

Delaware River Basin Commission

Hydrologic Conditions

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Water Management Advisory Committee

October 13, 2022

Presented to an advisory committee of the DRBC on October 13, 2022. Contents should not be published or re-posted in whole or in part without the permission of the DRBC.



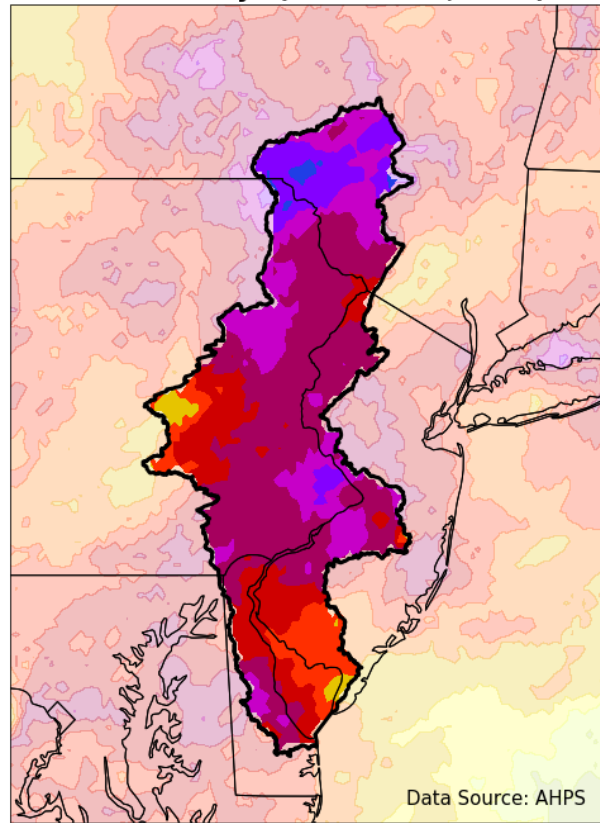
Delaware River Basin Commission

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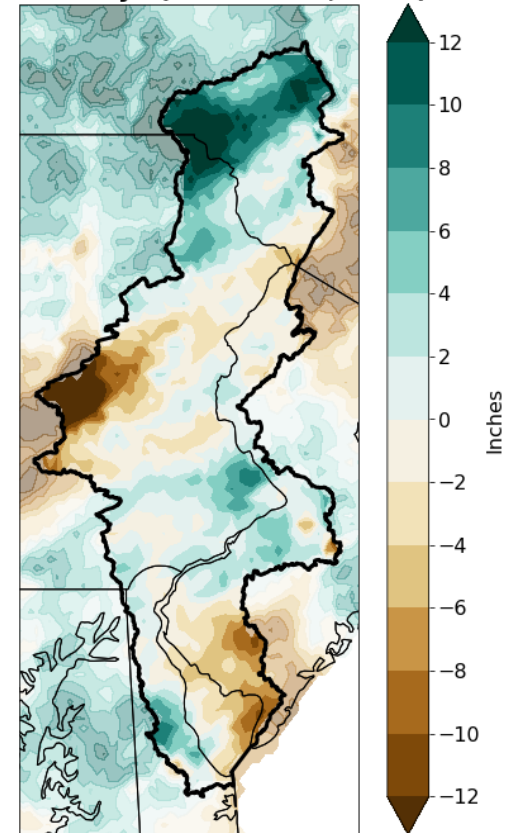
365 Day Precipitation

