

Delaware River Basin Commission

Hydrologic Conditions

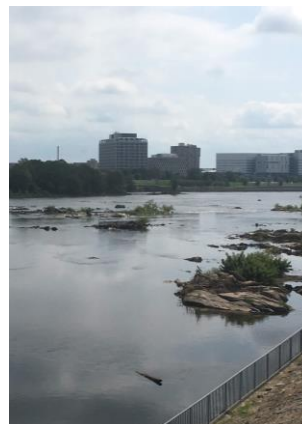
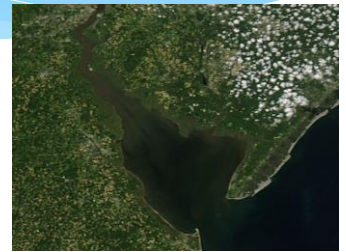
Anthony Preucil

Water Resource Scientist

Water Management Advisory Committee

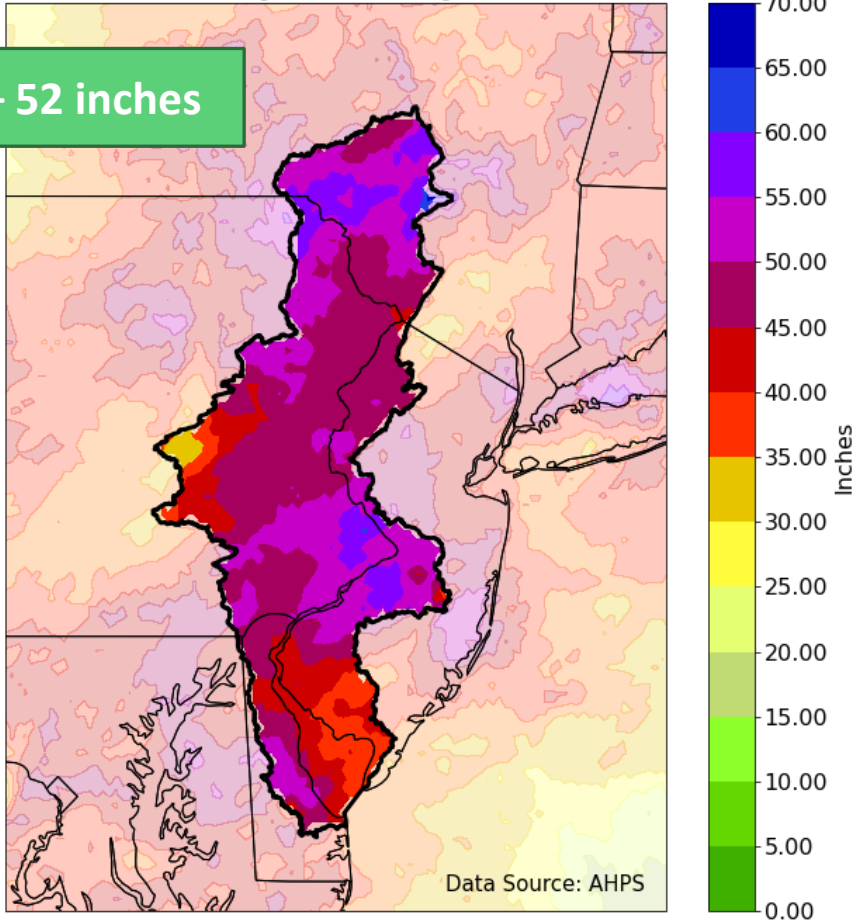
February 8, 2023

This presentation was given at the February 8, 2023, WMAC Meeting.
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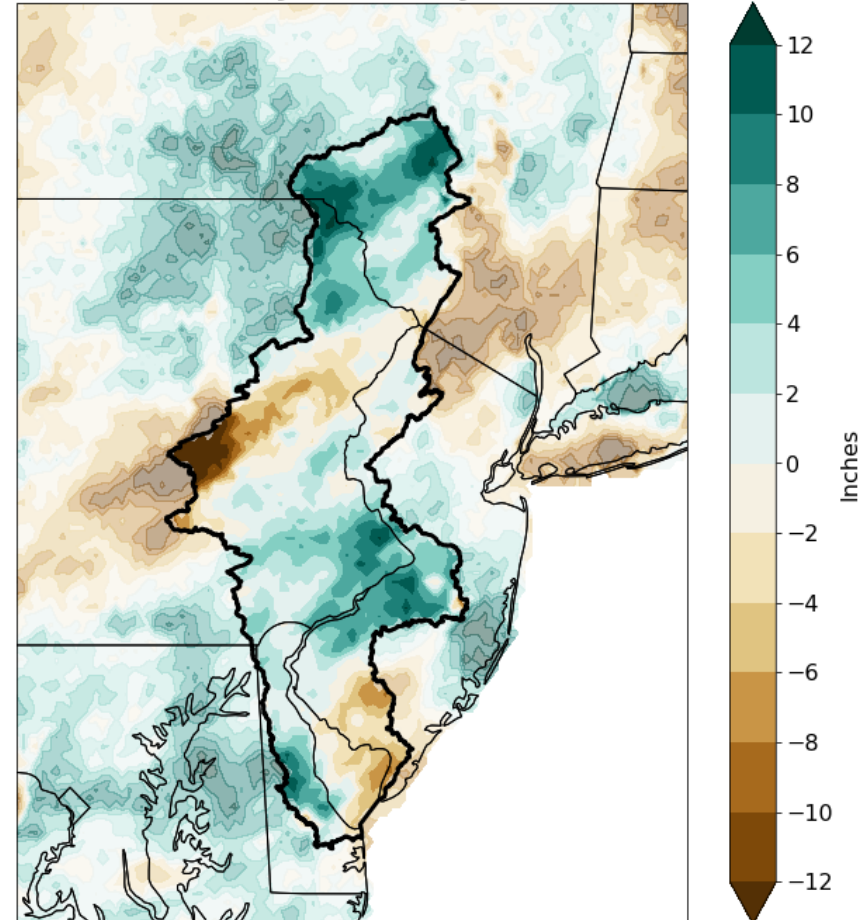
365 Day Precipitation

**Total Precipitation Accumulation
Last 365 Days (February 7, 2023)**



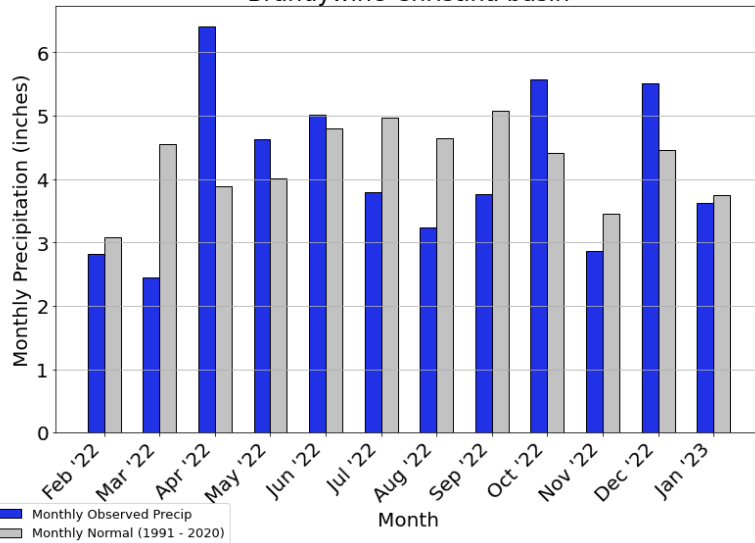
NORMAL: 45 – 52 inches

**Departure from Normal Precipitation
Last 365 Days (February 7, 2023)**

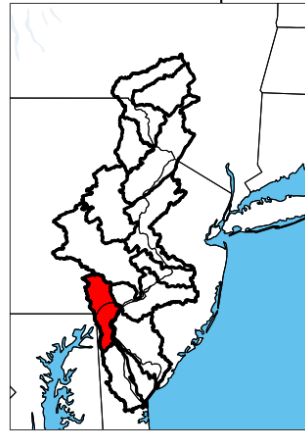


Precip by HUCs

Monthly and Normal Precipitation
Brandywine-Christina basin

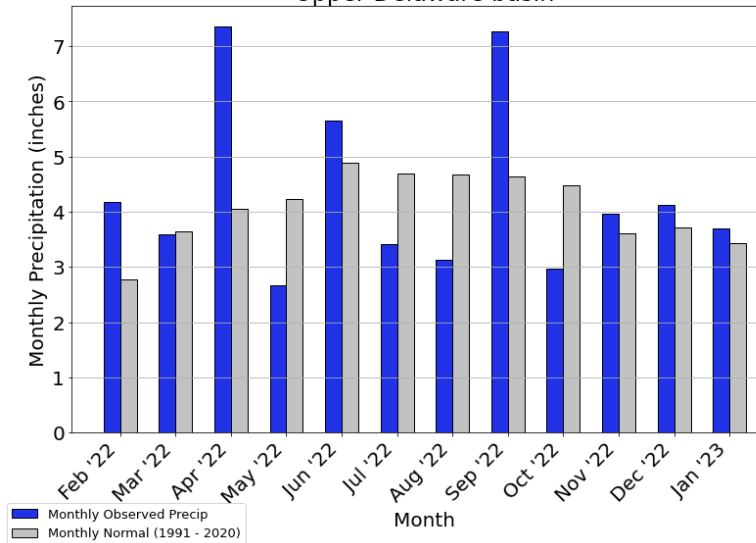


Locator Map

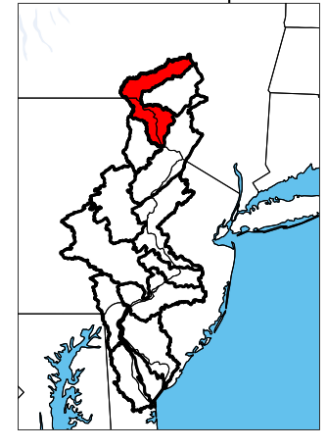


Source: ACIS, USGS HUC: 02040205
Monthly Normal is based of 6 stations in the Brandywine-Christina basin

