

Delaware River Basin Commission

Hydrologic Conditions

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Water Resource Scientist

Water Management Advisory Committee

February 17, 2022

Presented to an advisory committee of the DRBC on February 17, 2022. Contents should not be published or re-posted in whole or in part without permission of DRBC.

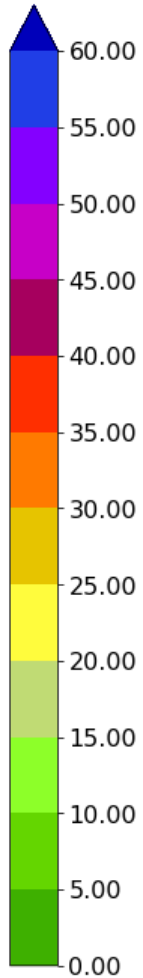
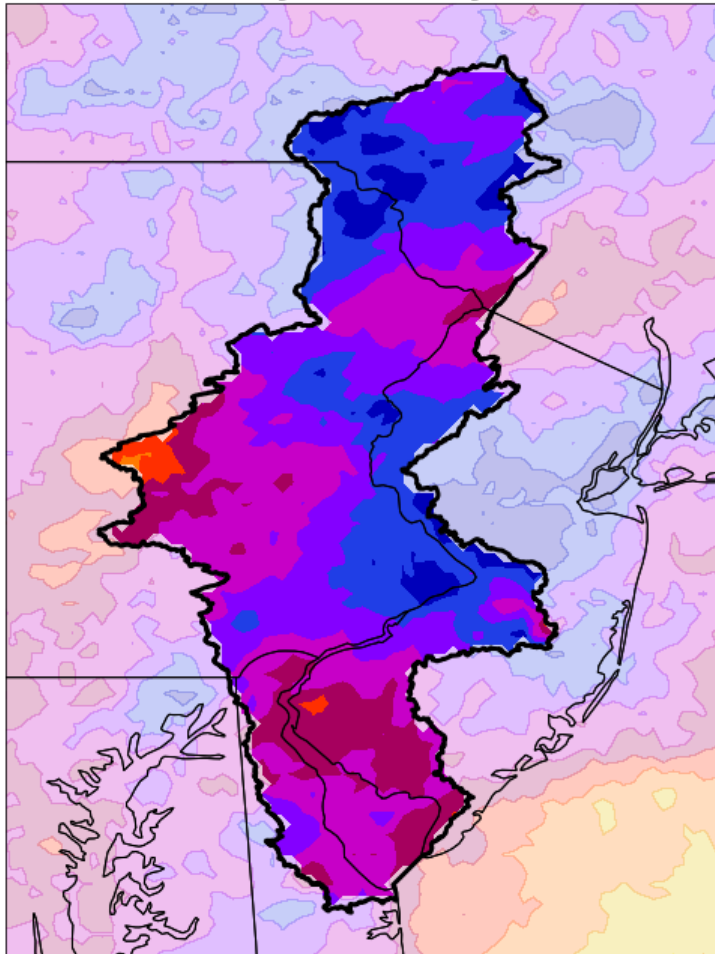


Delaware River Basin Commission

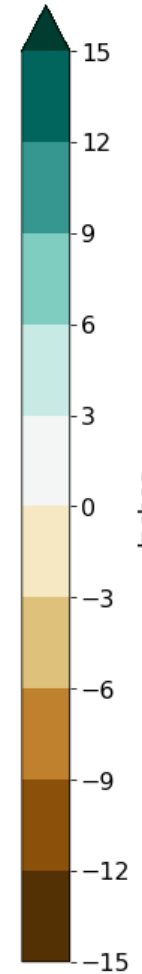
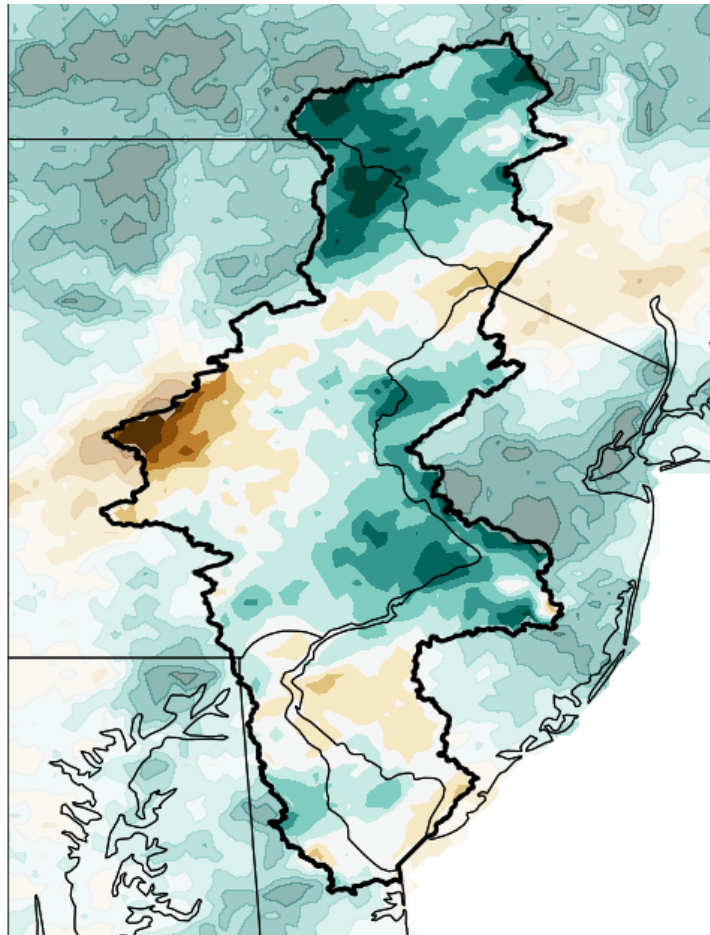
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

365 Day Precipitation

**Total Precipitation Accumulation
Past 365 days: February 16, 2022**

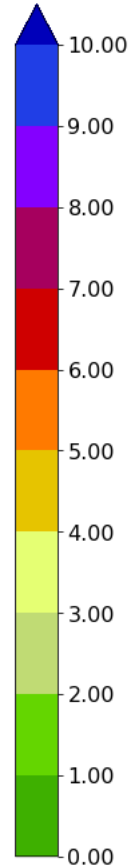
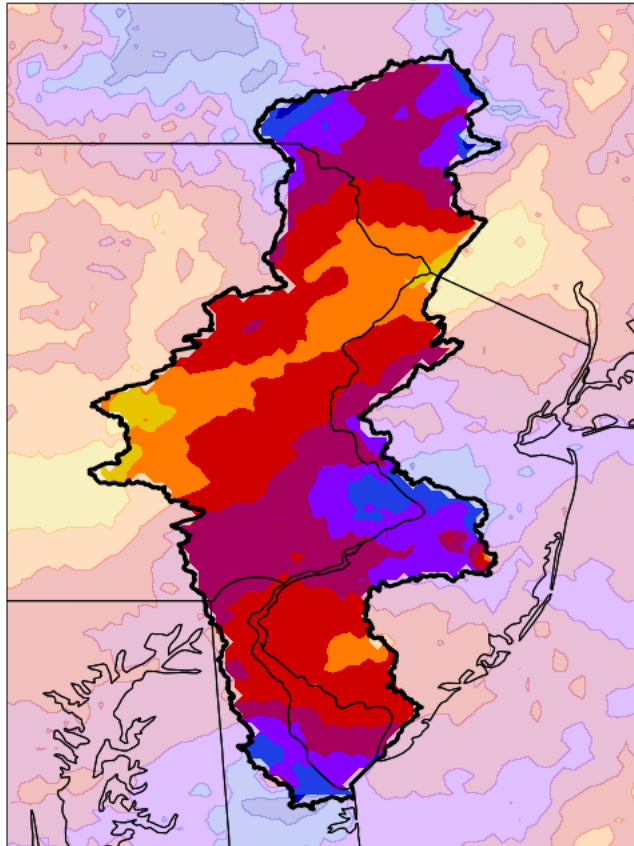