NORMAL: 45 – 52 inches

**Total Precipitation Accumulation
Last 365 Days (October 12, 2022)**

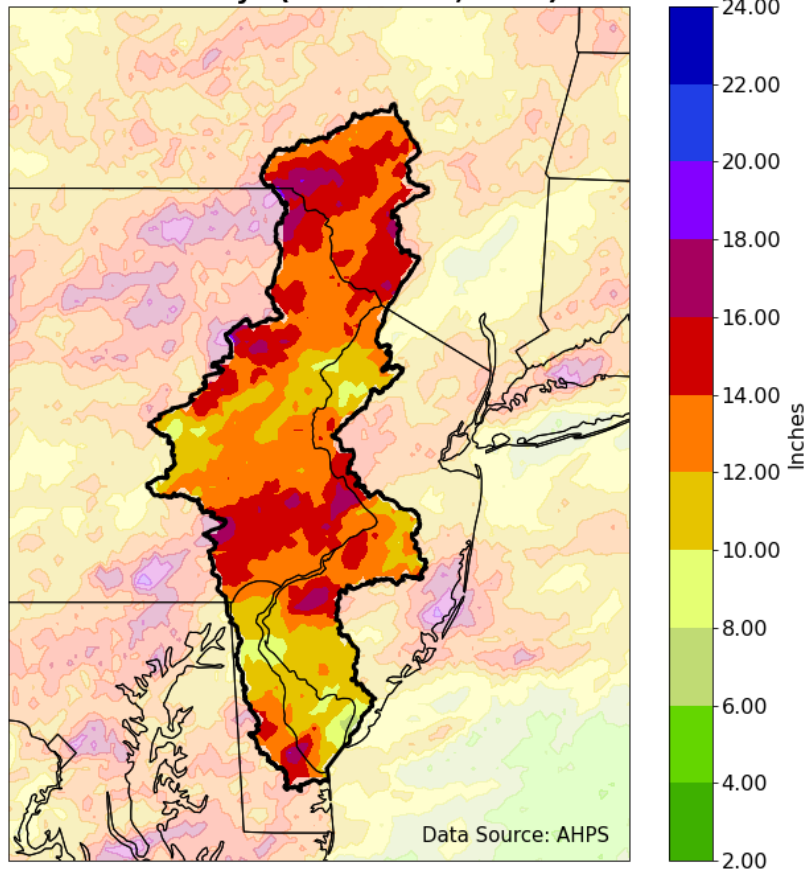


**Departure from Normal Precipitation
Last 365 Days (October 12, 2022)**

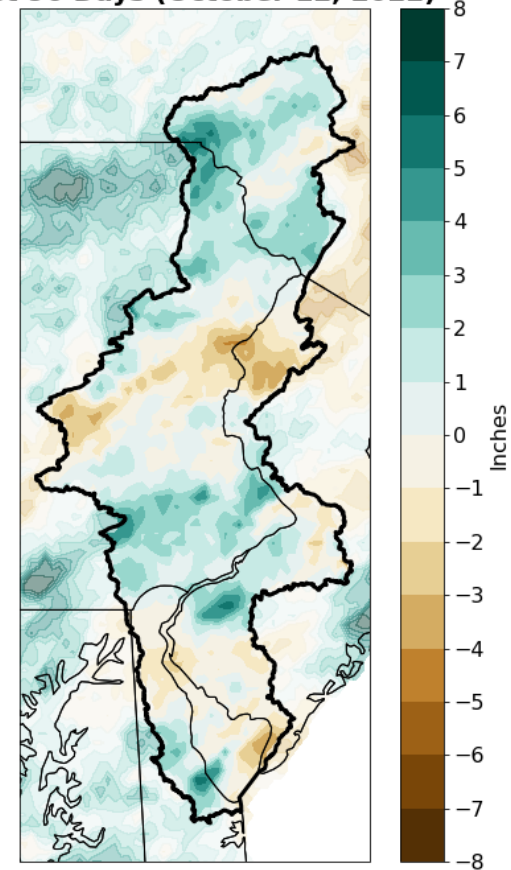


90 Day Precipitation

**Total Precipitation Accumulation
Last 90 Days (October 12, 2022)**

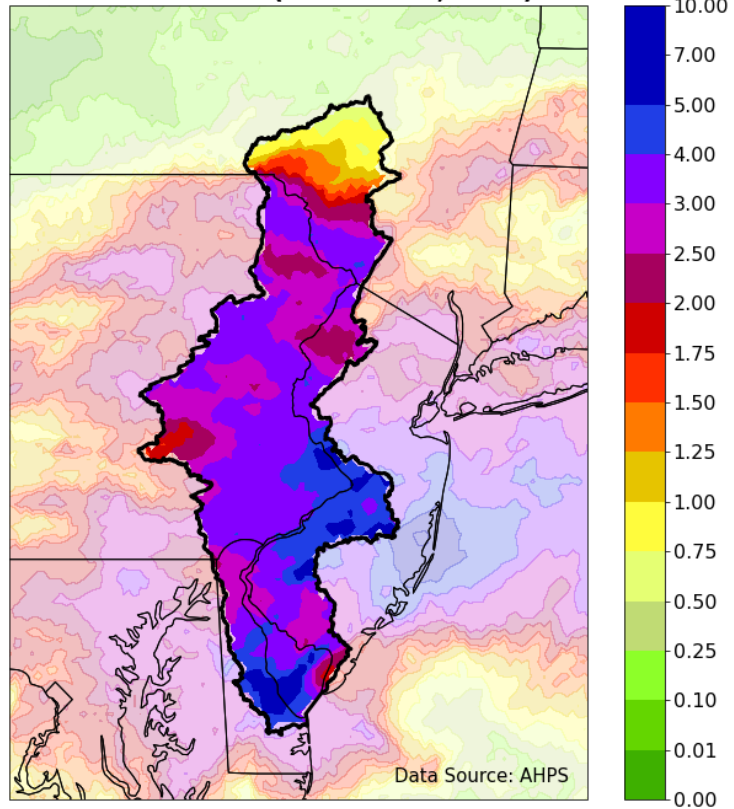


**Departure from Normal Precipitation
Last 90 Days (October 12, 2022)**

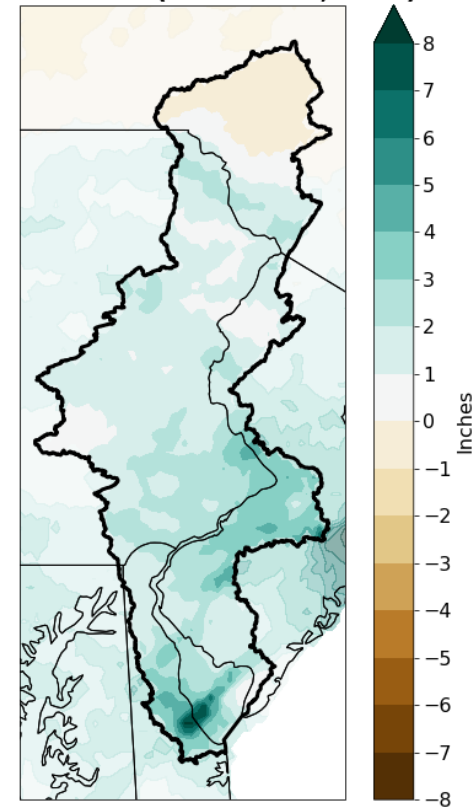


October 2022 – Month to Date

**Total Precipitation Accumulation
Month to Date (October 12, 2022)**

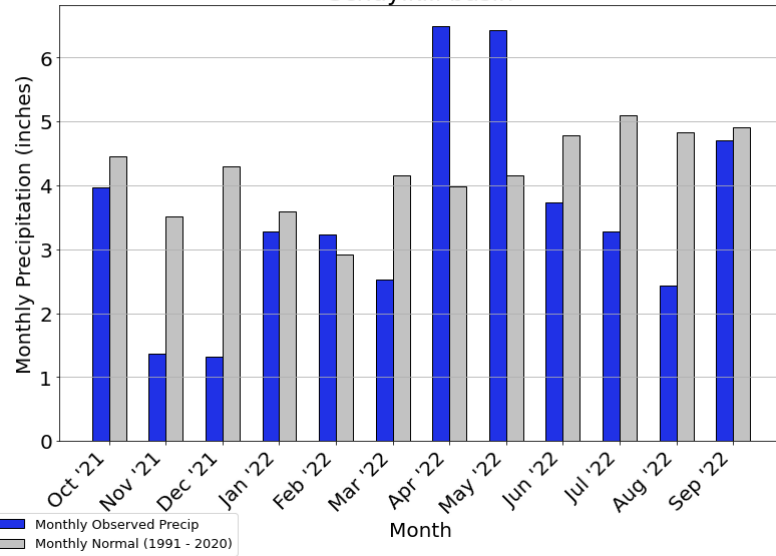


**Departure from Normal Precipitation
Month to Date (October 12, 2022)**

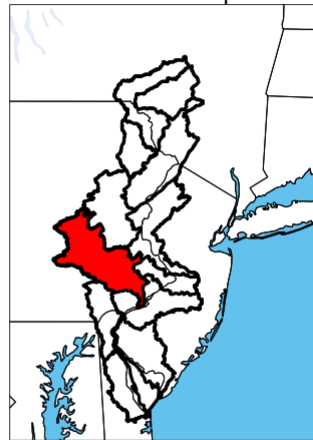


Precip by HUCs

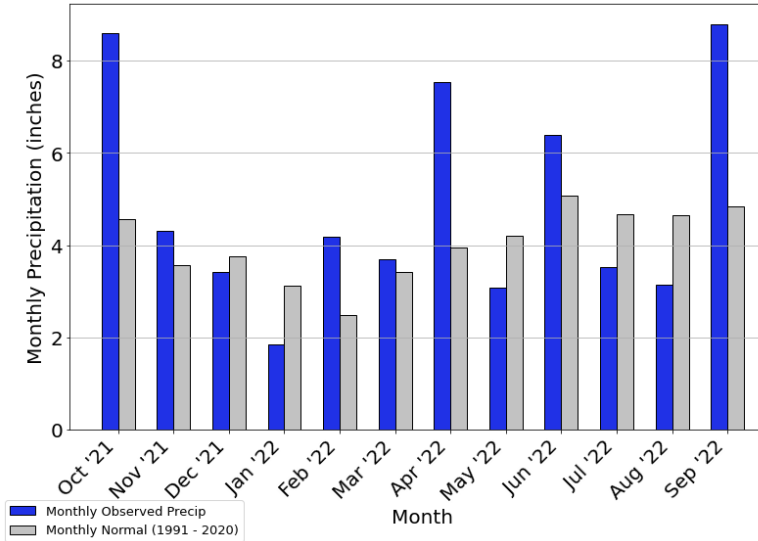
Monthly and Normal Precipitation
Schuylkill basin



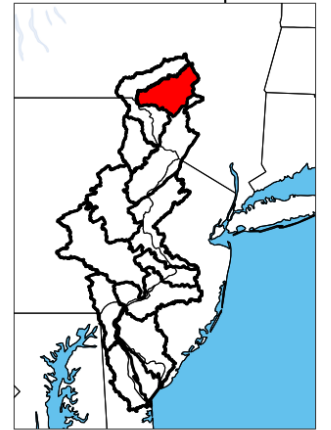
Locator Map



Monthly and Normal Precipitation
East Branch Delaware basin











Locator Map



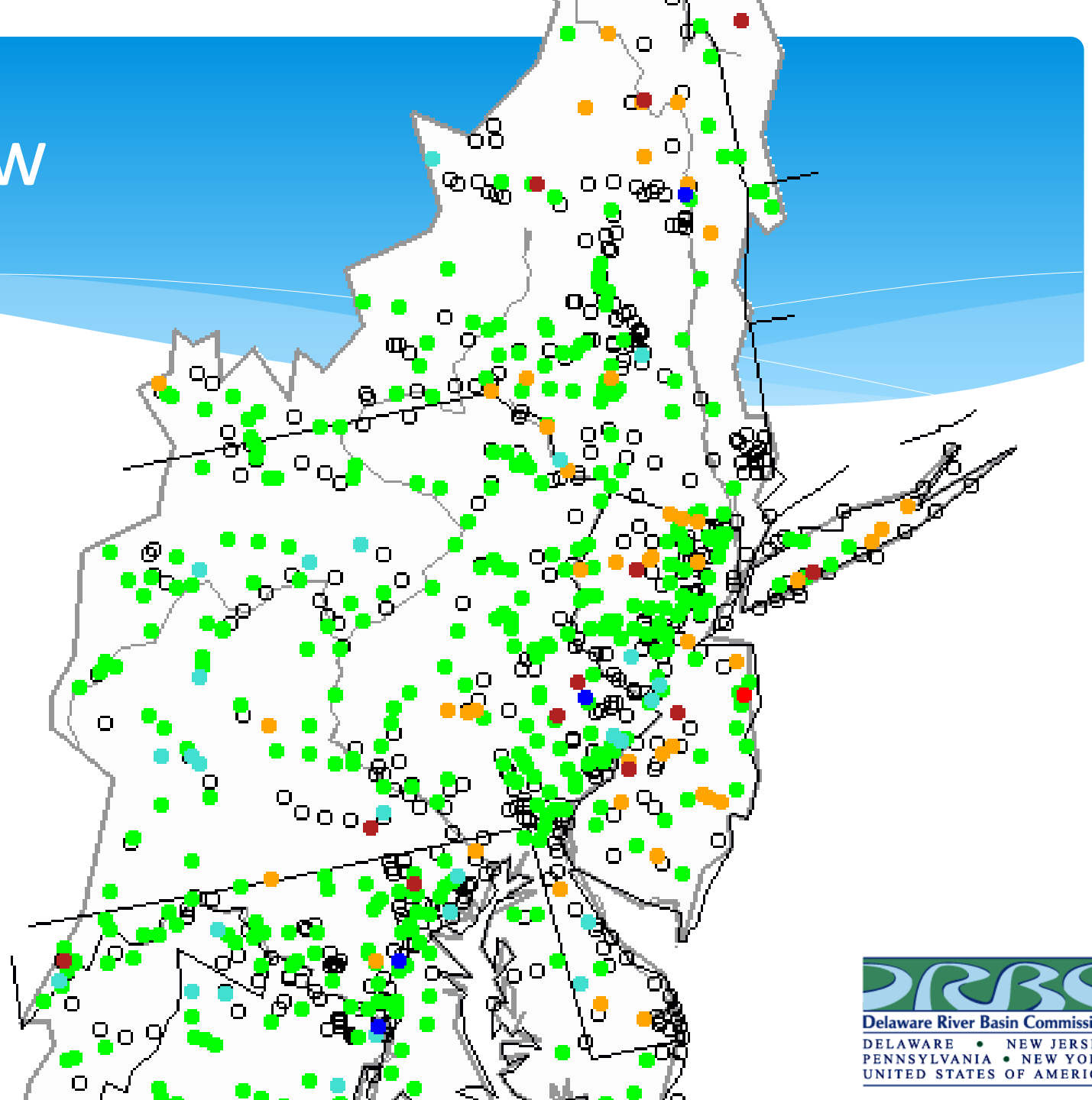
Source: ACIS, USGS HUC: 02040102
Monthly Normal is based of 1 stations in the East Branch Delaware basin