Monthly and Normal Precipitation
Upper Delaware basin



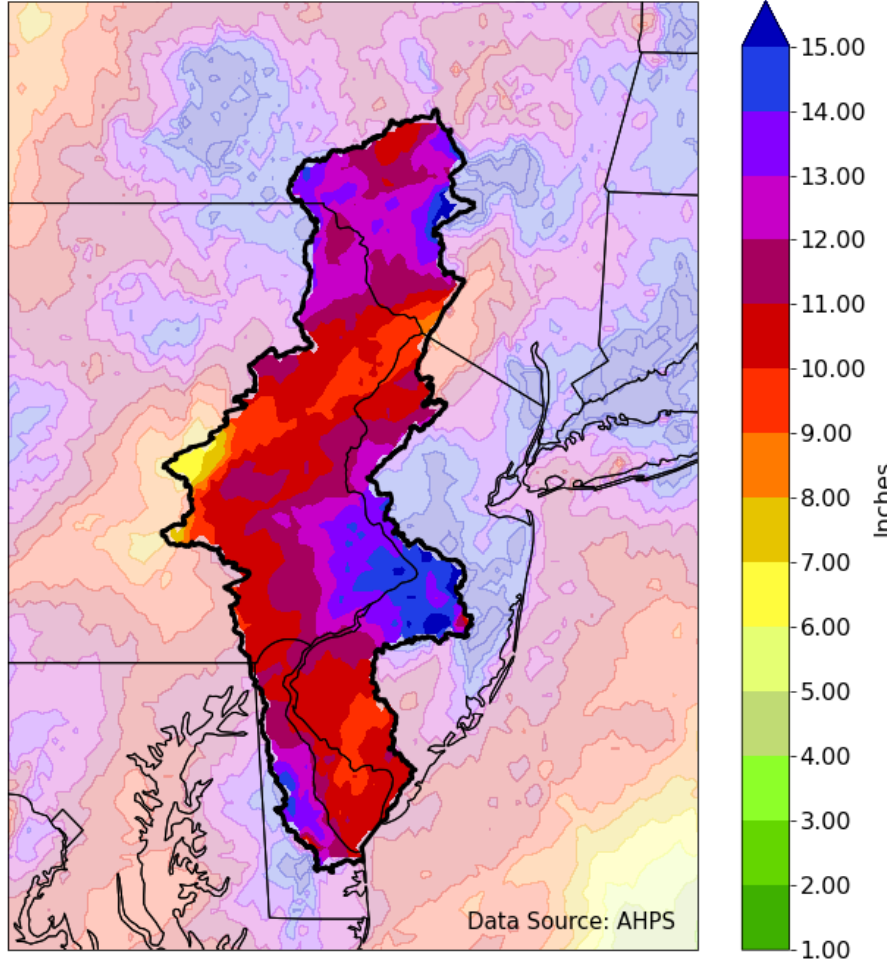
Locator Map



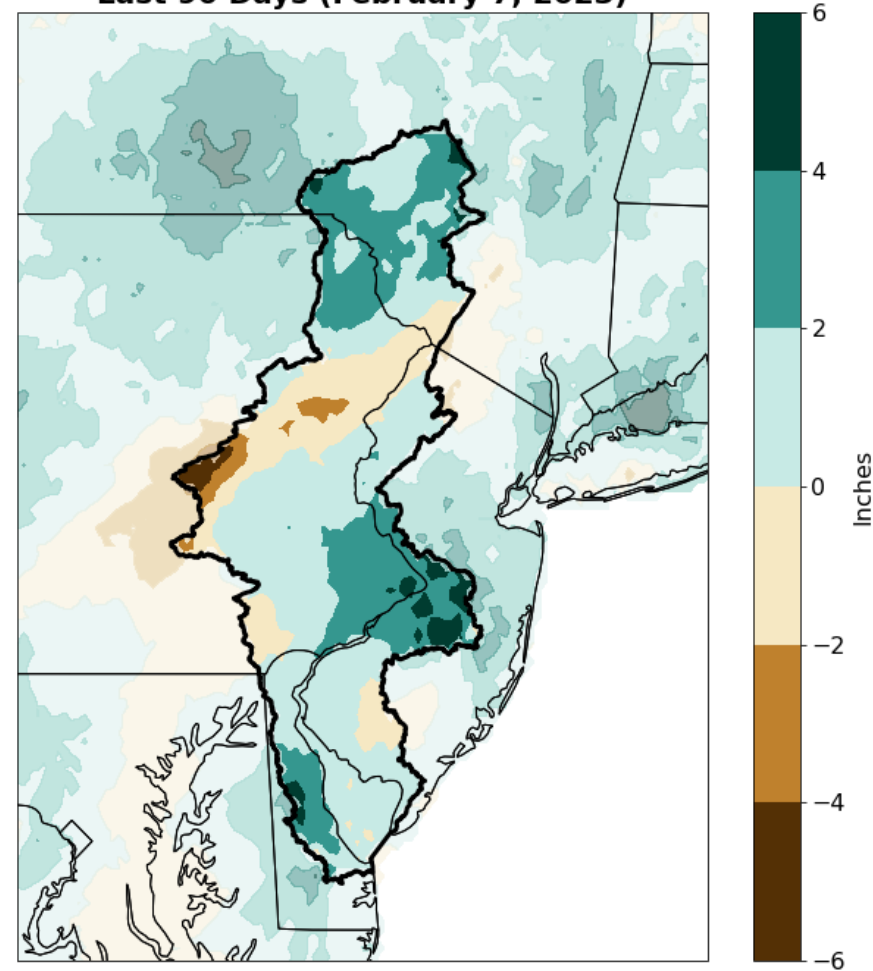
Source: ACIS, USGS HUC: 02040101
Monthly Normal is based of 4 stations in the Upper Delaware basin

90 Day Precipitation

**Total Precipitation Accumulation
Last 90 Days (February 7, 2023)**

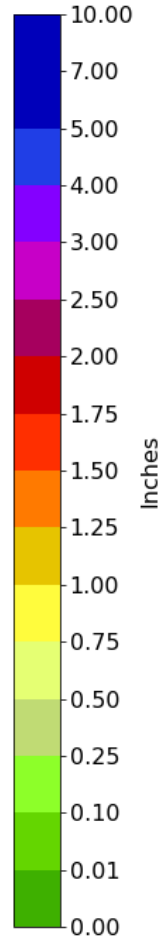
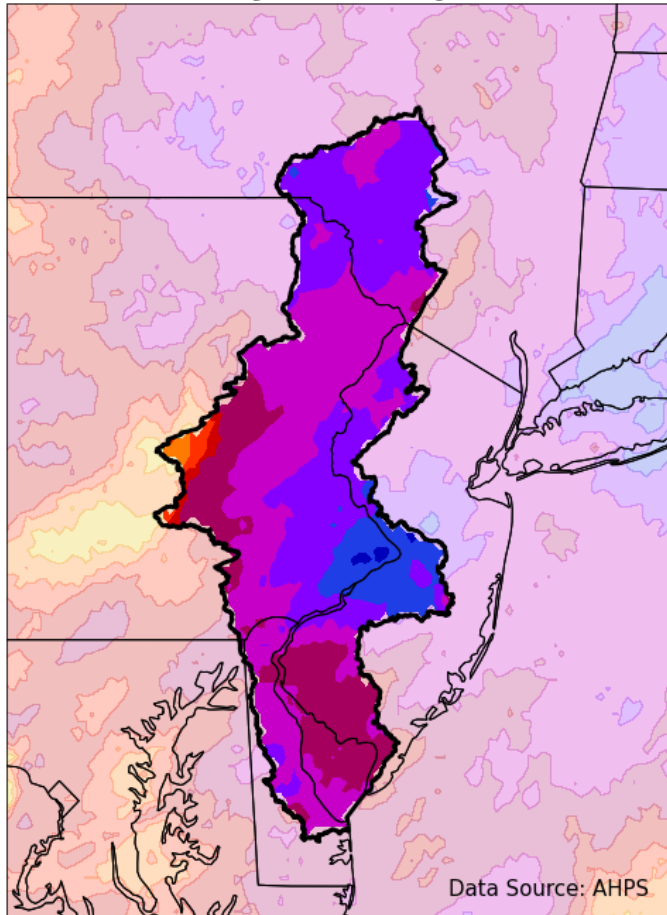


