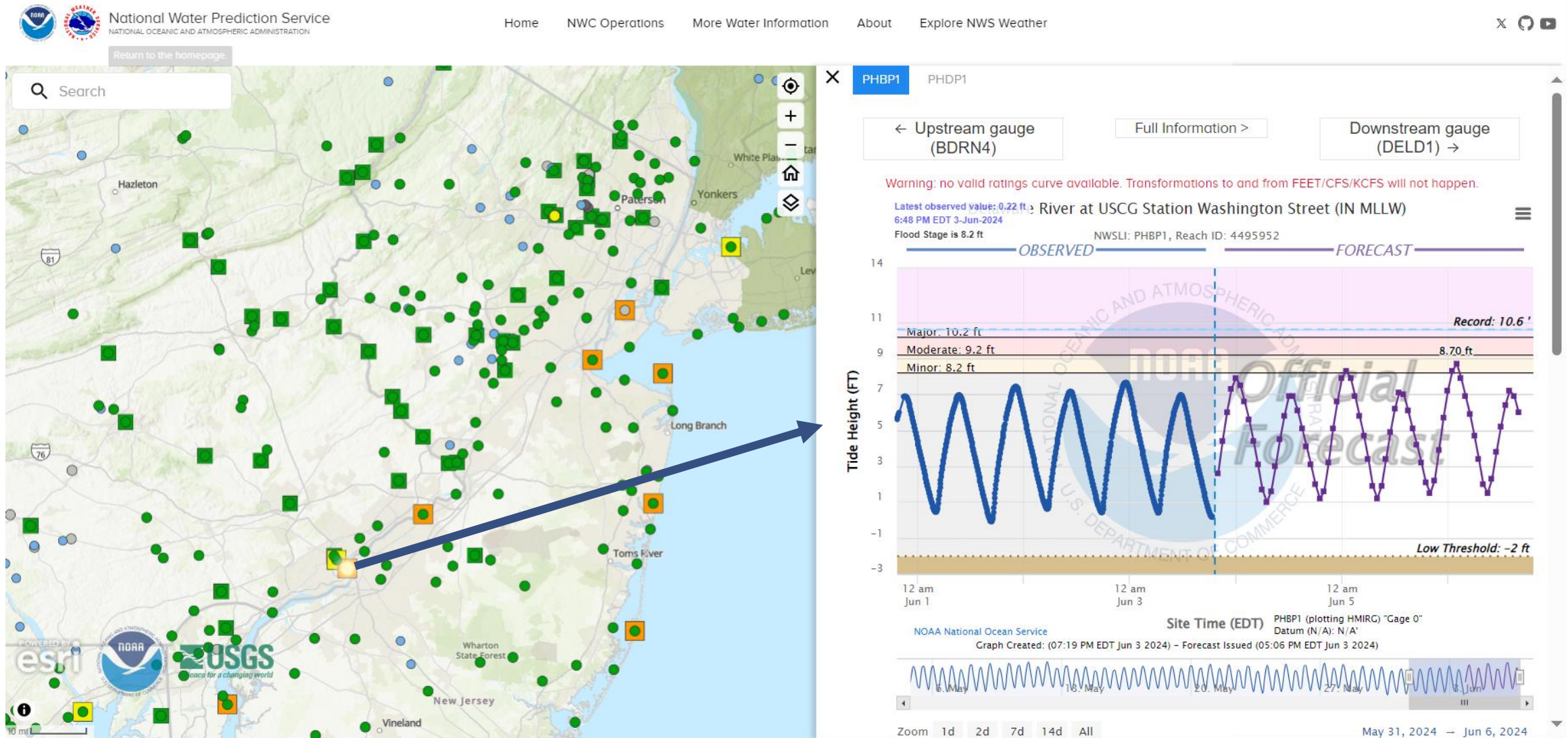


National Water Prediction Service (NWPS)



National Water Prediction Service

Familiarize yourself with the new NWPS site. <https://water.noaa.gov>.



Hydrologic conditions

Normal but getting dry

Shutdown proceeding - impacts likely minor

Hurricane and three-month outlooks - wetter weather coming

New flood warning products – explore before you need

HYDROSNAP – data access issues

Have a great summer!