Streamflow

Explanation - Percentile classes

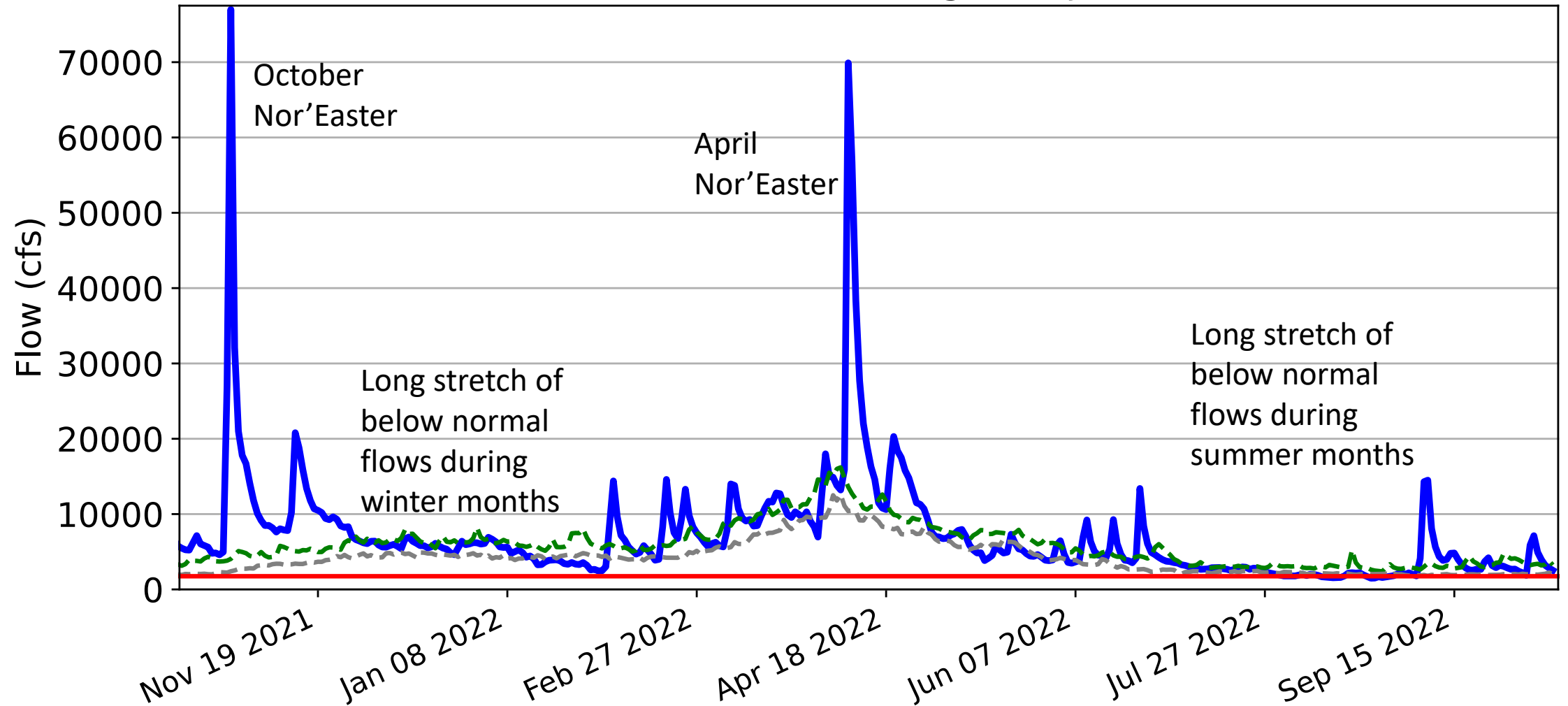
							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Map last updated: 9:00 AM
October 13, 2022



Updated: 2022-10-12 10:25

Flow at Montague, NJ

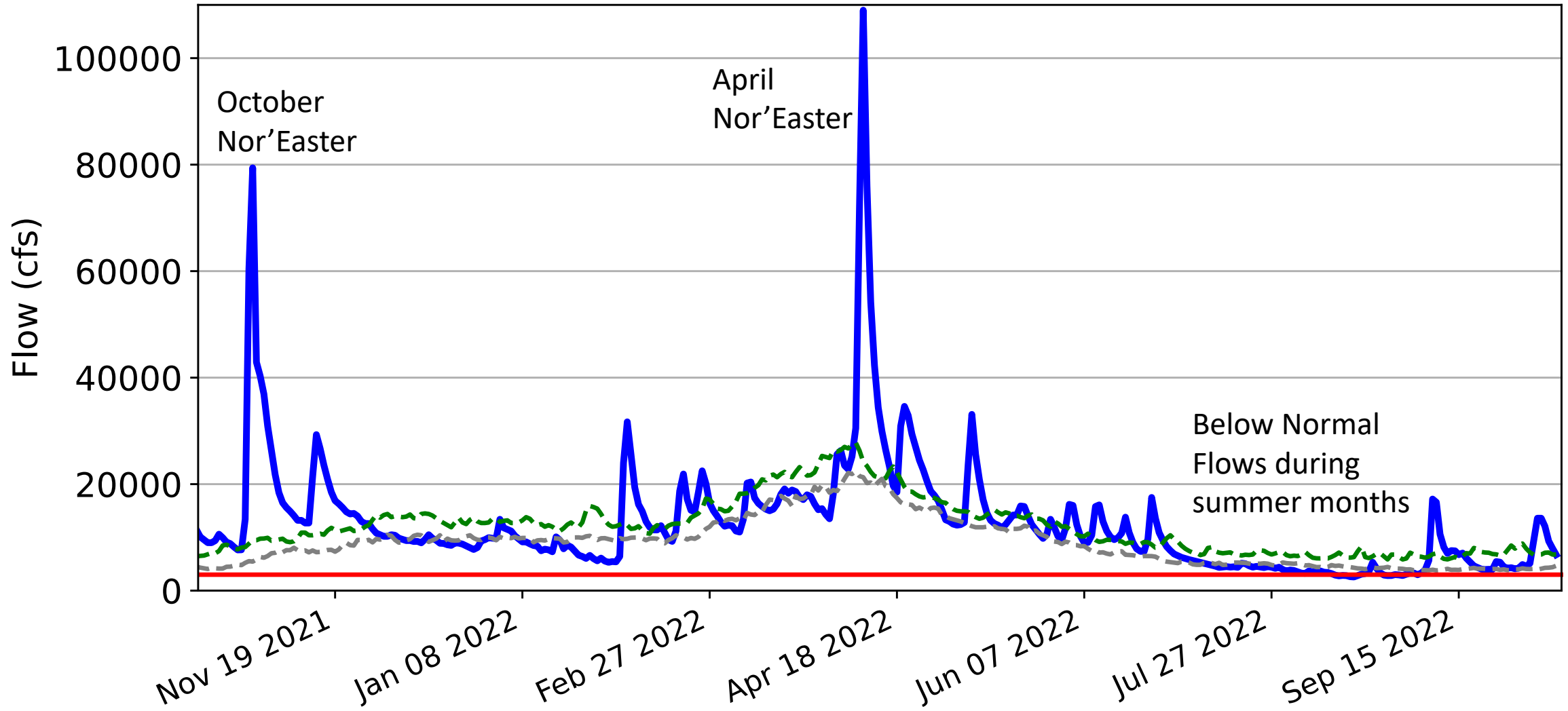


Data Source: USGS



Updated: 2022-10-12 10:25

Flow at Trenton, NJ



Data Source: USGS



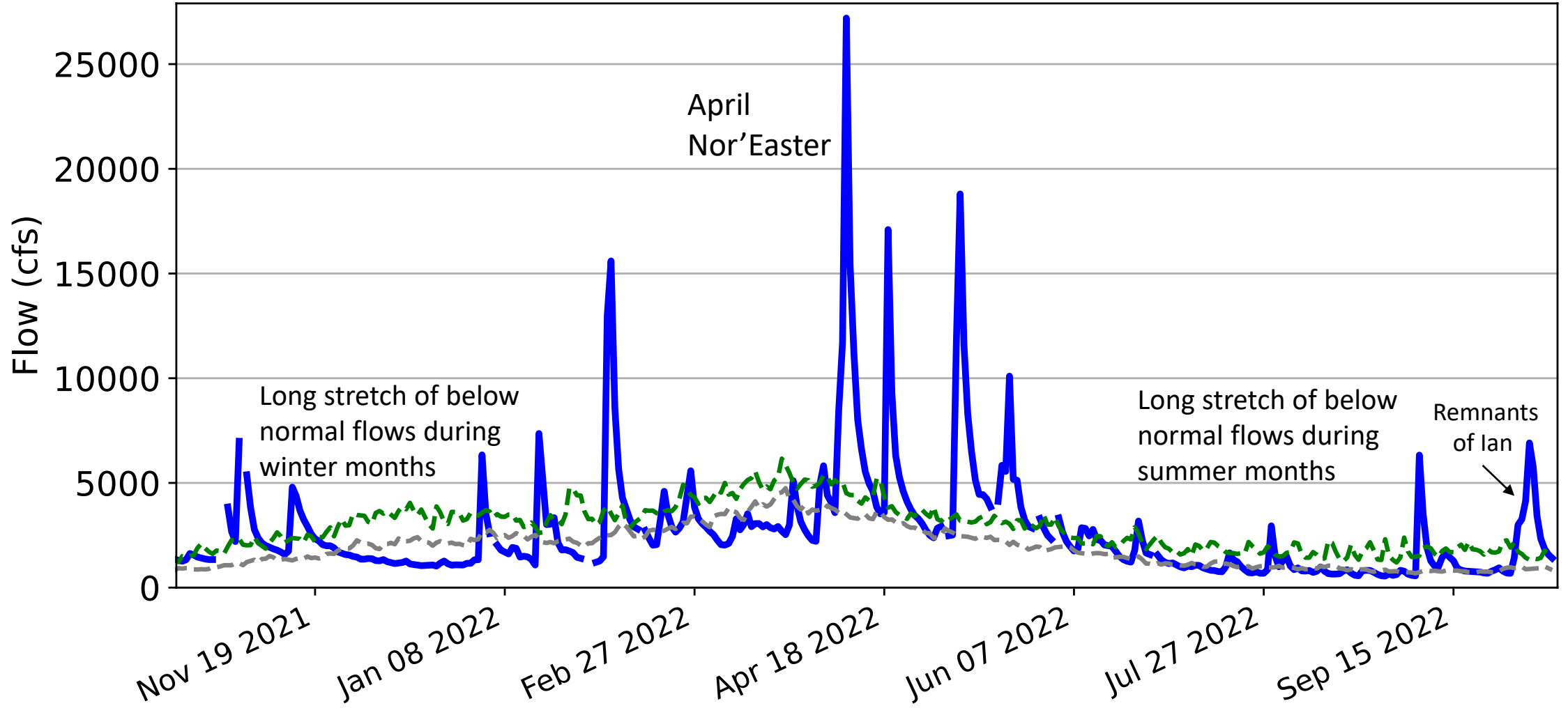
Releases for Flow Objectives and Thermal Mitigation