**Departure from Normal Precipitation
Last 90 Days (February 7, 2023)**



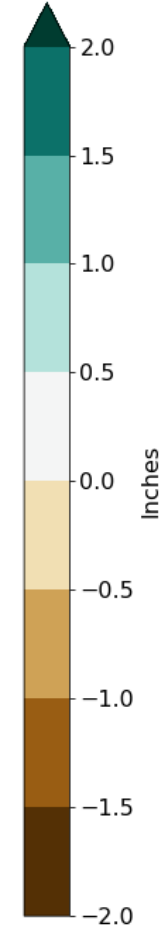
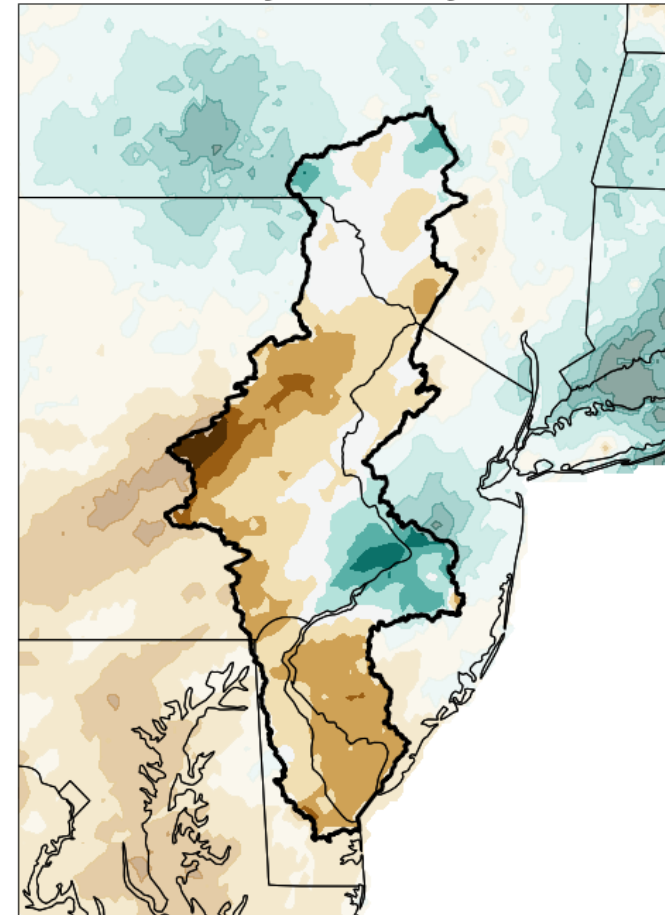
30 Day Precipitation

**Total Precipitation Accumulation
Last 30 Days (February 7, 2023)**

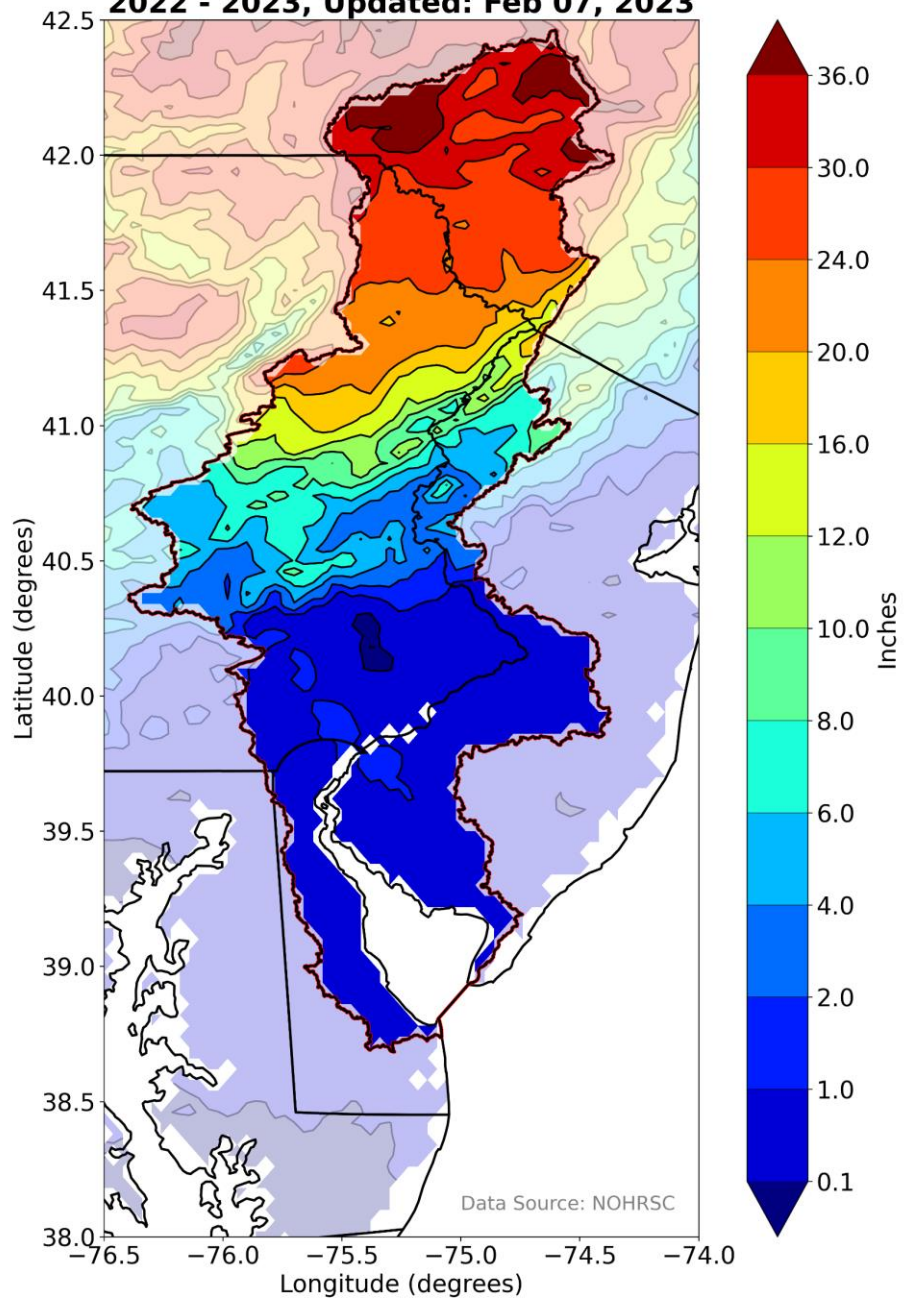


Data Source: AHPS

**Departure from Normal Precipitation
Last 30 Days (February 7, 2023)**



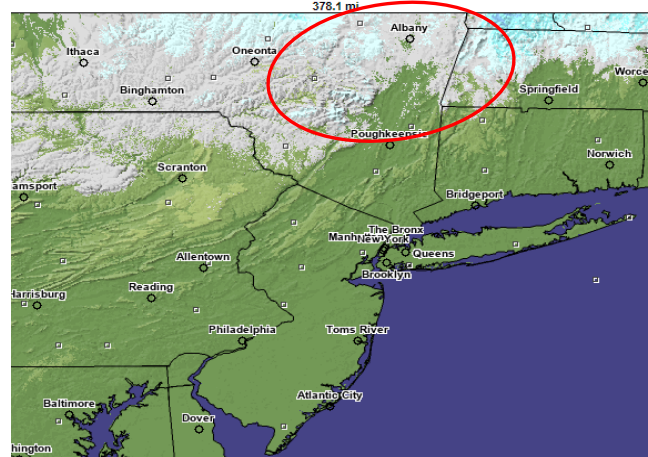
**Seasonal Snowfall in the DRB
2022 - 2023, Updated: Feb 07, 2023**



Snow

- Warmer than average temperature have led to little to no snow accumulation in the lower basin
- Snowfall is below normal in the upper basin