**Departure from Average
Past 365 days: February 16, 2022**

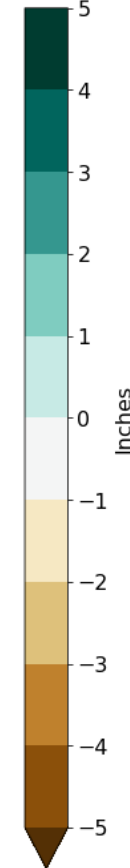
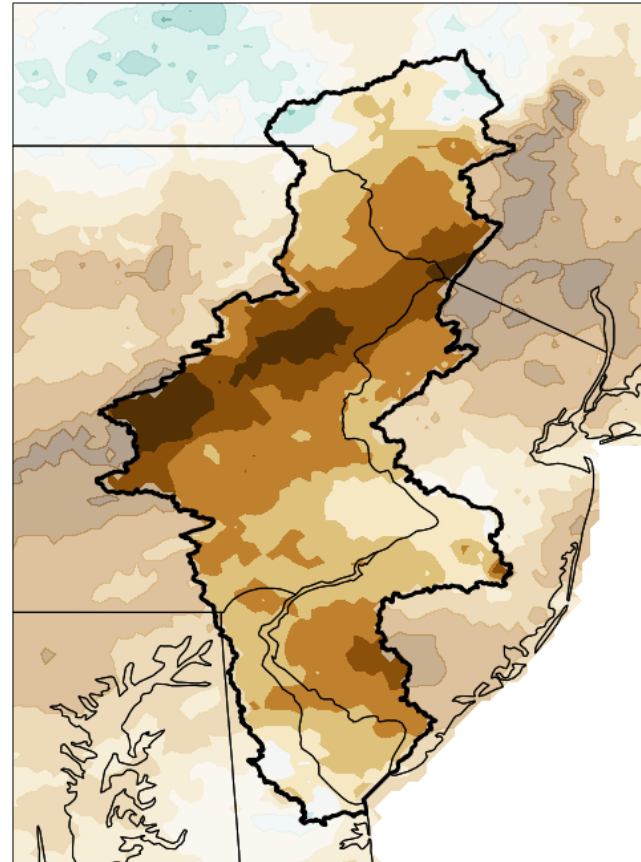


90 Day Precipitation

Total Precipitation Accumulation
Past 90 days: February 16, 2022

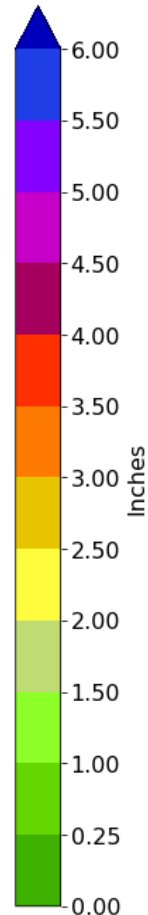
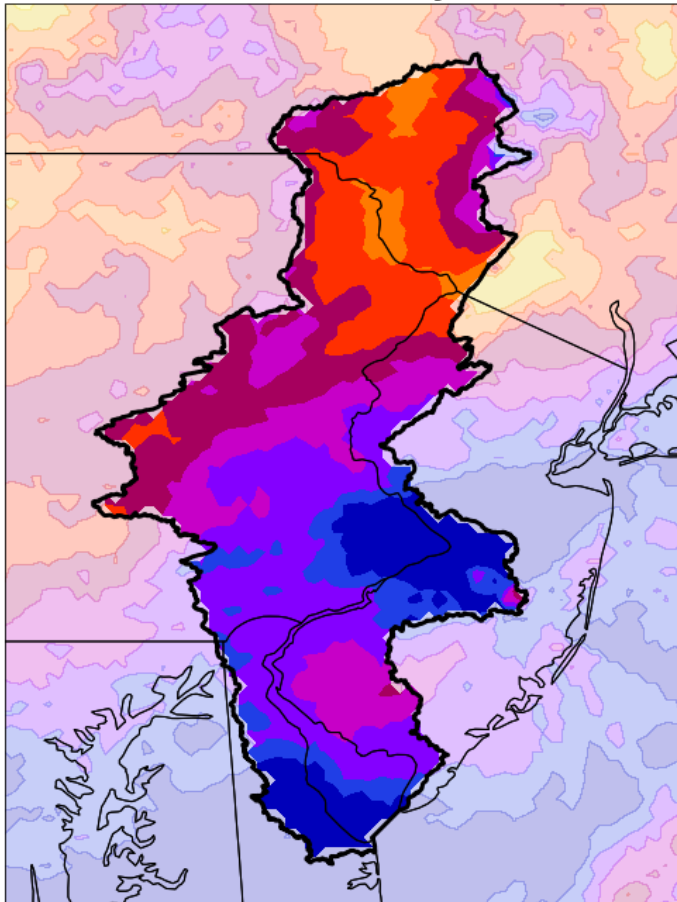


Departure from Normal Precipitation
Past 90 days: February 16, 2022

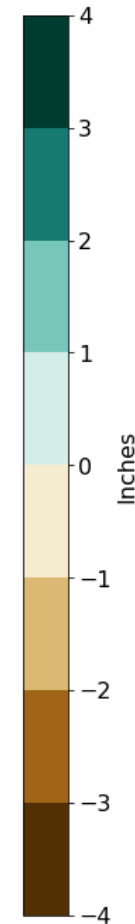
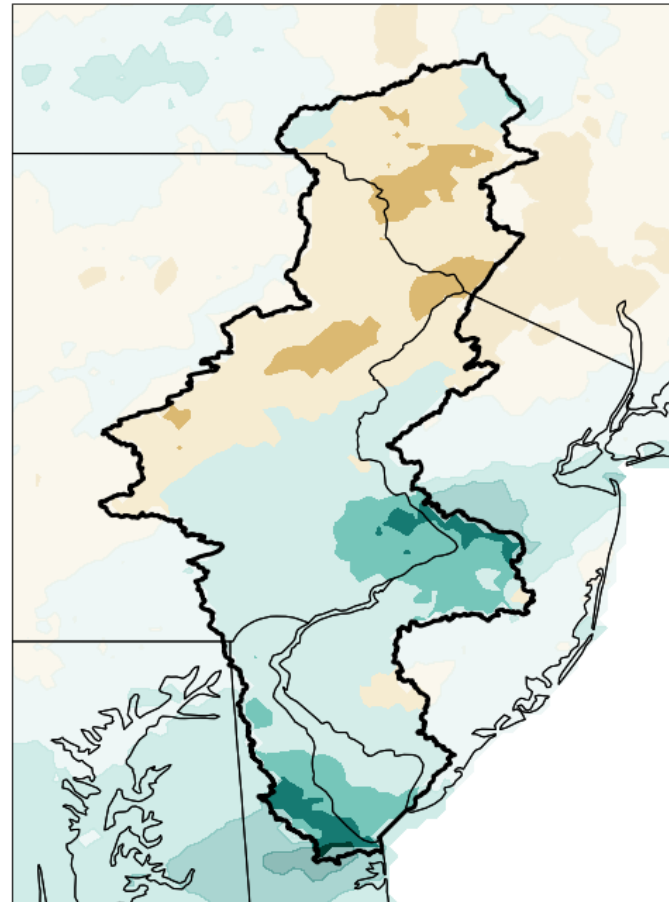