- * Directed releases for Montague since June 1 were 20.7 BG
- * Most occurred between July 27, 2022 and September 2, 2022
- * Flow Augmentation Releases were made for Trenton:
 - * From NYC reservoirs (IERQ) on 4 days in August and 1 day in September (approximately 517 MG)
 - * From Beltzville reservoir (approximately 992 MG)
 - * From Blue Marsh reservoir (approximately 550 MG)
 - * From FE Walter 1,810 MG (recreation releases offset amount needed)
- * Thermal Mitigation releases were used intermittently from June 25 to August 10 (1134 MG of 1616 MG have been used).

**Sum of lower basin requested
releases: 2,059 MG**

Updated: 2022-10-12 10:25

Flow at Philadelphia, PA

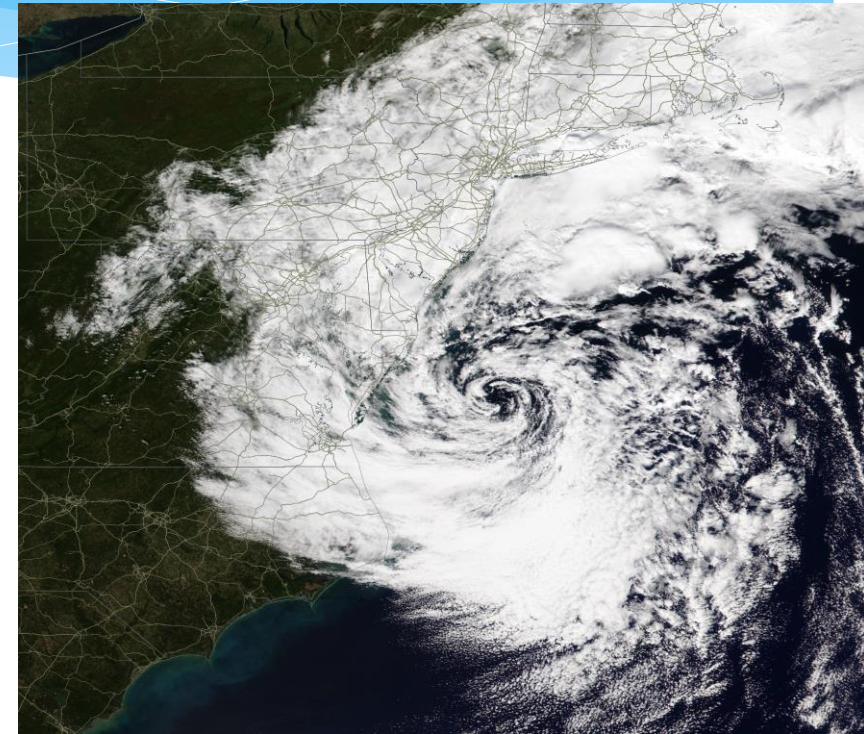
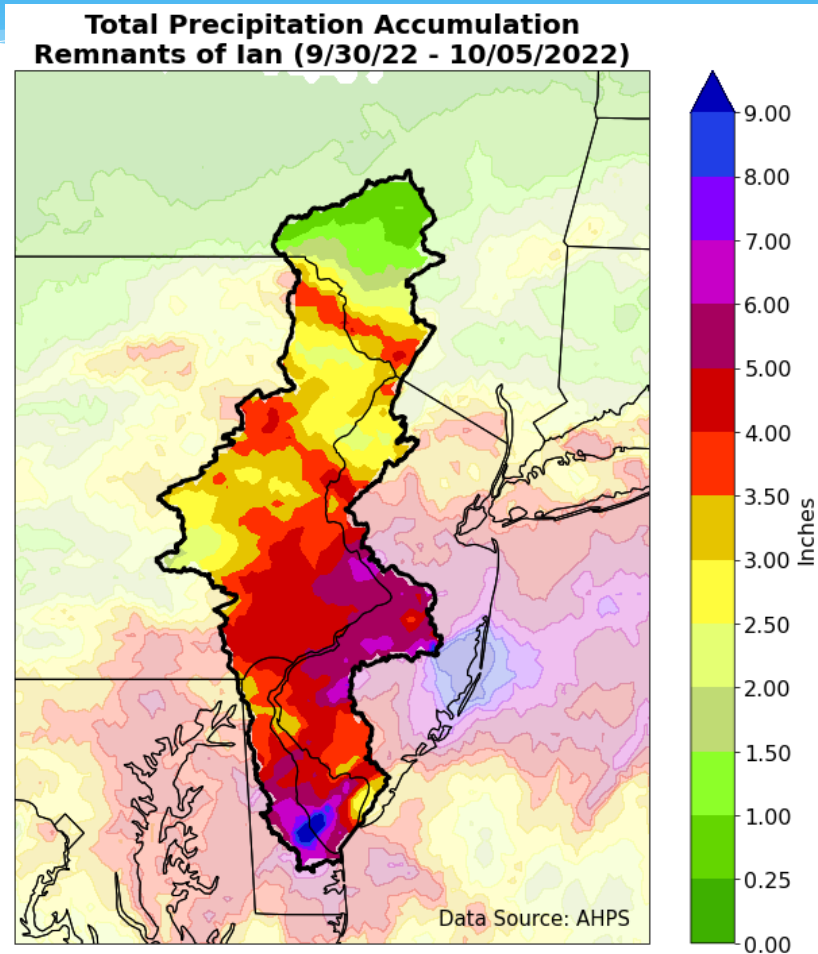


Data Source: USGS



September 30 – October 5 (Remnants of Ian)

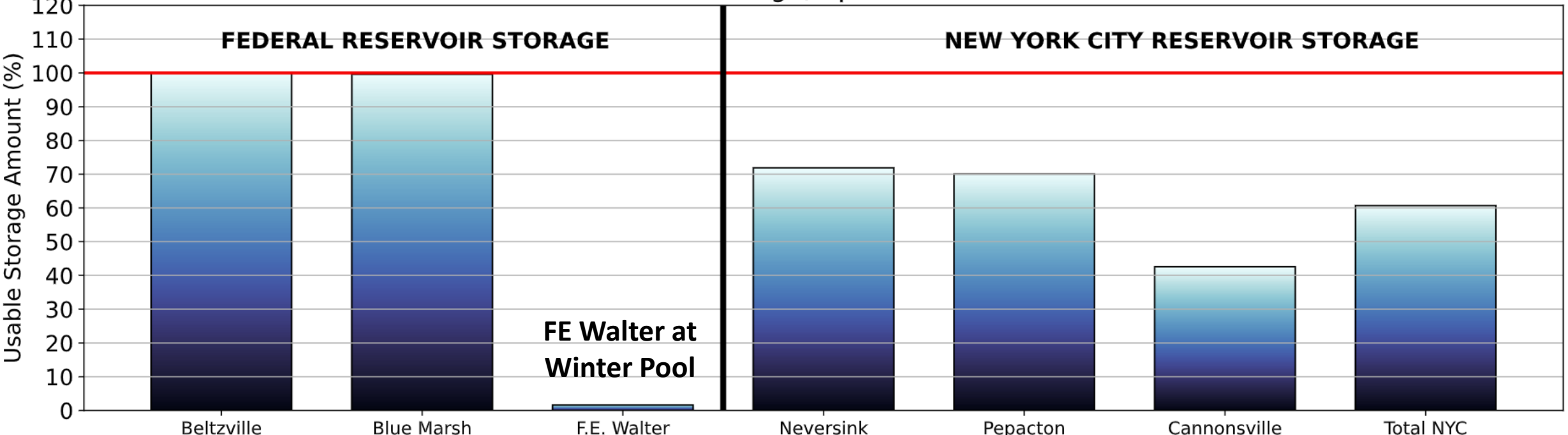
- The remnants of Hurricane Ian mixed with a land-based system, then stalled off the coast of Delaware.
- Rain fell for six straight days across the basin
- Impacts were mainly in the lower basin, and mainly south of Trenton.
- Upper basin near reservoirs received less than 1 inch of rain