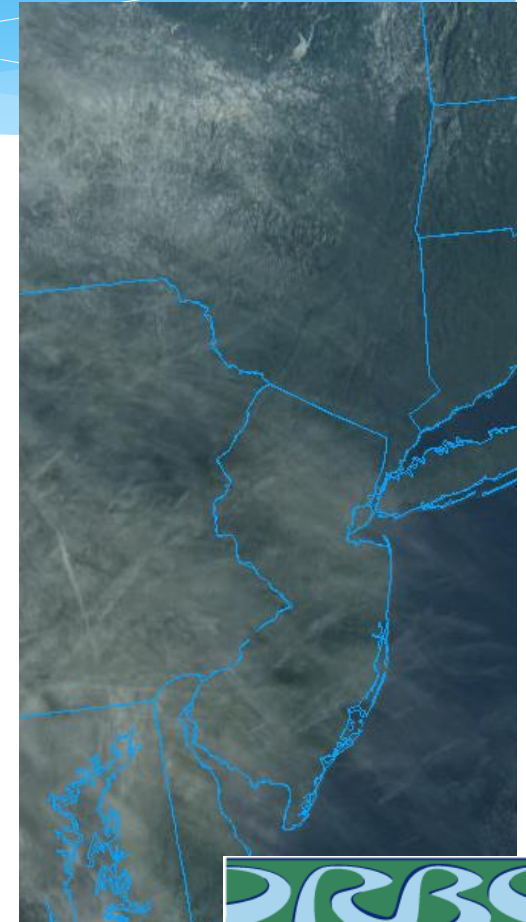
Modeled Snow Water Equivalent forecasted for 2023 February 7, 12:00 UTC



Inches of water equivalent



Data: NOHRSC











Winter Photo Break



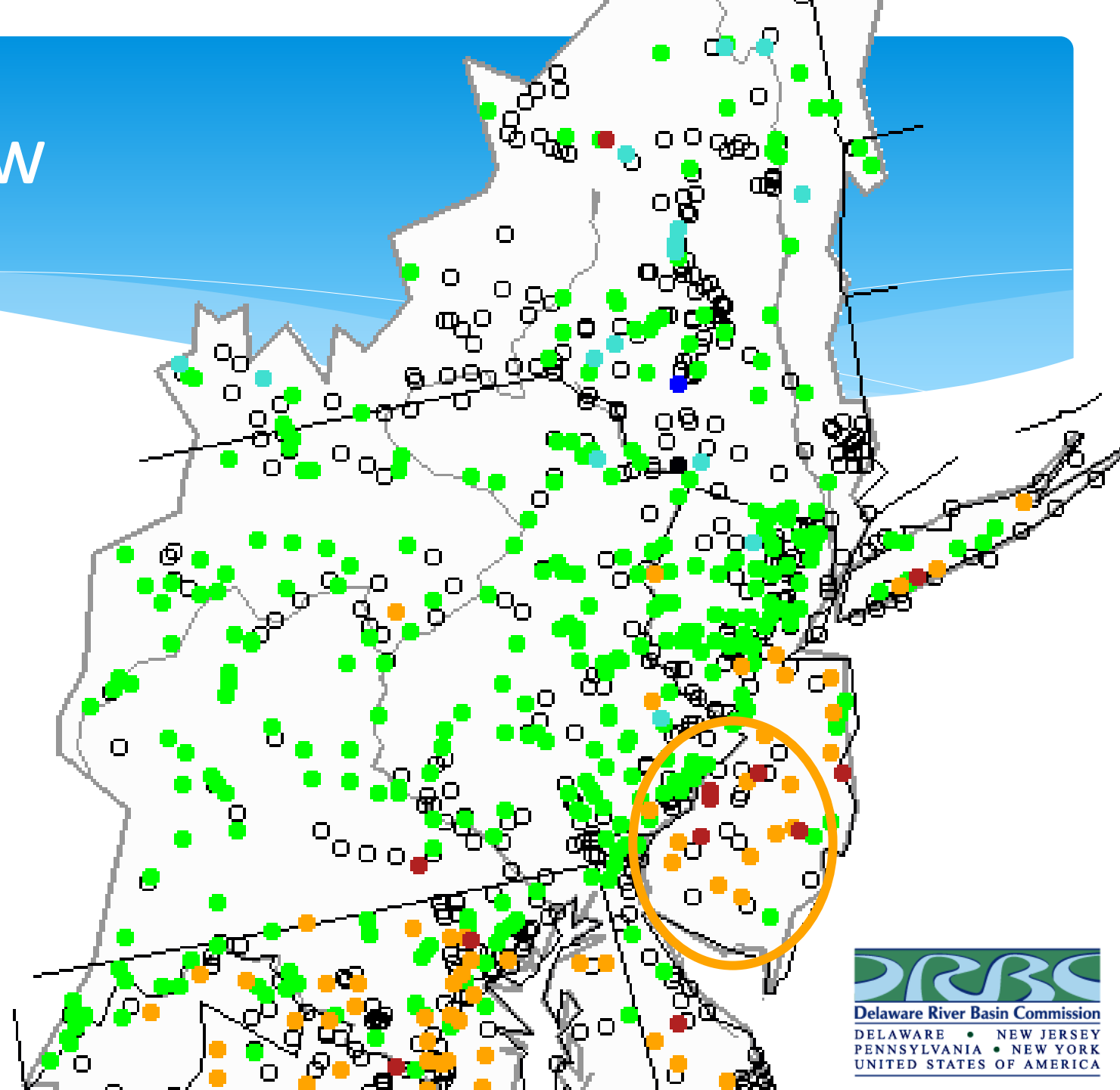
Steve Tambini
Elaine Panuccio
Eric Engle

Streamflow

Explanation - Percentile classes

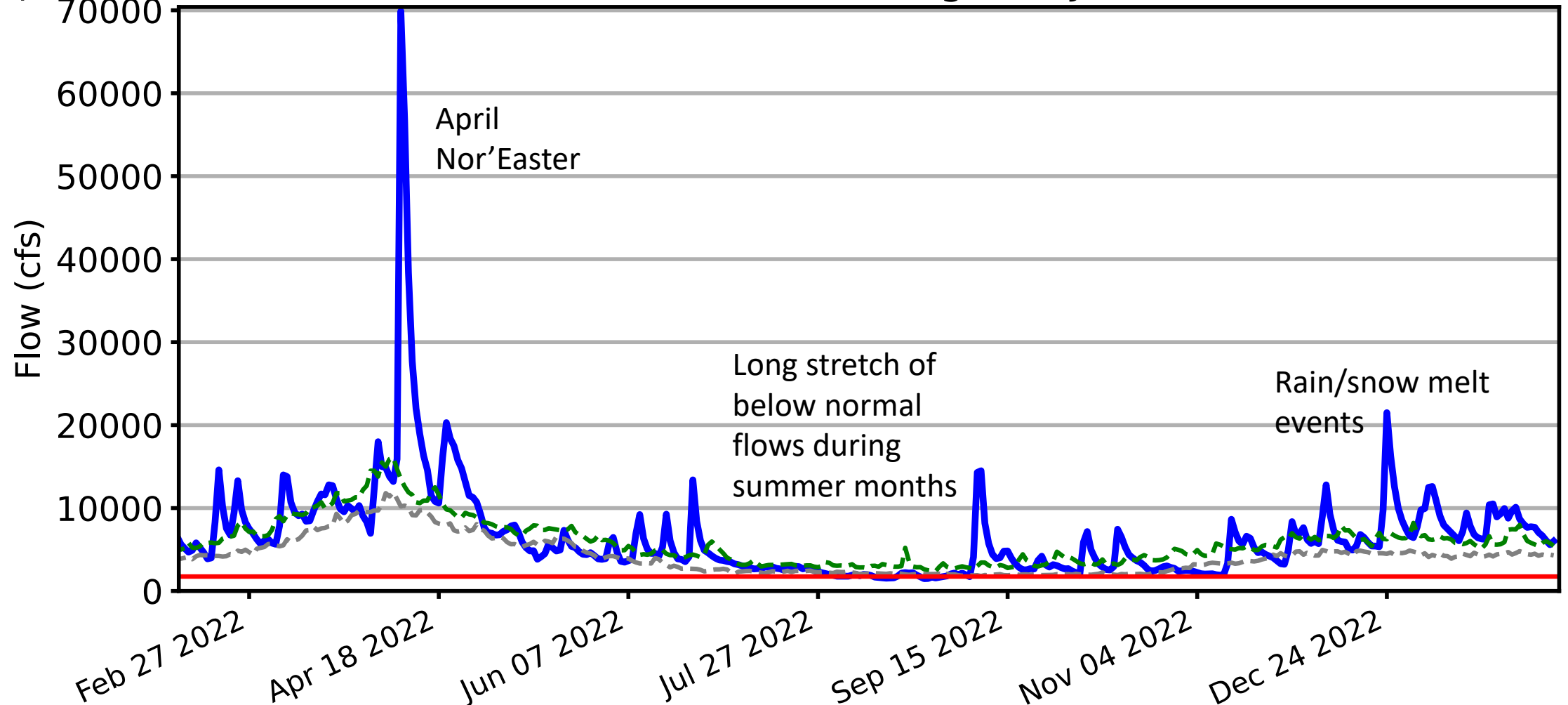
| | | | | | | | |
|--|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| Low | <10 Much below normal | 10-24 Below normal | 25-75 Normal | 76-90 Above normal | >90 Much above normal | High | Not-ranked |