Year to Date Precipitation

Total Precipitation Accumulation
Year-to-Date: February 16, 2022

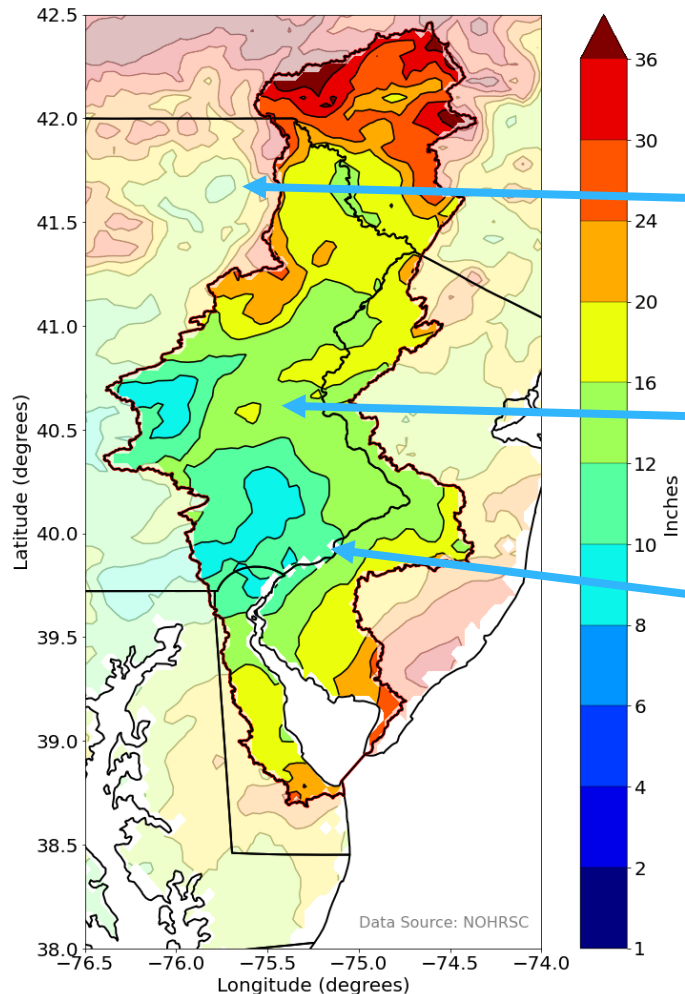


Departure from Normal Precipitation
2022 Year-to-Date



Winter 2021-2022

2021-2022 Seasonal Snowfall in the DRB
As of February 16, 2022



- * Snowfall compared to normal

- * Scranton Airport, PA

- * 2021-2022: 13.8 inches

- * Seasonal Average: 43.7 inches (1948 – 2019)

- * Allentown-Lehigh Airport, PA

- * 2021-2022: 14.0 inches

- * Seasonal Average: 32.8 inches (1945 – 2019)

- * Philadelphia International Airport, PA

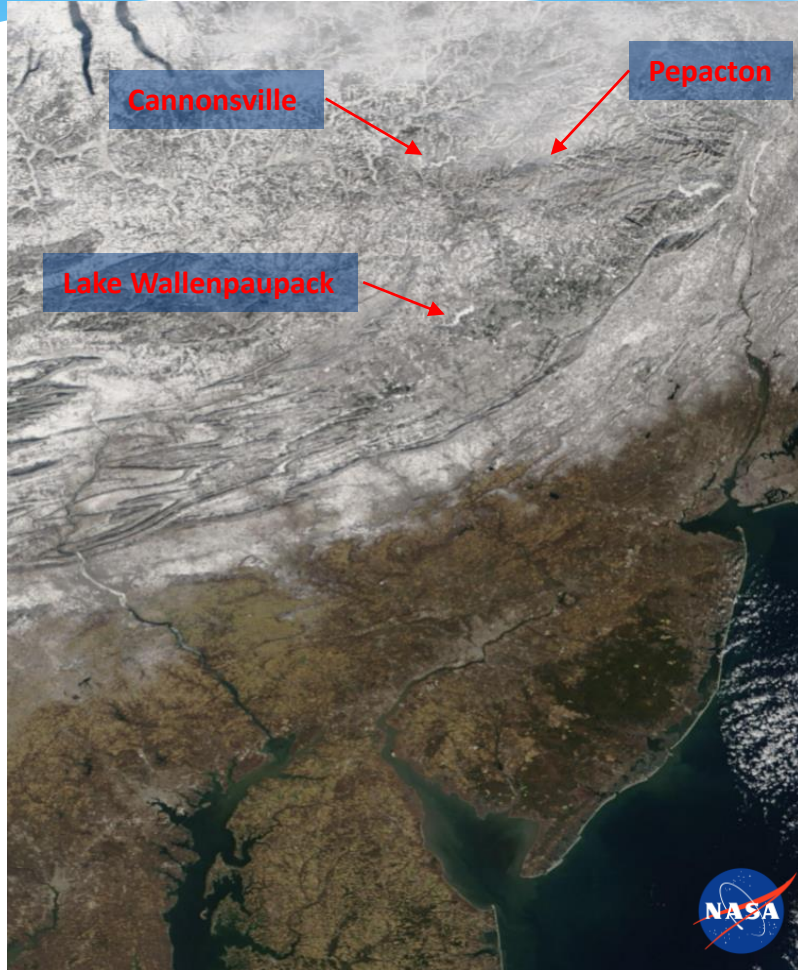
- * 2021-2022: 12.5 inches

- * Seasonal Average: 22.2 inches (1940 – 2019)