October 5 polar orbiting satellite pass over the basin, showing the remnants of Hurricane Ian spinning off the coast of Delaware (source: NASA)

Basin Storage

Usable Reservoir Storage, updated 2022-10-13 08:18




FE Walter at Winter Pool

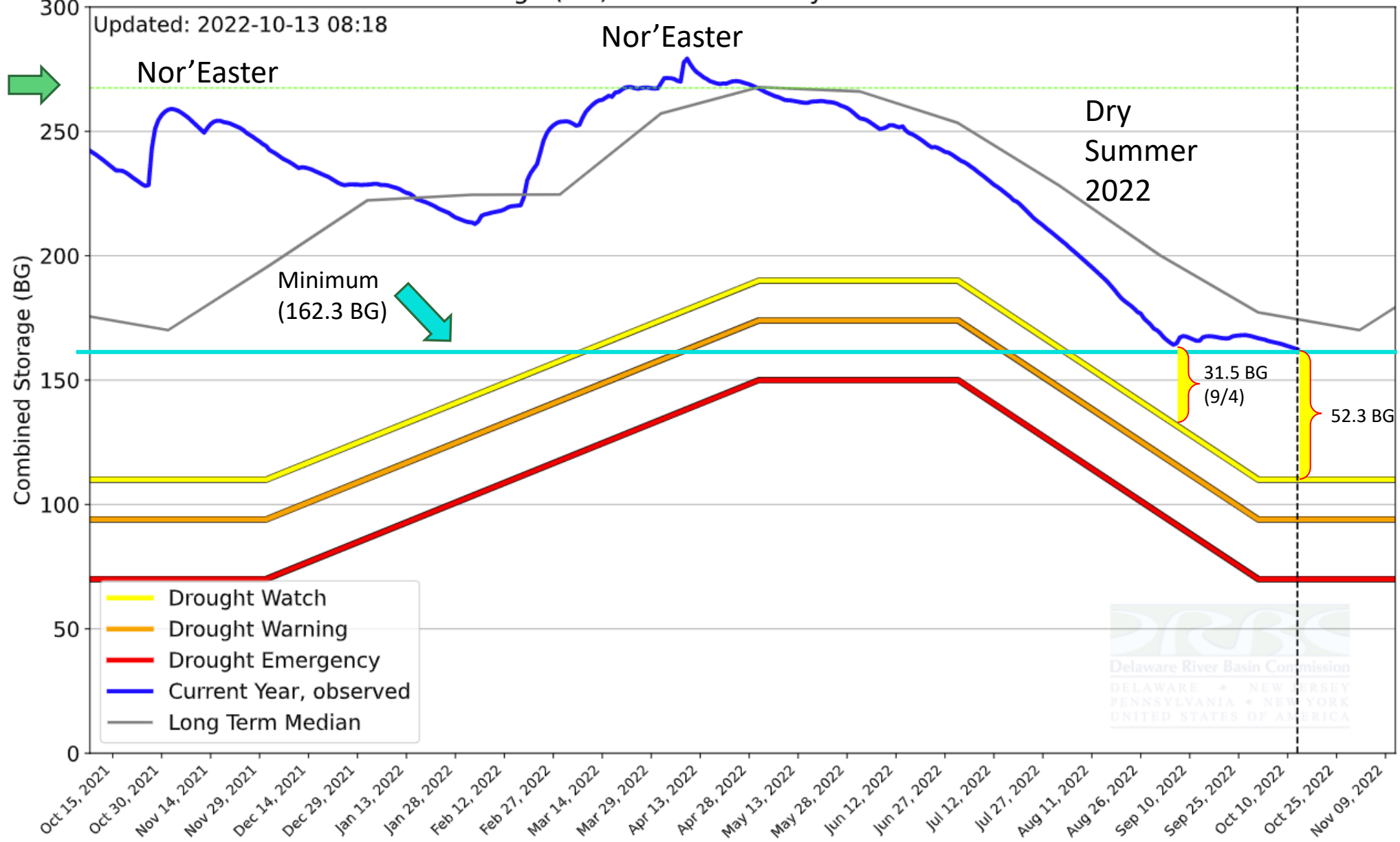
*** Storage below lowest outlet (pipe) is not taken into account ***



Total Combined Storage (BG) of New York City Delaware River Basin Reservoirs

Updated: 2022-10-13 08:18

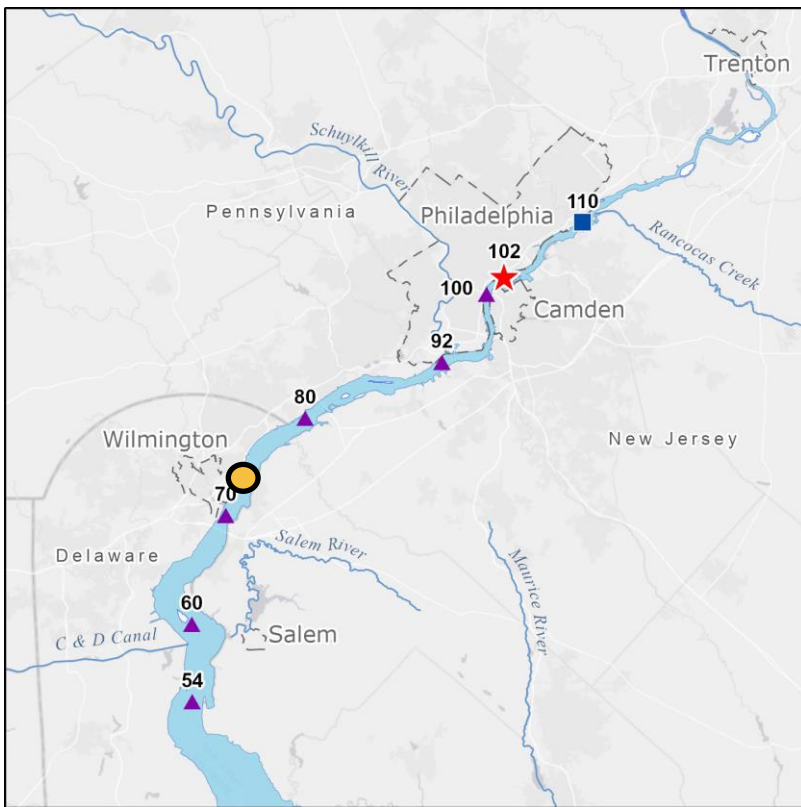
Full (267.4 BG) 



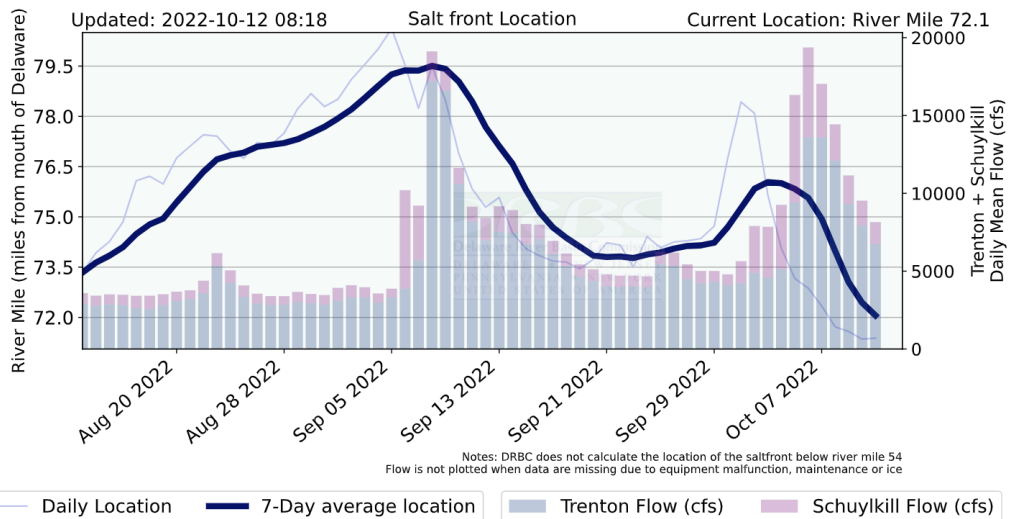
Usable Storage	Cannonsville	Pepacton	Neversink	Total	BG above drought watch = 52.3	BG below median = 12.1
BG	39.8	97.6	24.9	162.3	BG above drought warning = 68.3	BG below one year ago = 74.0
%	42.6	70.1	71.9	60.7	BG above drought = 92.3	

Salt Front

Current Location: Near Shellpot Creek



● = current location



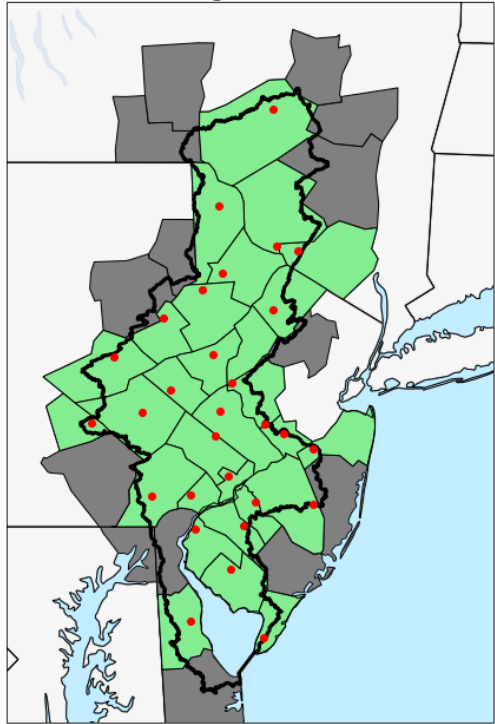
Chlorides
7-Day Average RM Location
of 250 mg/L

Current (10/12/2022): 72.1
October Median: 72

The Flow Objective at Trenton was designed to repel salinity for the protection of drinking water treatment facilities and industrial intakes.