Map last updated: 7:50 AM
February 8, 2022



Updated: 2023-02-07 10:32

Flow at Montague, NJ

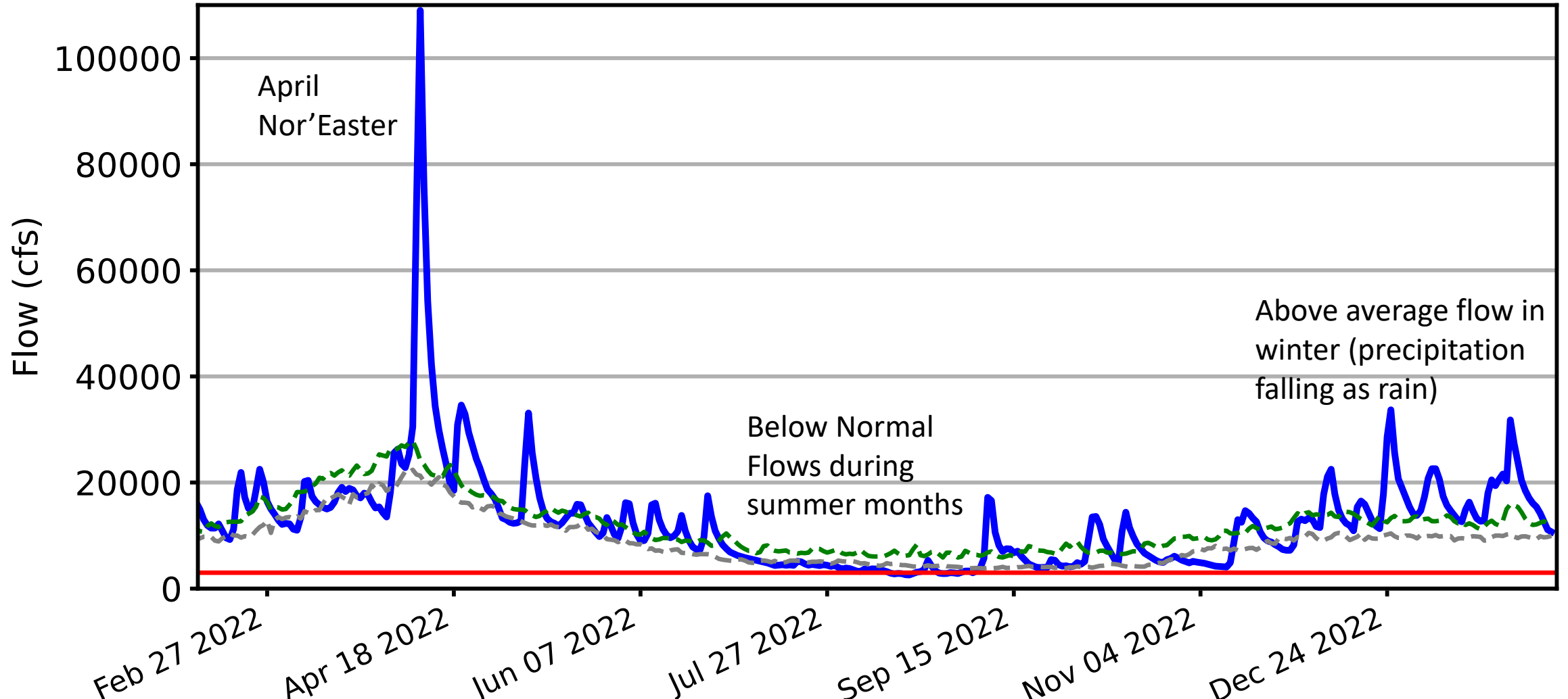


Data Source: USGS



Updated: 2023-02-07 10:32

Flow at Trenton, NJ

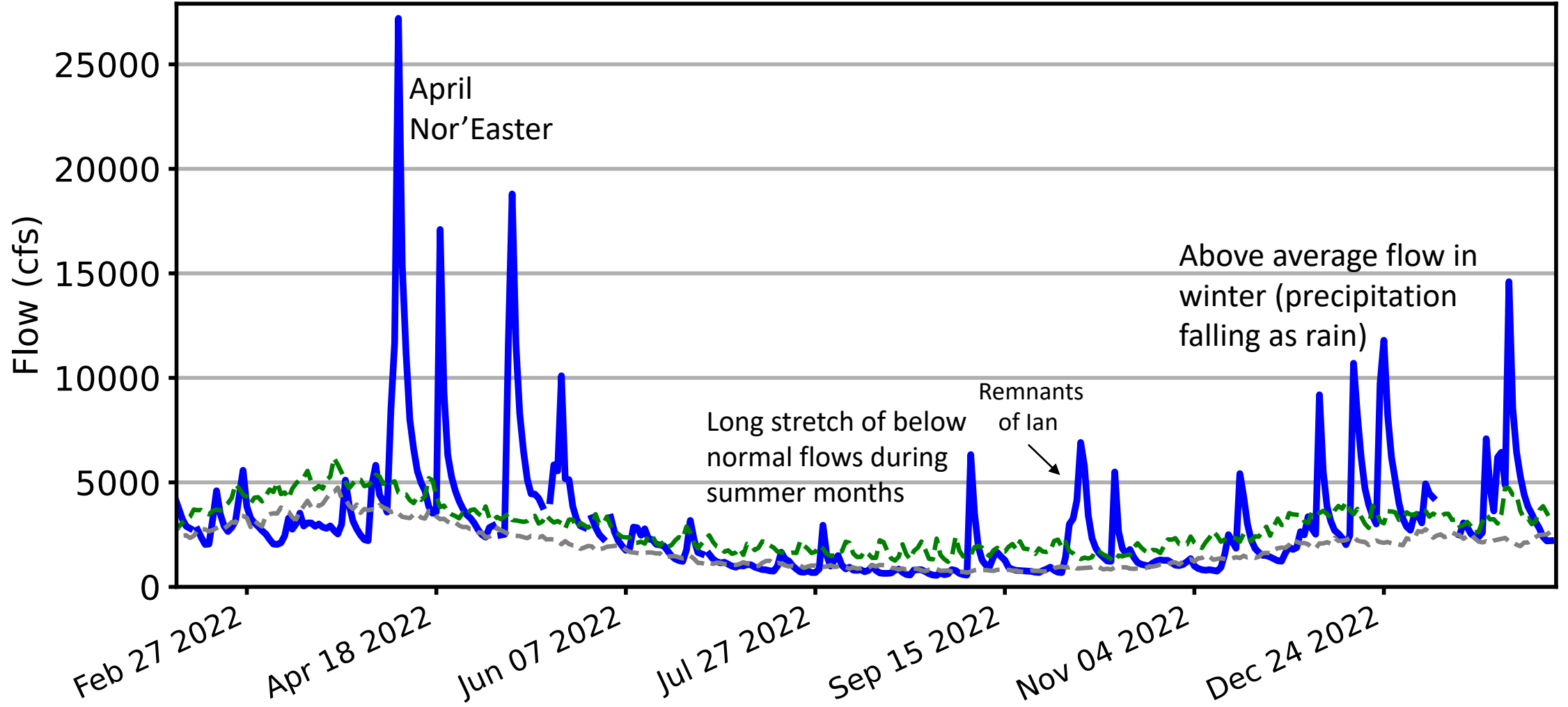


Data Source: USGS



Updated: 2023-02-07 10:32

Flow at Philadelphia, PA

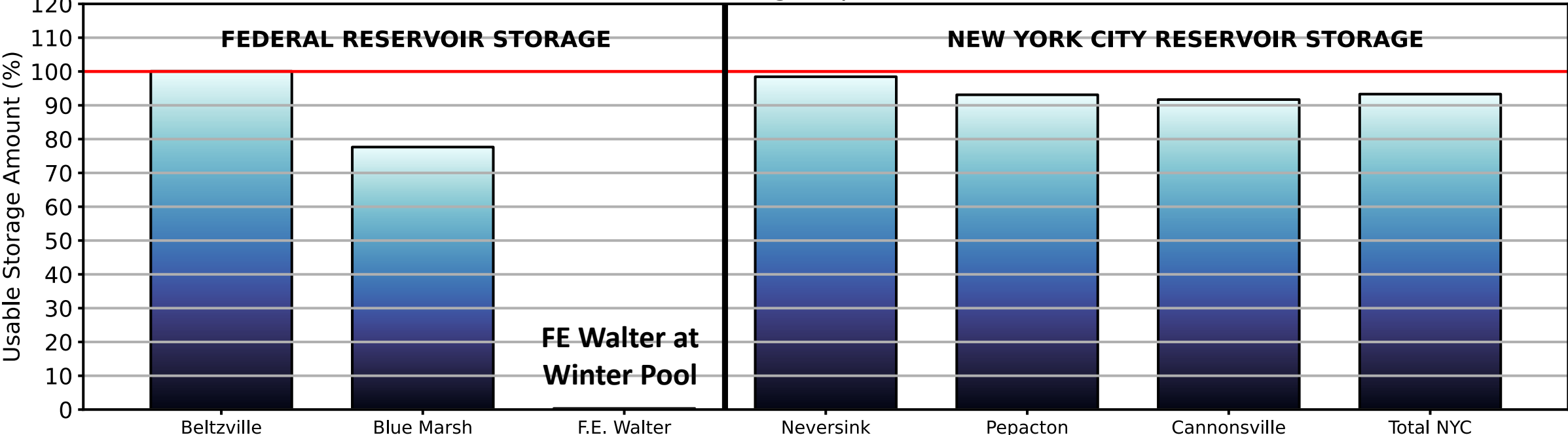


Data Source: USGS



Basin Storage

Usable Reservoir Storage, updated 2023-02-08 08:18




FE Walter at Winter Pool

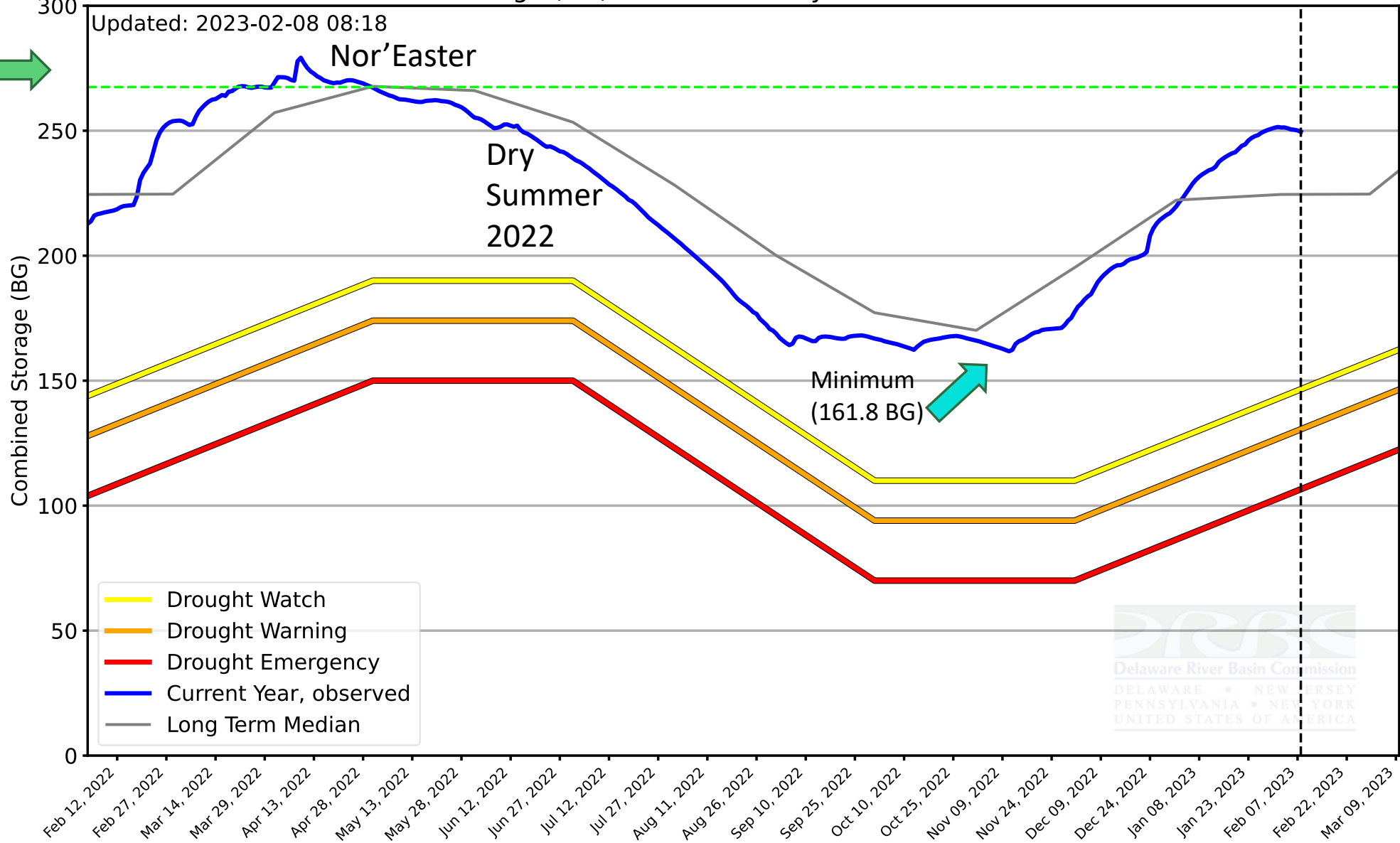
*** Storage below lowest outlet (pipe) is not taken into account ***



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