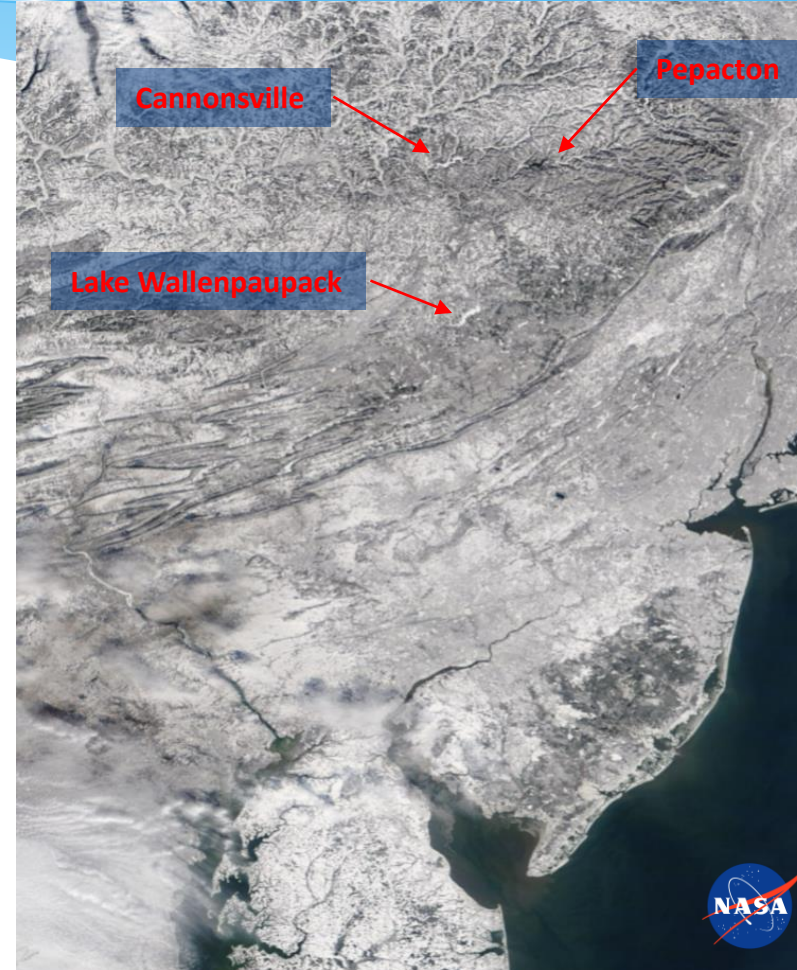
Data Sources: NOHRSC, ACIS

Basin Completely Snow-Covered

January 25, 2022











January 30, 2022



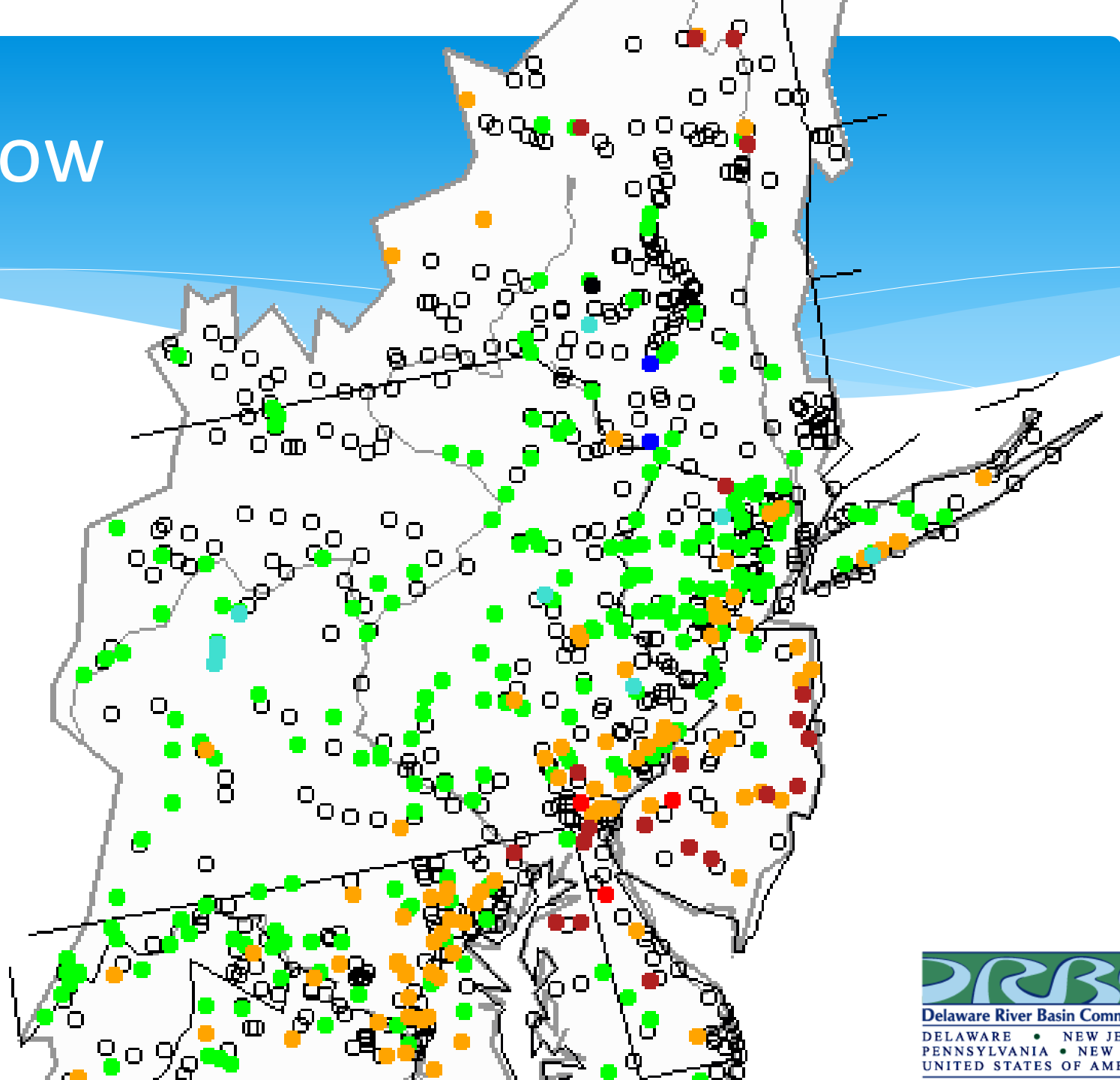
Following a Nor'Easter storm system on January 29, 2022, the basin was completely covered with snow