Groundwater Conditions

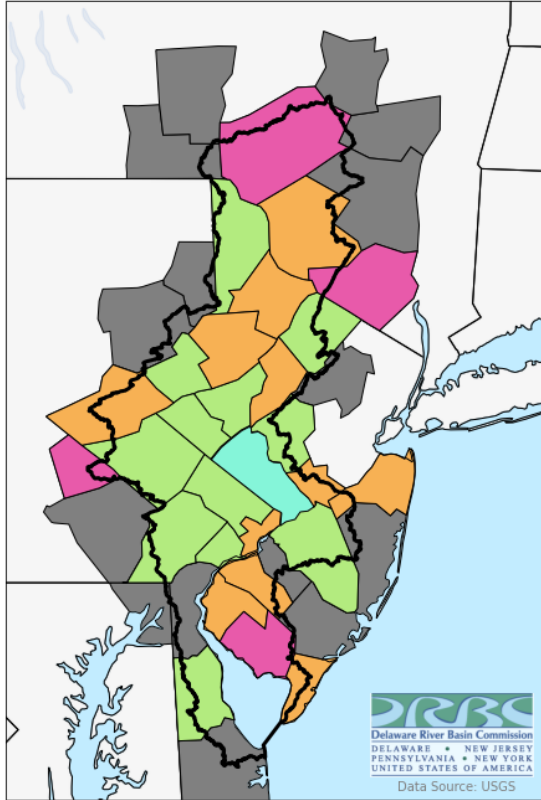
Location of groundwater wells



- Basin Boundary
- Well Location
- County contains well
- No well available within DRB

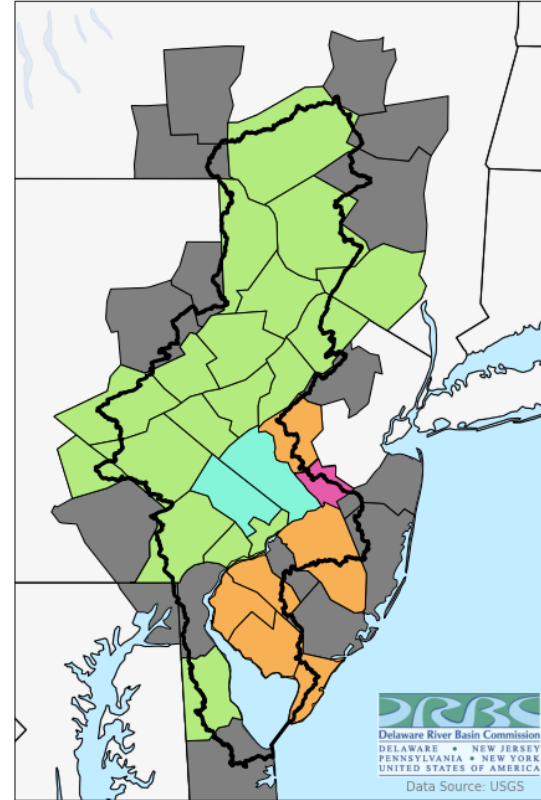
Wells chosen based on location and length of record

Groundwater Ranking on August 17, 2022



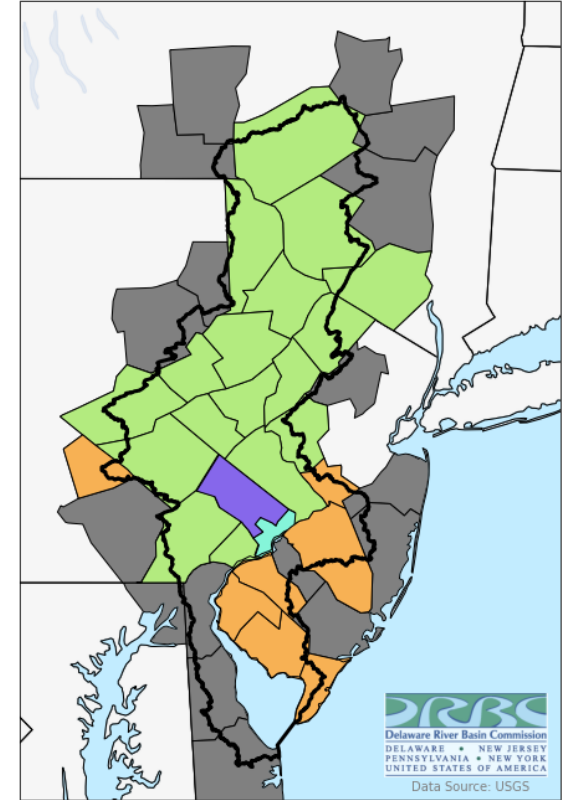
- Basin Boundary
- Much Above Normal
- Above Normal
- Normal
- Below Normal
- Much Below Normal
- Data unavailable

Groundwater Ranking on September 12, 2022



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

Groundwater Ranking on October 12, 2022



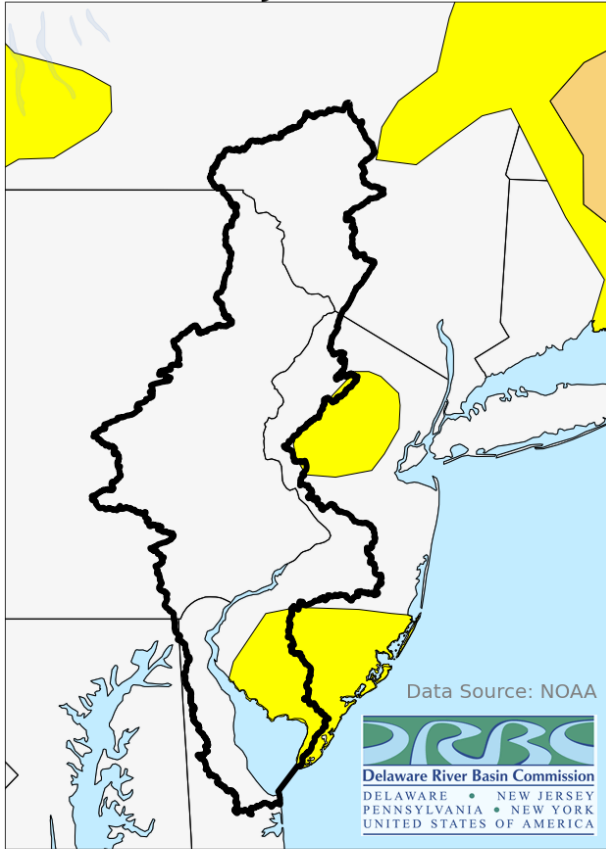
- Basin Boundary
- Much Above Normal
- Above Normal
- Normal
- Below Normal
- Much Below Normal
- Data unavailable



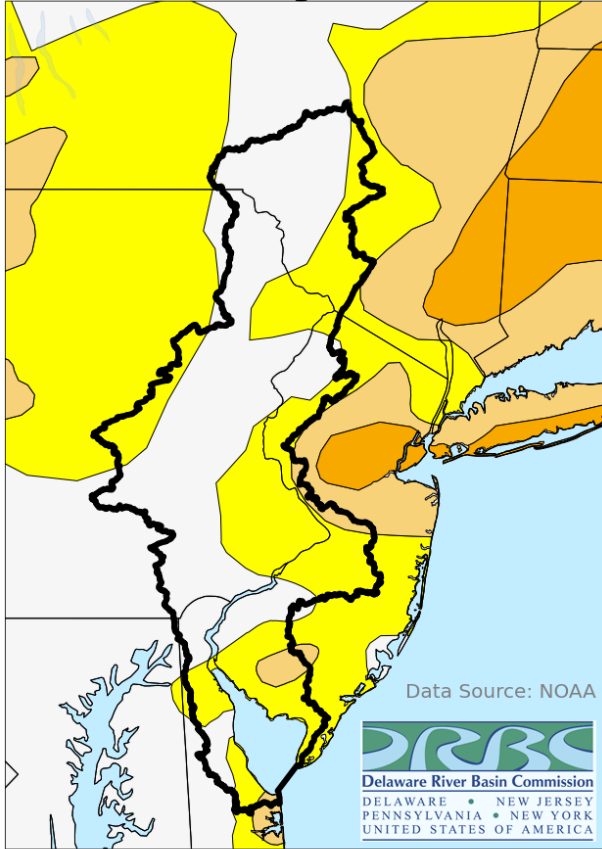
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PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Drought Monitor Progression