Updated: 2023-02-08 08:18

Full (267.4 BG) 



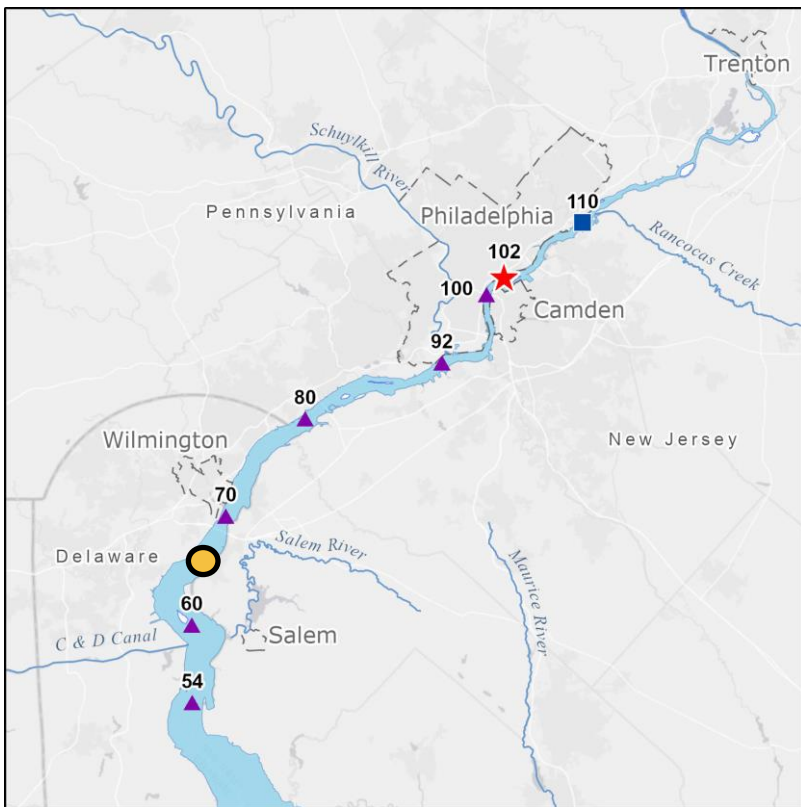
- Drought Watch
- Drought Warning
- Drought Emergency
- Current Year, observed
- Long Term Median



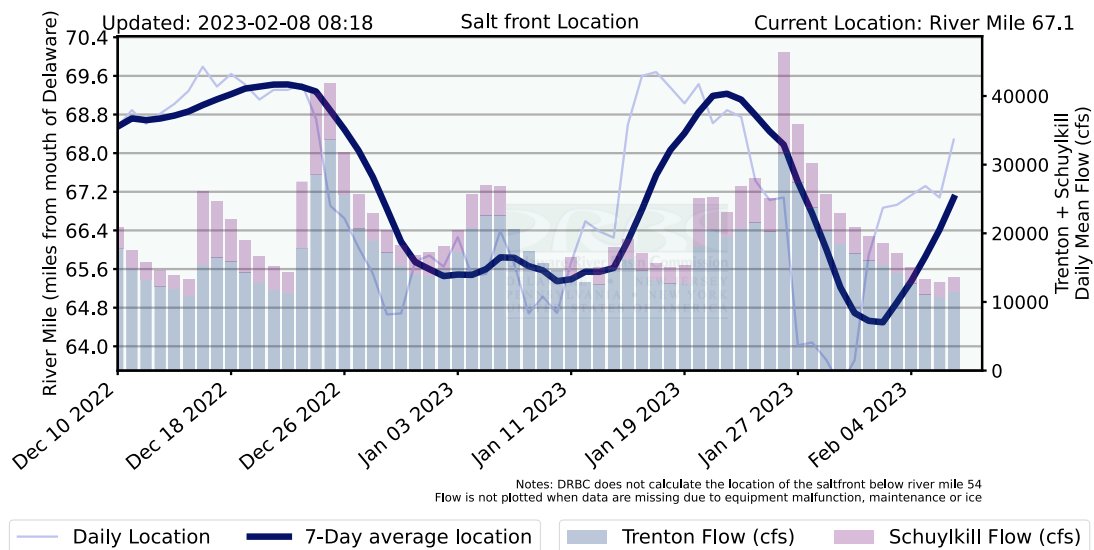
| Usable Storage | Cannonsville | Pepacton | Neversink | Total | BG above drought watch = 103.0 | BG above median = 25.0 |
|----------------|--------------|----------|-----------|-------|----------------------------------|------------------------------|
| BG | 85.7 | 129.7 | 34.2 | 249.6 | BG above drought warning = 119.0 | BG above one year ago = 32.0 |
| % | 91.7 | 93.1 | 98.4 | 93.3 | BG above drought = 143.0 | |