Streamflow

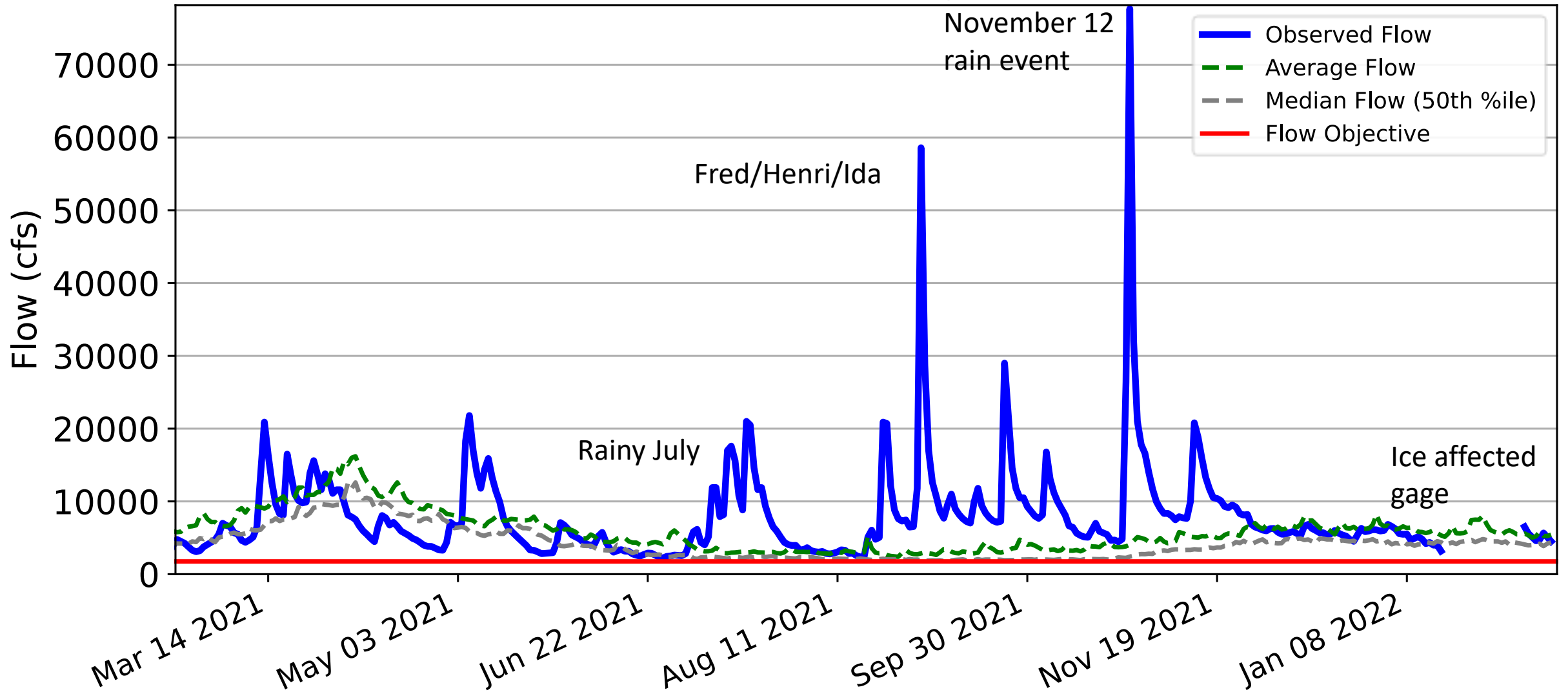
Explanation - Percentile classes

							
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: 8:30 AM
February 17, 2022



Data Source: USGS

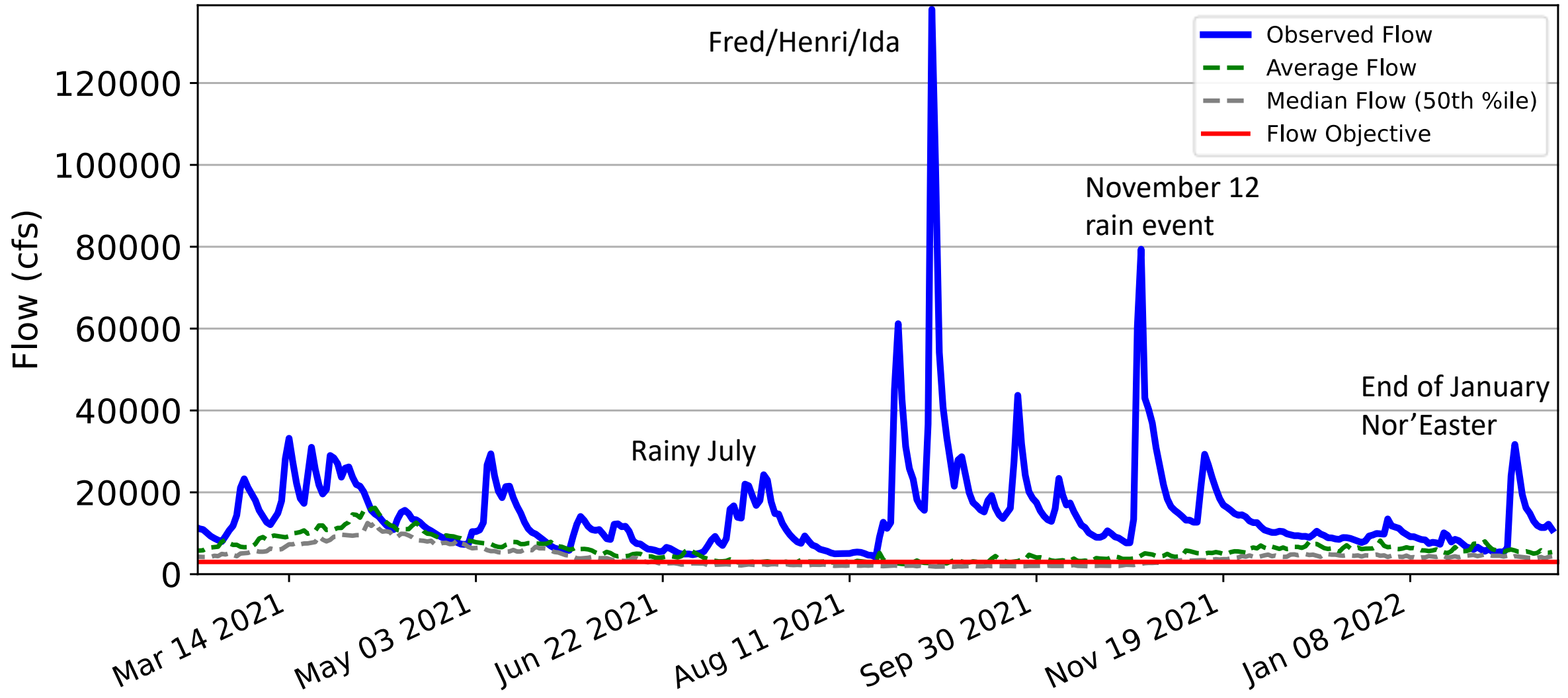


Data Source: USGS



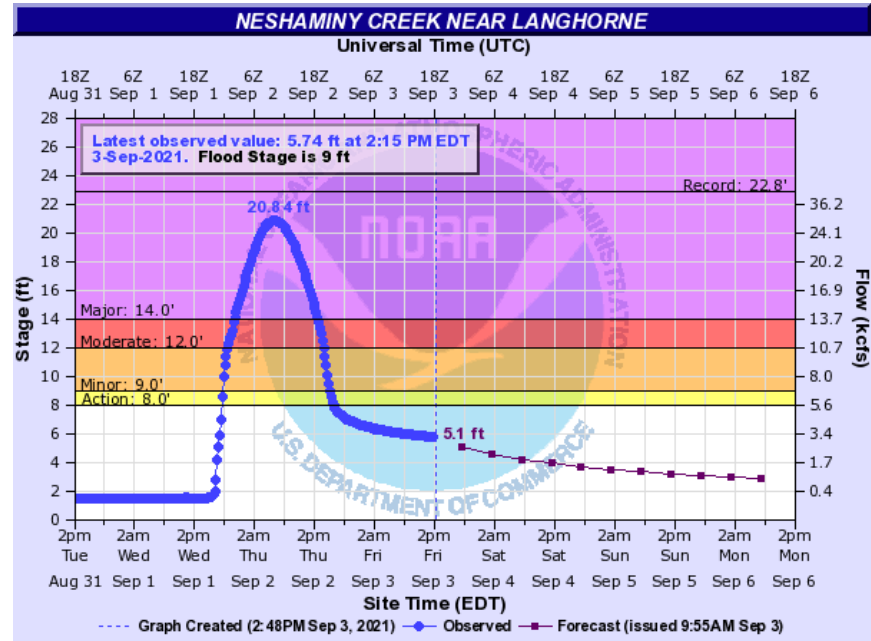
Updated: 2022-02-16 13:48

Flow at Trenton, NJ

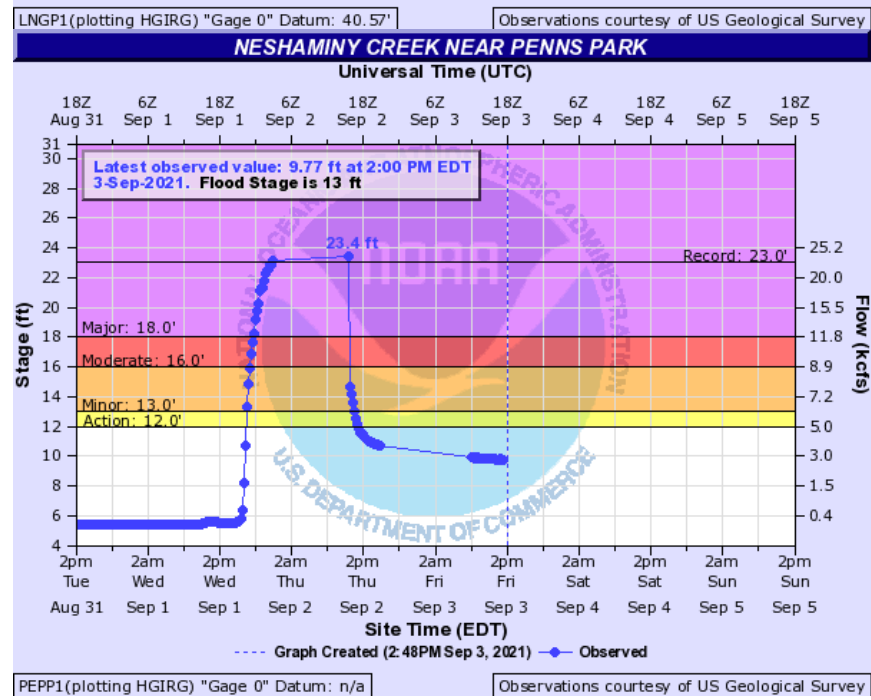


Data Source: USGS





Before

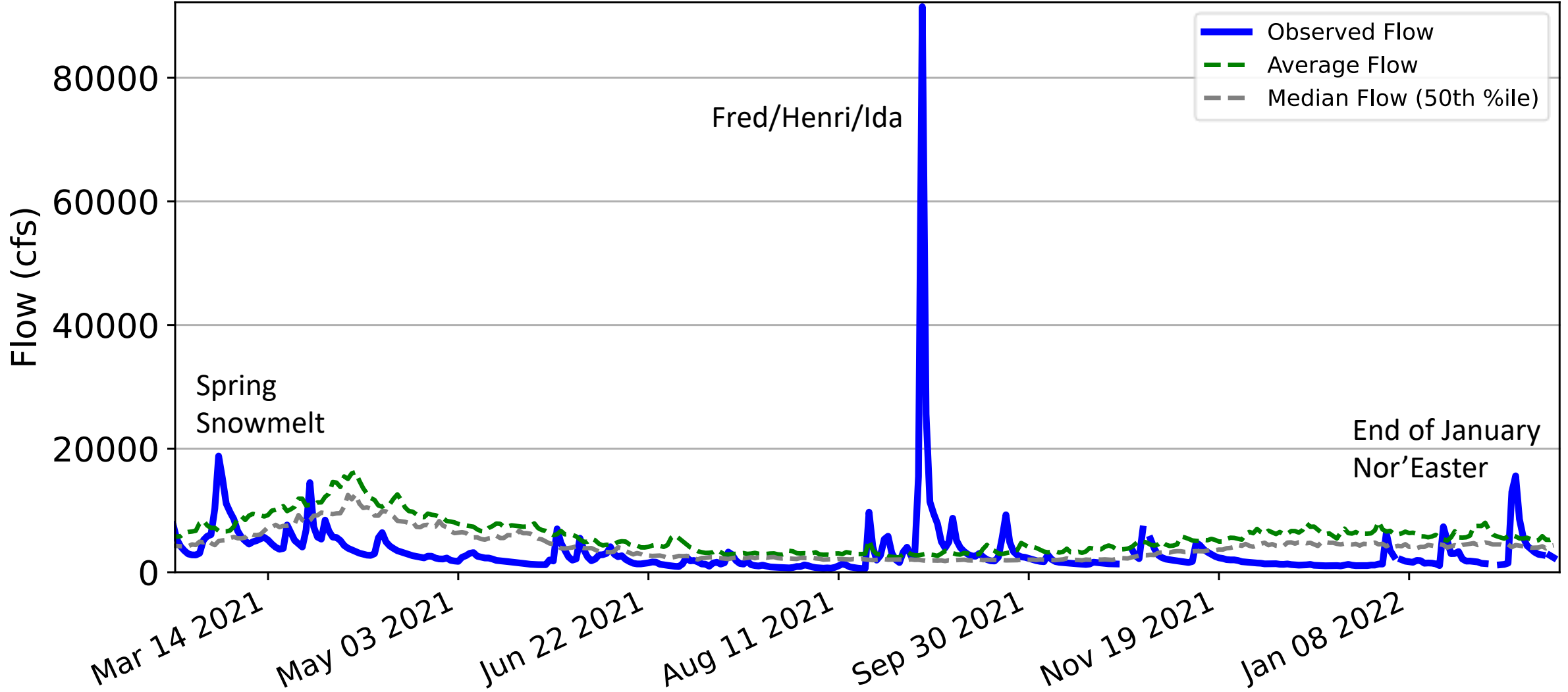


After



- * Neshaminy Creek near Bensalem