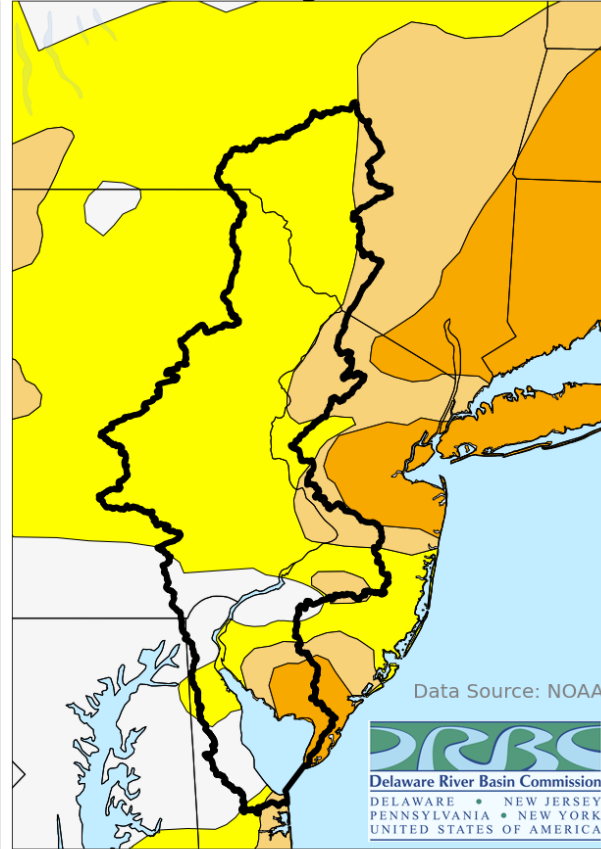
Drought Monitor
Valid: Jul 05, 2022



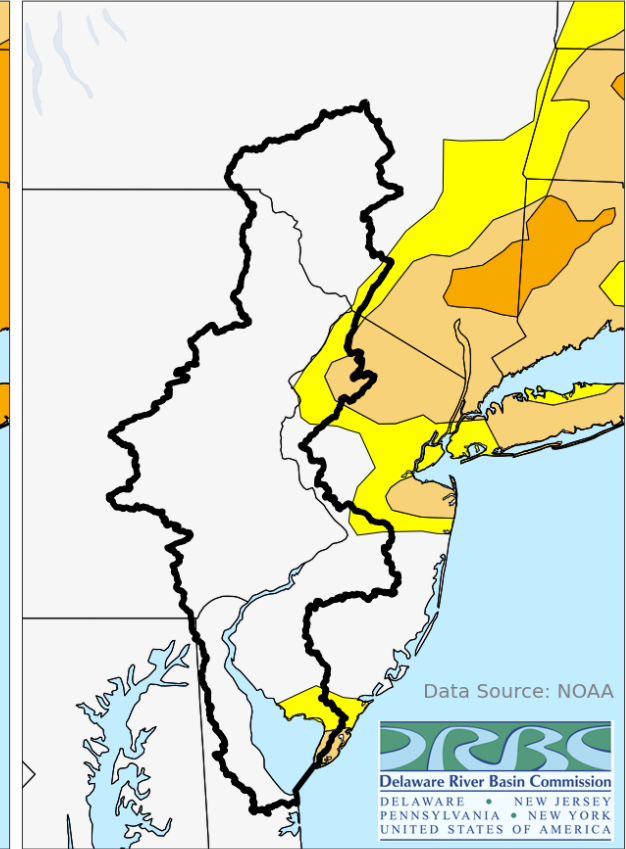
Drought Monitor
Valid: Aug 16, 2022



Drought Monitor
Valid: Aug 30, 2022



Drought Monitor
Valid: Oct 11, 2022



- Basin Boundary
- D0 - Abnormally Dry
- D1 - Moderate Drought

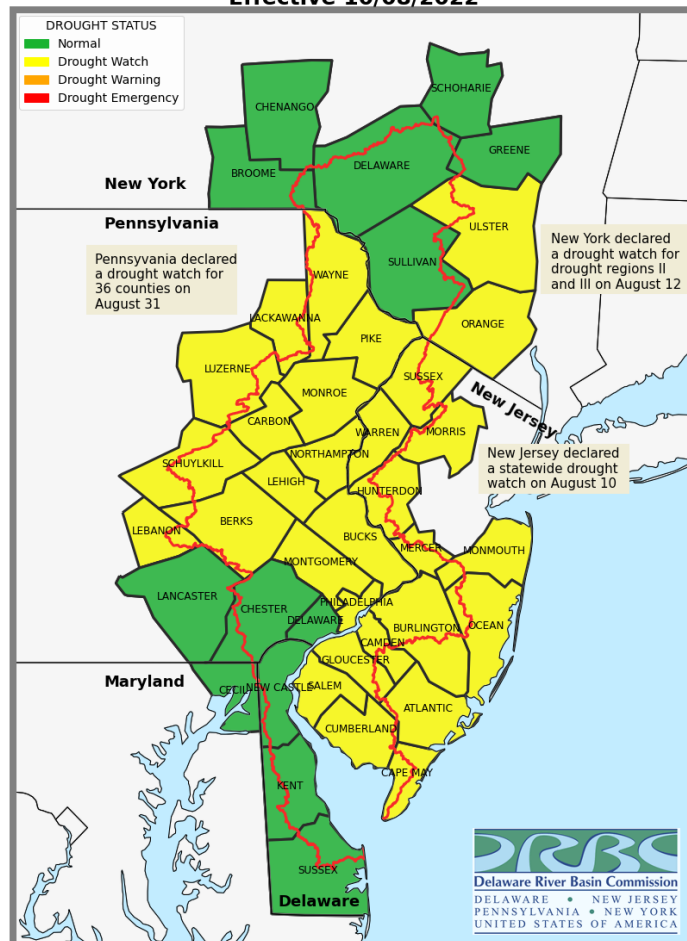
- Basin Boundary
- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought

- Basin Boundary
- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought

- Basin Boundary
- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought

Current Drought Status

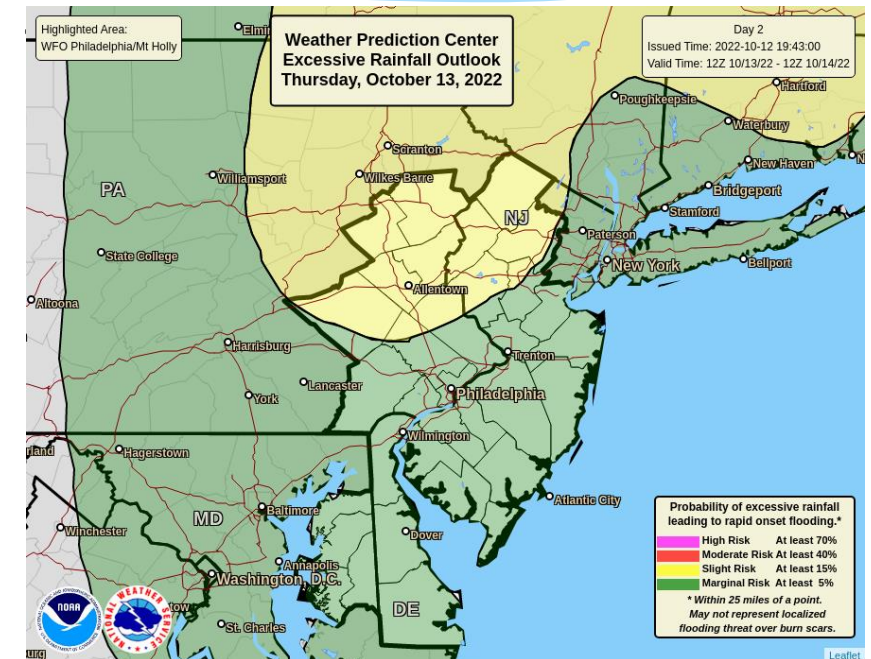
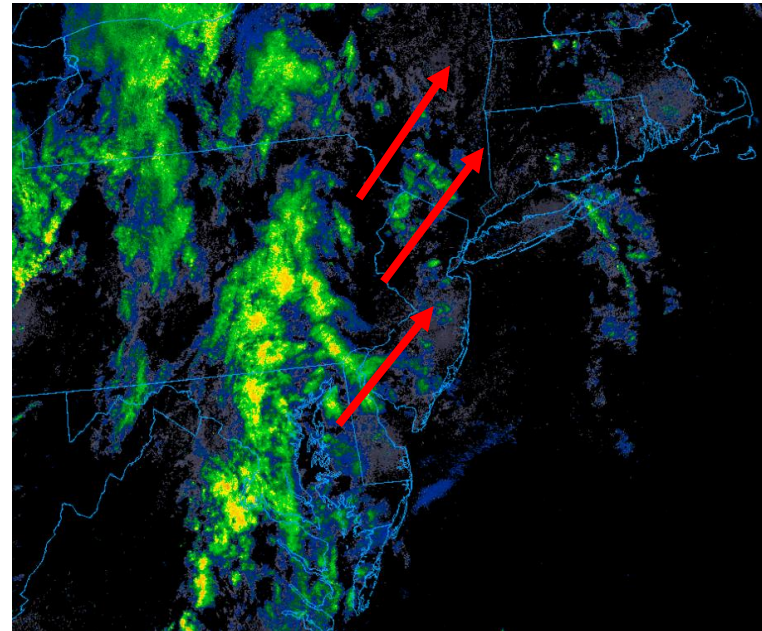
**Drought Status In the Delaware River Basin
As Declared by the Individual Basin States
Effective 10/08/2022**



- DRB Drought Status is normal
- DRB States have declared droughts for several counties.
- New Jersey declared a statewide drought watch on August 10
- New York declared a drought watch for drought regions II and III on August 12
 - New York dropped drought watch status for region III and 4 DRB counties in region II on October 8
- Pennsylvania declared a drought watch for 36 counties on August 31.