Salt Front

Current Location: Near Pennsville, NJ



● = current location



Chlorides

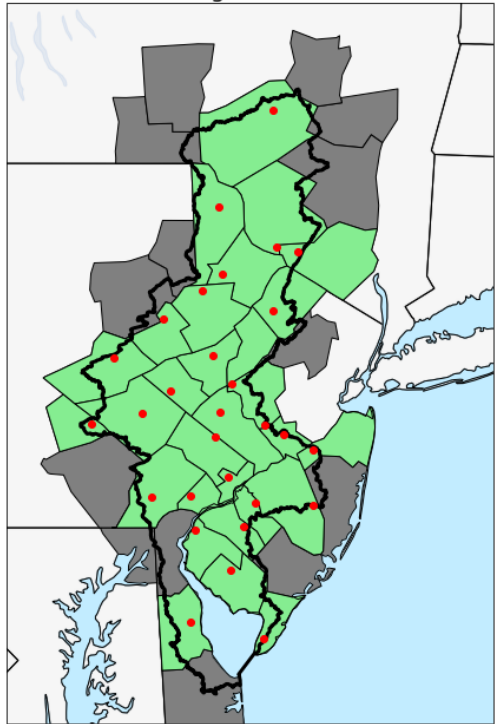
7-Day Average RM Location of 250 mg/L

Current (02/08/2023): 67.1
February Median: 67

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

Groundwater Conditions

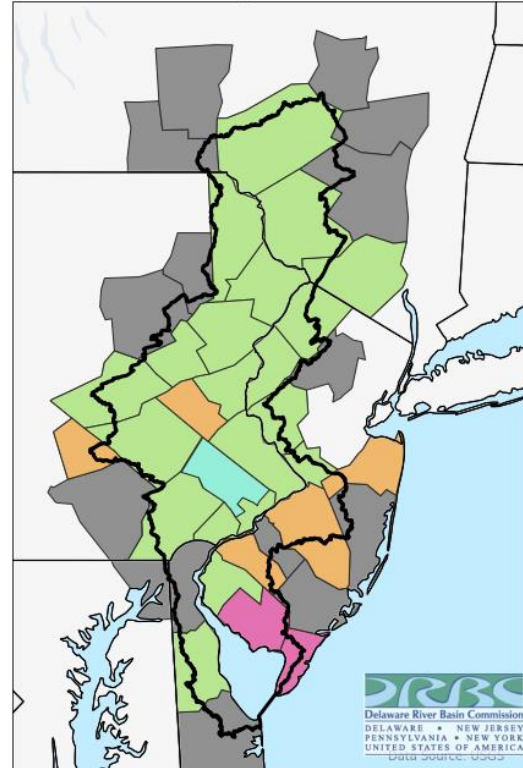
Location of groundwater wells



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

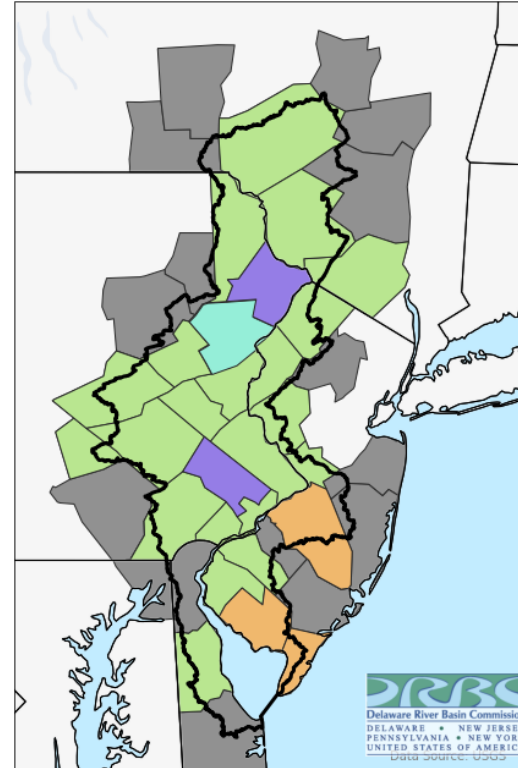
Wells chosen based on location and length of record

Groundwater Ranking on December 06, 2022



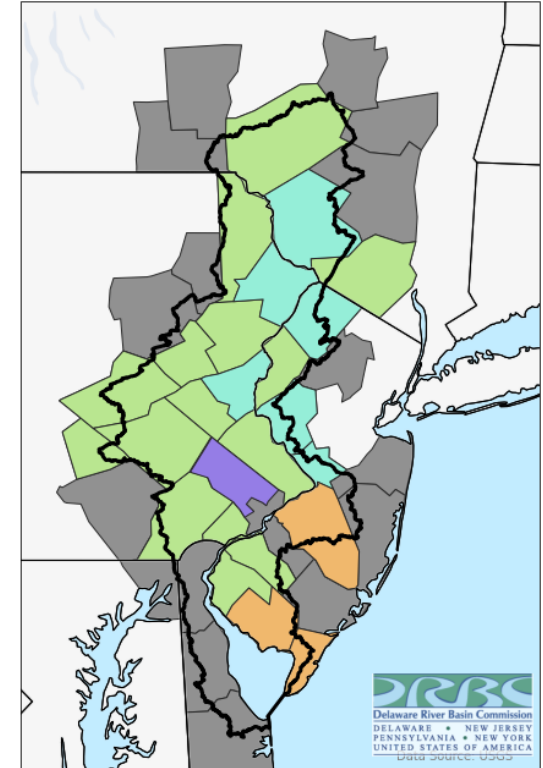
- Basin Boundary
- Much Above Normal
- Above Normal
- Normal
- Below Normal
- Much Below Normal
- Data unavailable

Groundwater Ranking on January 06, 2023



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

Groundwater Ranking on February 06, 2023



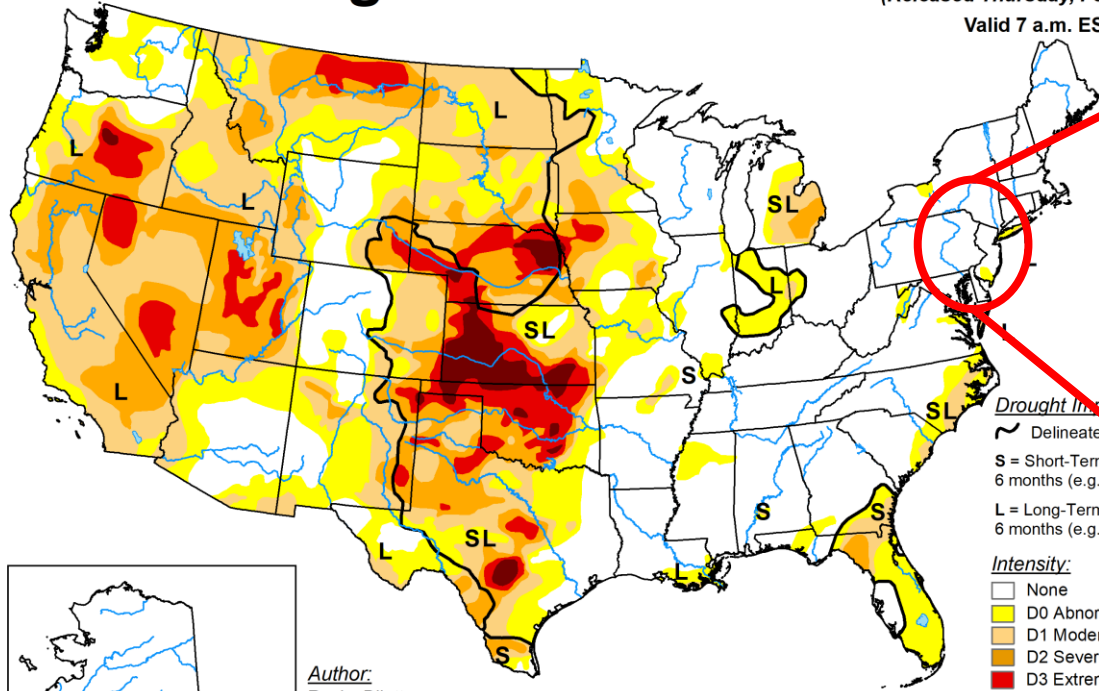
- Basin Boundary
- Much Above Normal
- Above Normal
- Normal
- Below Normal
- Much Below Normal
- Data unavailable