- * Images Courtesy of John Yagecic, DRBC

Updated: 2022-02-16 13:48 Flow at Philadelphia, PA



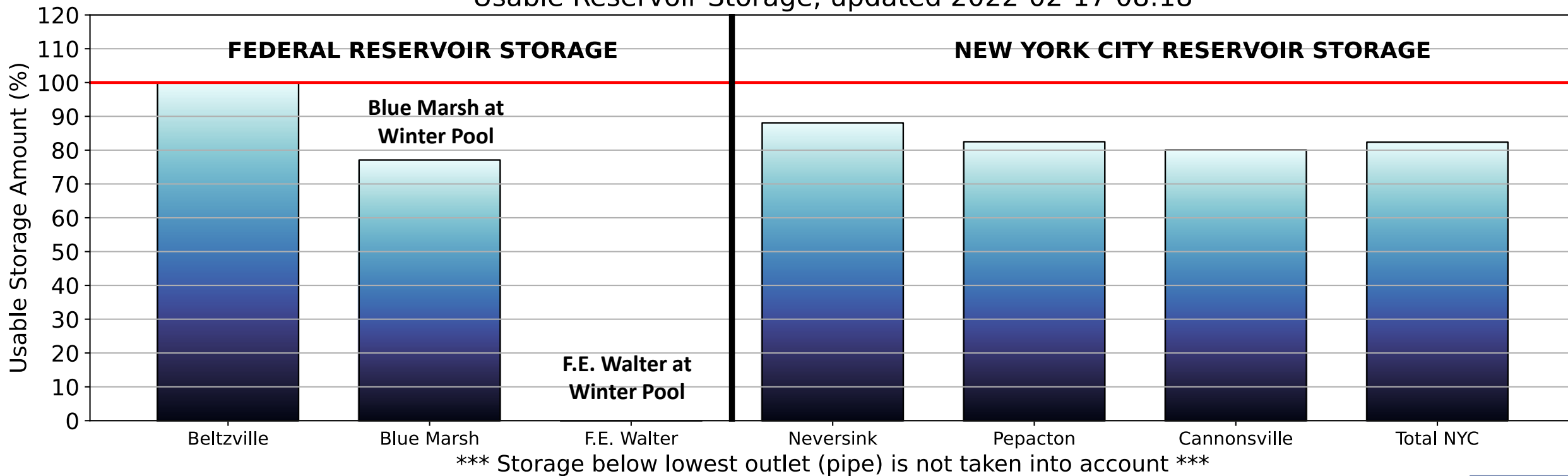
Note – November 12 rain event was an upper basin event, and does not show up in the Schuylkill Basin

Data Source: USGS

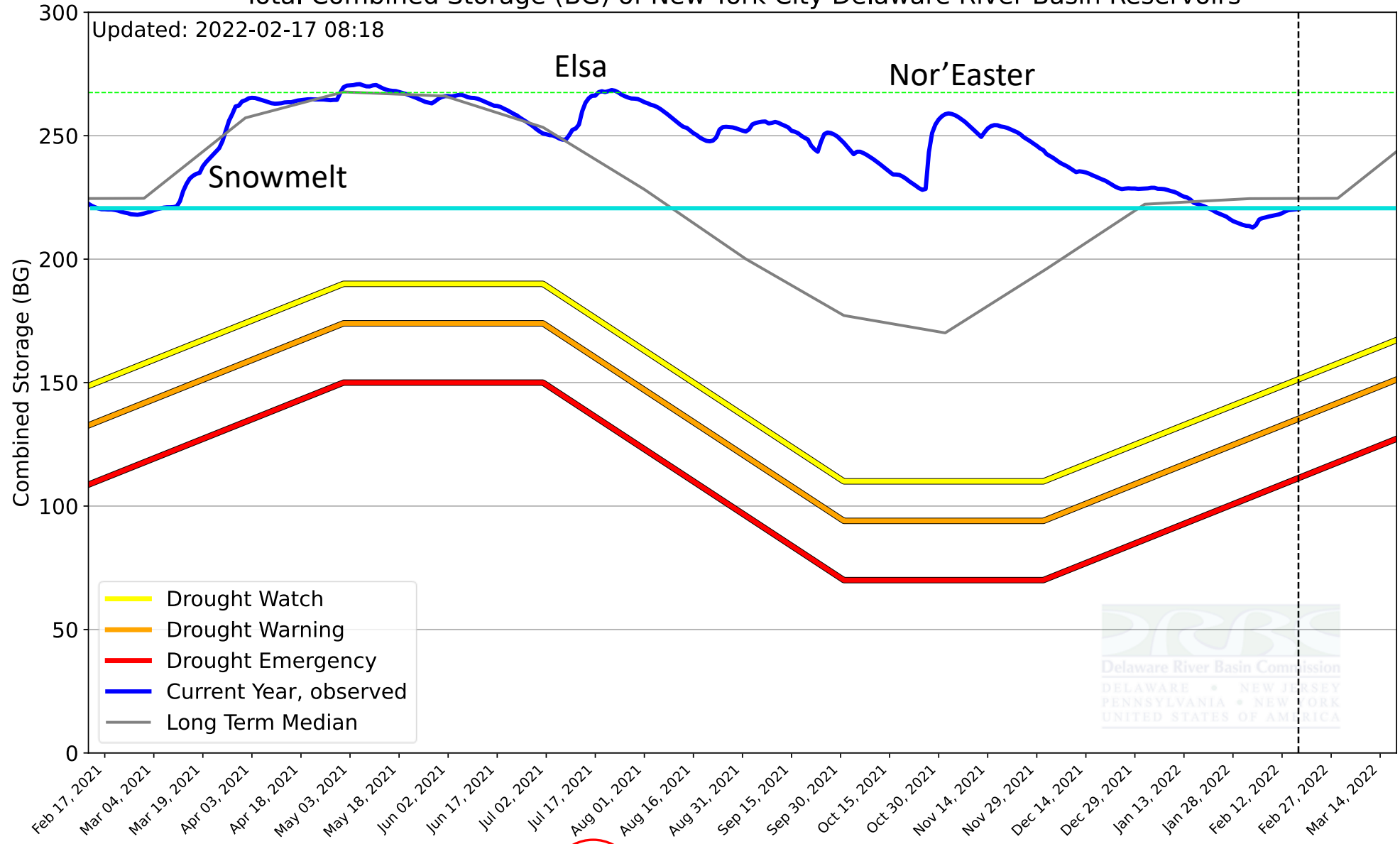


Basin Storage

Usable Reservoir Storage, updated 2022-02-17 08:18



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



Usable Storage BG %	Cannonsville	Pepacton	Neversink	Total
	74.8	114.9	30.6	220.3
	80.1	82.5	88.1	82.4