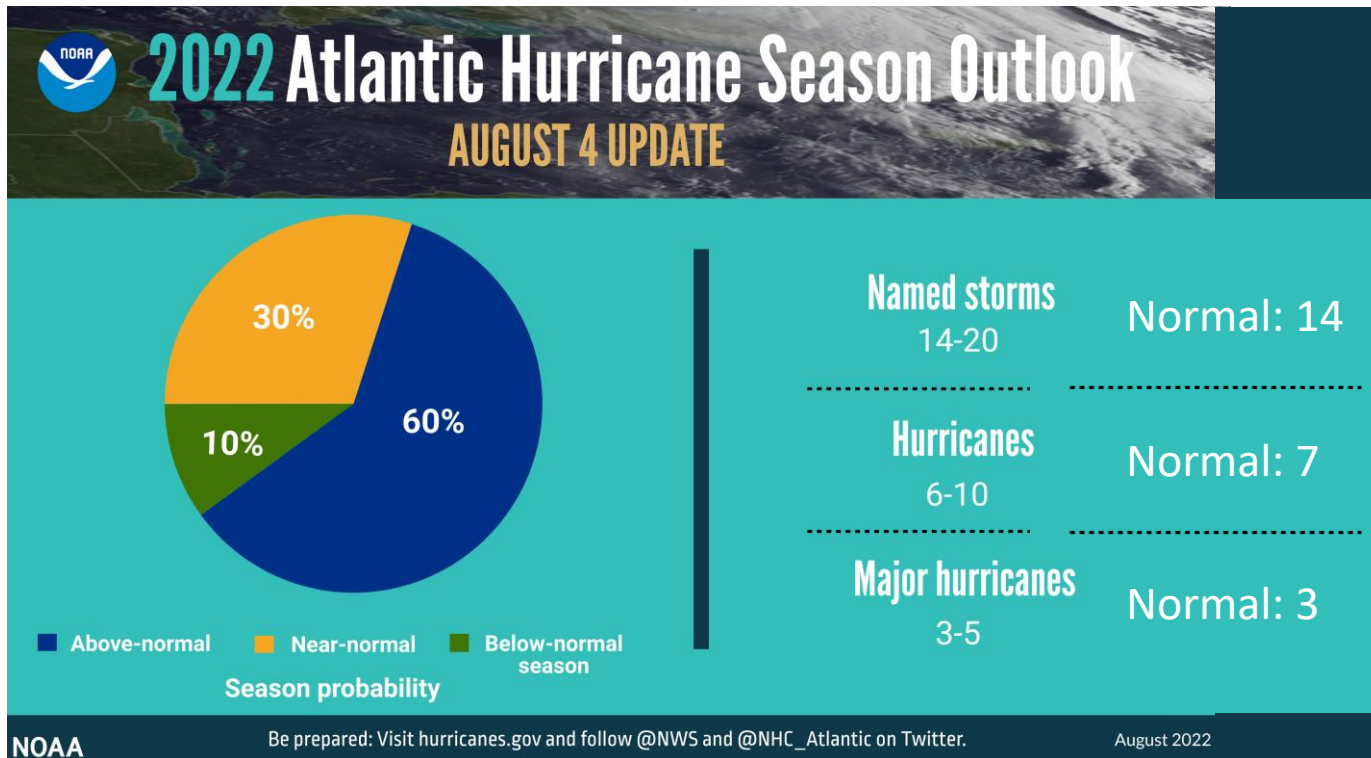
Near Future Hydrologic Impacts

- * Showers and storms moving through this morning, river flooding not forecast to occur
- * Most precipitation is expected to impact upper basin



Hurricane Season 2022

*Hurricane Season runs until Nov 30



SO FAR...

11

5

2

Hurricane season is below normal to date:

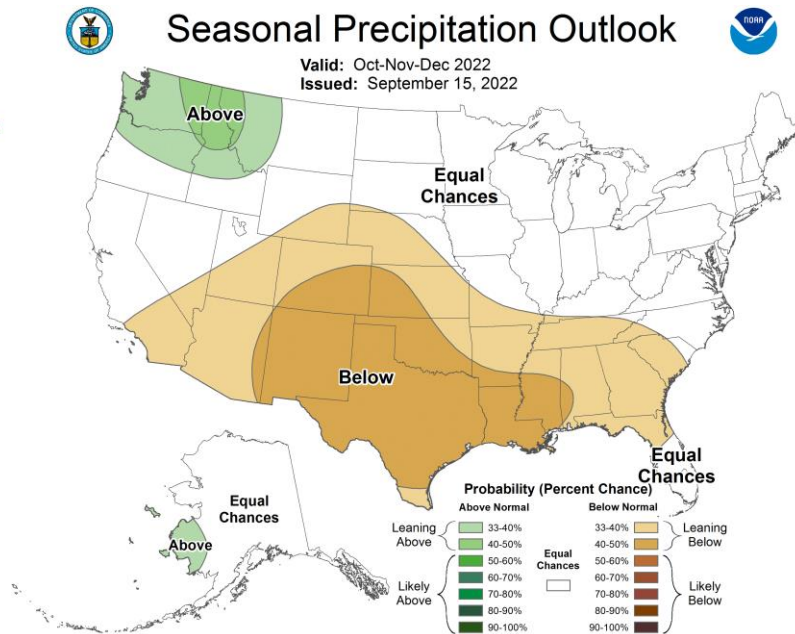
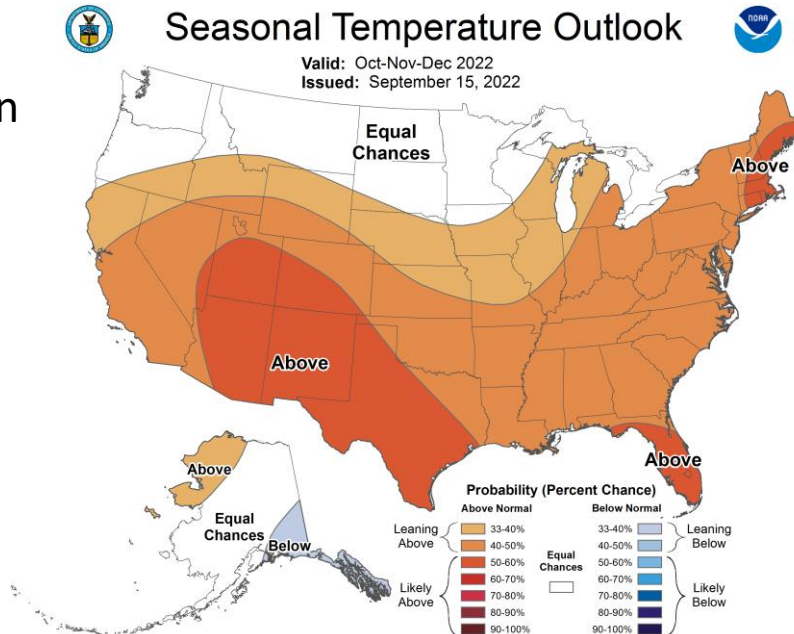
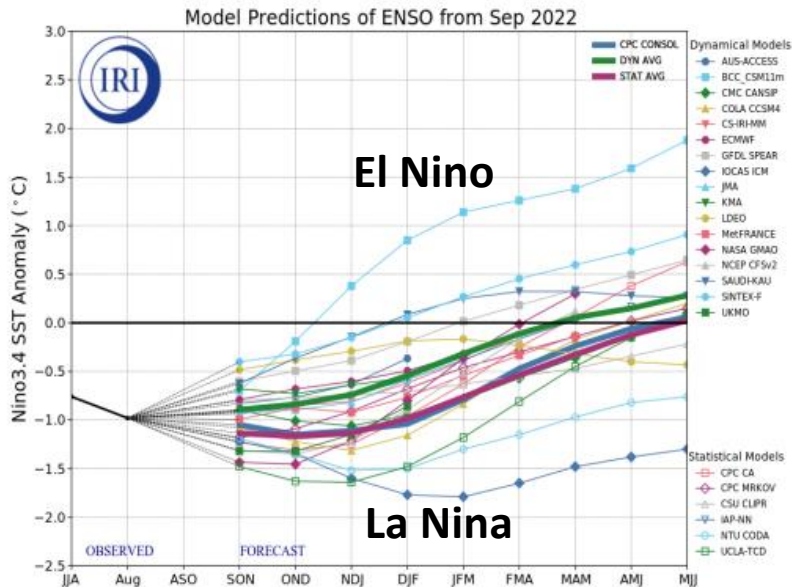
- 12 named storms typical by October 11
- 6 Hurricanes typical by October 15
- 2 Major Hurricane typical by September 19

Fall/Winter Outlook 2021 - 2022

La Nina continuing, but weakening

La Nina advisory in affect

La Nina winter = below normal precipitation for first half of season, normal precipitation for second half of season



Questions?

Figures available on hydrosnap.drbc.net



Photo: Delaware River
near Port Jervis, NY