Drought Monitor

U.S. Drought Monitor

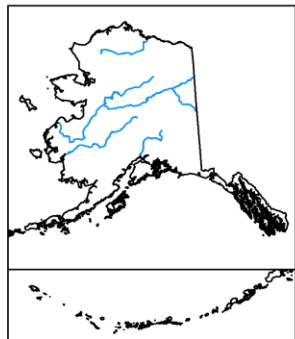
January 31, 2023
 (Released Thursday, Feb. 2, 2023)
 Valid 7 a.m. EST



Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

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:
 Rocky Bilotta
 NCEI/NOAA



droughtmonitor.unl.edu

Drought Monitor
 Valid: Jan 31, 2023



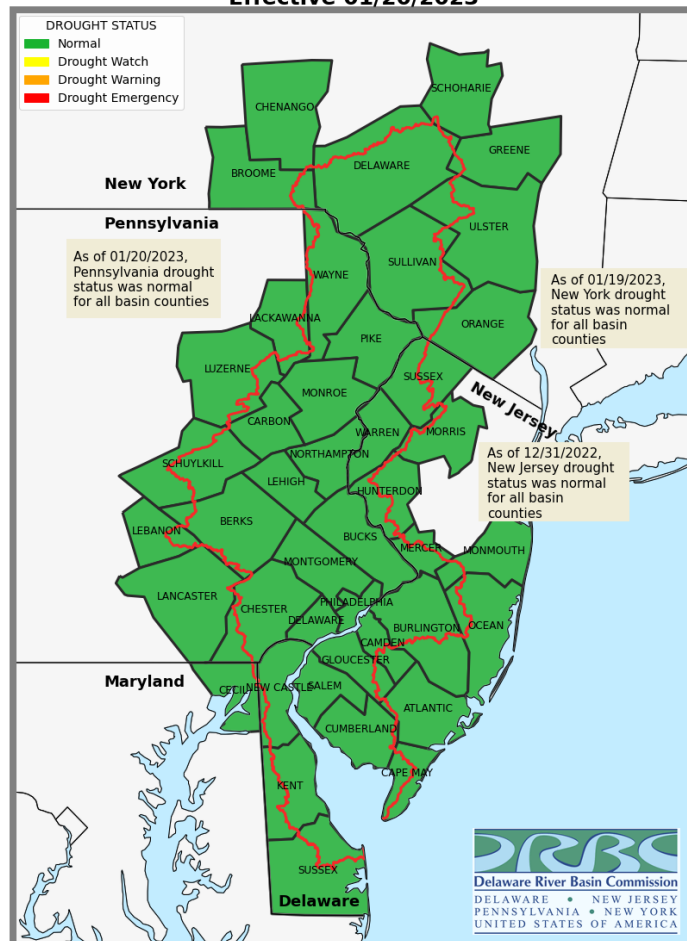
Data Source: NOAA



- 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 01/20/2023**

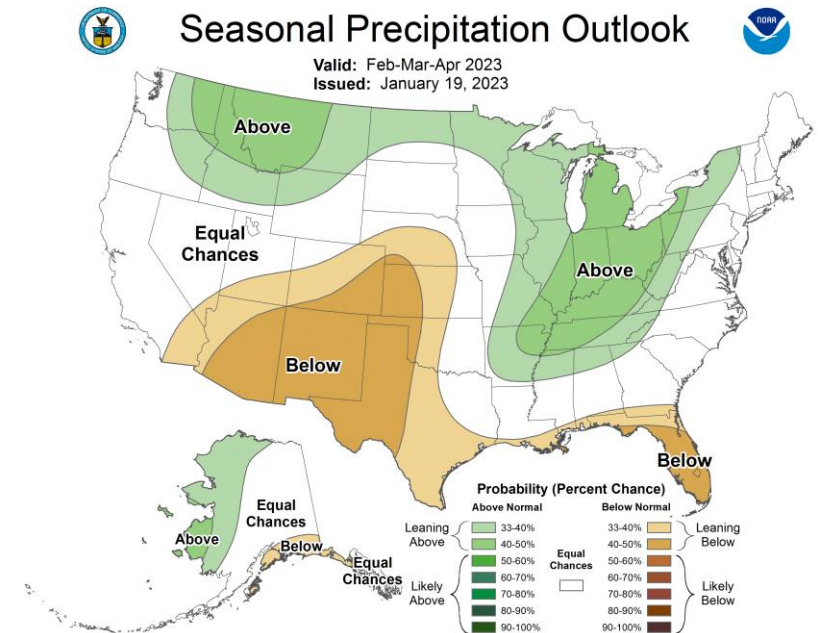
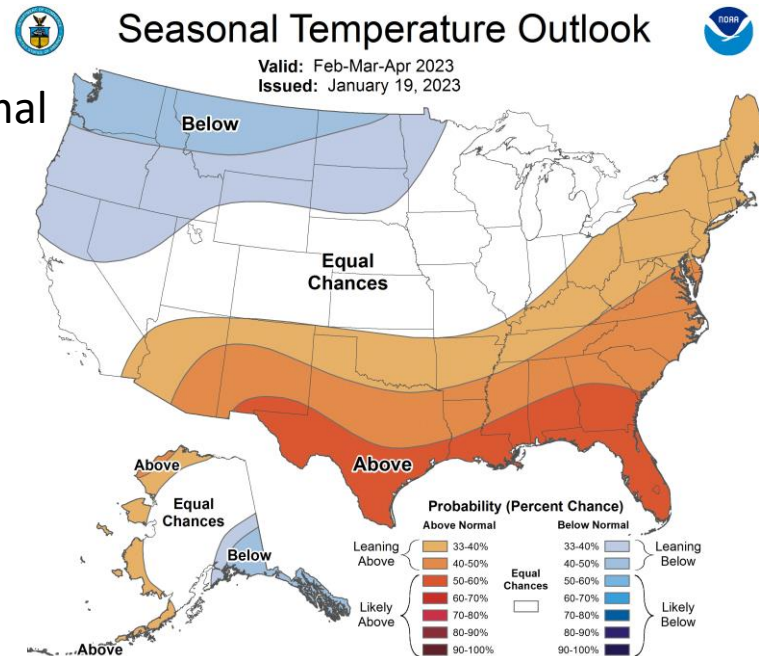
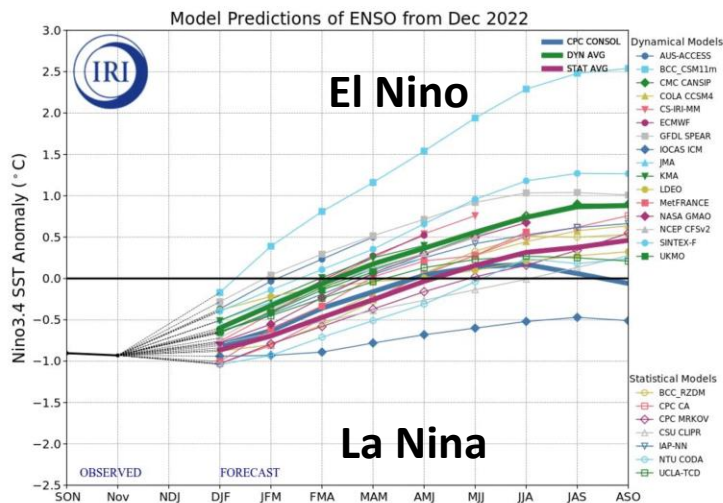


- DRB Drought Status is normal
- DRB States declared droughts for several counties in summer 2022.
- New Jersey lifted the drought watch on December 31, 2022
- New York drought status returned to normal on January 19, 2023
- Pennsylvania drought status was returned to normal for remaining counties on January 20, 2023.

Winter/Spring Outlook 2023

Transition to ENSO-Neutral expected

- La Nina advisory in affect
- **La Nina winter** = below normal precipitation for first half of season, normal precipitation for second half of season
- **ENSO-Neutral spring** = Average Precipitation



Data Sources: NOAA, CPC

Questions?

Figures available on hydrosnap.drbc.net



Photo: Lehigh River
below FE Walter Dam