BG above drought watch = 69.0
 BG above drought warning = 85.0
 BG above drought = 109.0
 BG below median = 4.3
 BG above one year ago = 0.2

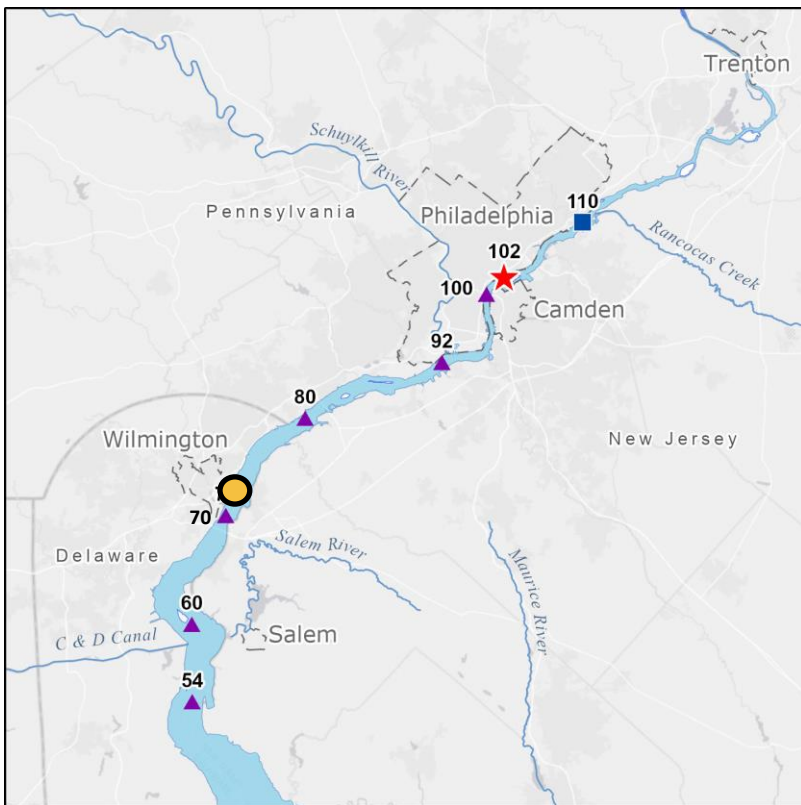
Data Source: USGS



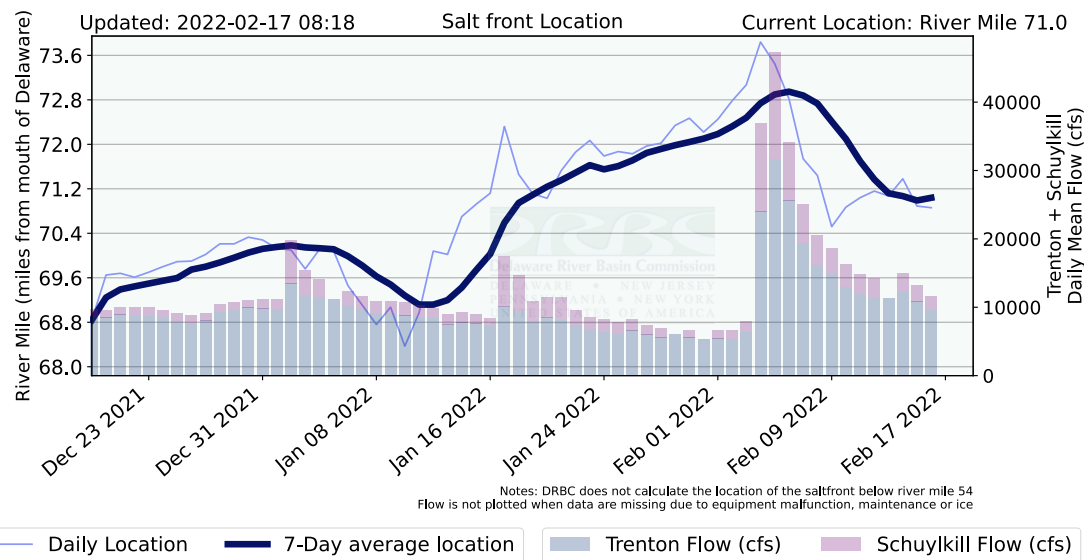
Salt Front

hydrosnap.drbc.net

Current Location: Near mouth of the Christina River, DE



● = current location



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

Current (02/17/2022):
71.0

February Median: 71.0

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

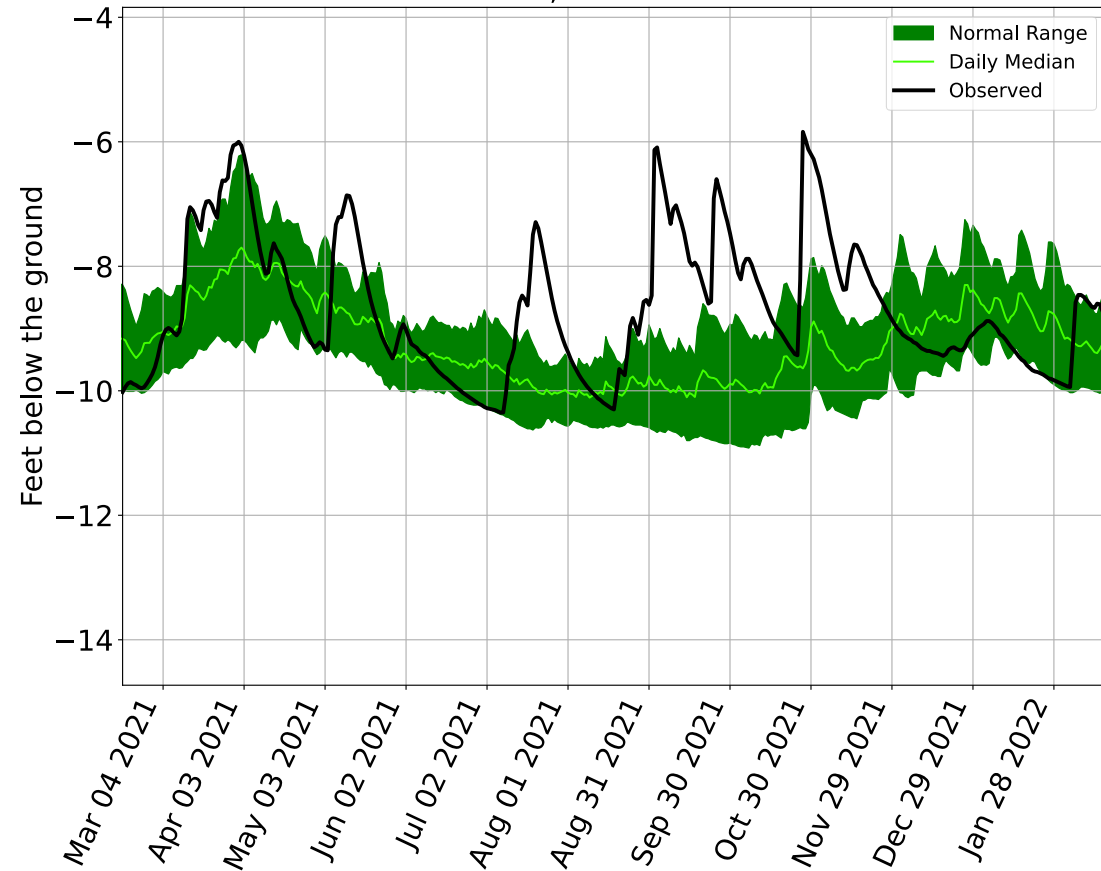
Combined Trenton and Schuylkill Flow has been added to the salt front graphic

Groundwater Conditions

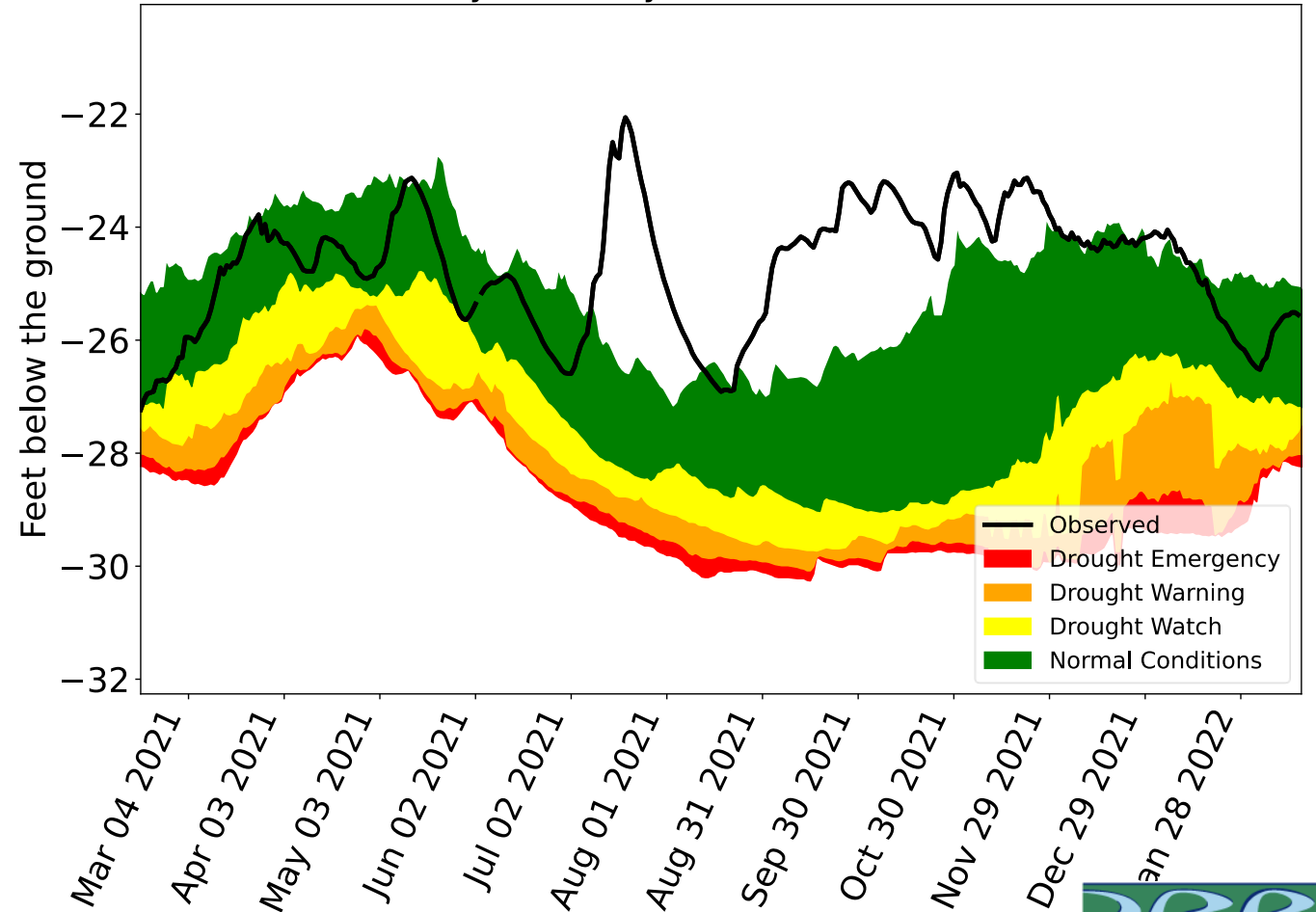
COUNTY	STATE	DATA SOURCE	WELL ID	INDICATOR AS OF 2022-02-16
Wayne	PA	USGS	WN 64	Normal
Monroe	PA	USGS	MO 190	Drought Watch
Carbon	PA	USGS	CB 104	Normal
Schuylkill	PA	USGS	SC 296	Normal
Lehigh	PA	USGS	LE 372	Normal
Bucks	PA	USGS	BK 1020	Normal
Chester	PA	USGS	CH 10	Normal
Delaware	PA	USGS	DE 723	Drought Watch
Lebanon	PA	USGS	LB 372	Normal
Burlington	NJ	USGS	050689	Normal
Cumberland	NJ	USGS	110042	Normal
New Castle	DE	USGS	db24-18	Below Normal
Woodbourne	NY	USGS	sv-535	Normal

Upper Basin

Woodbourne, NY Observation Well



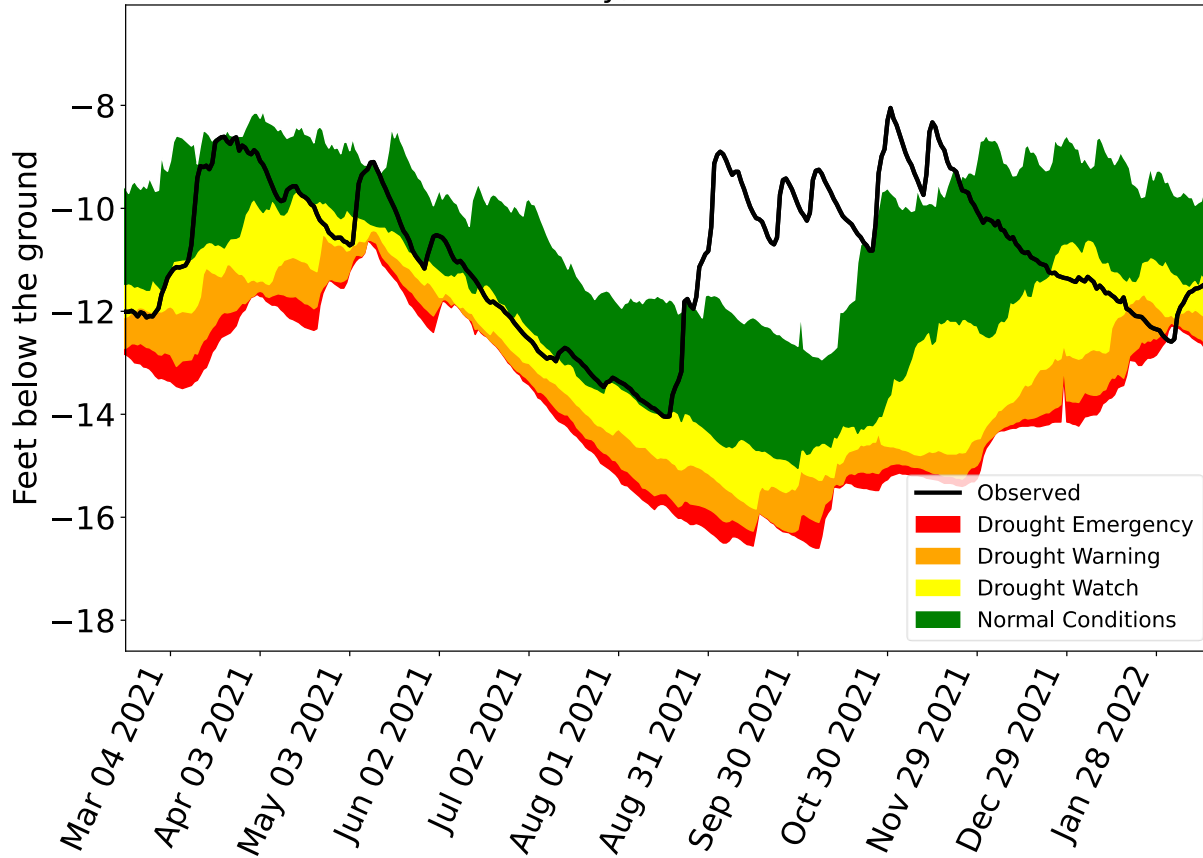
Wayne County, PA Observation Well



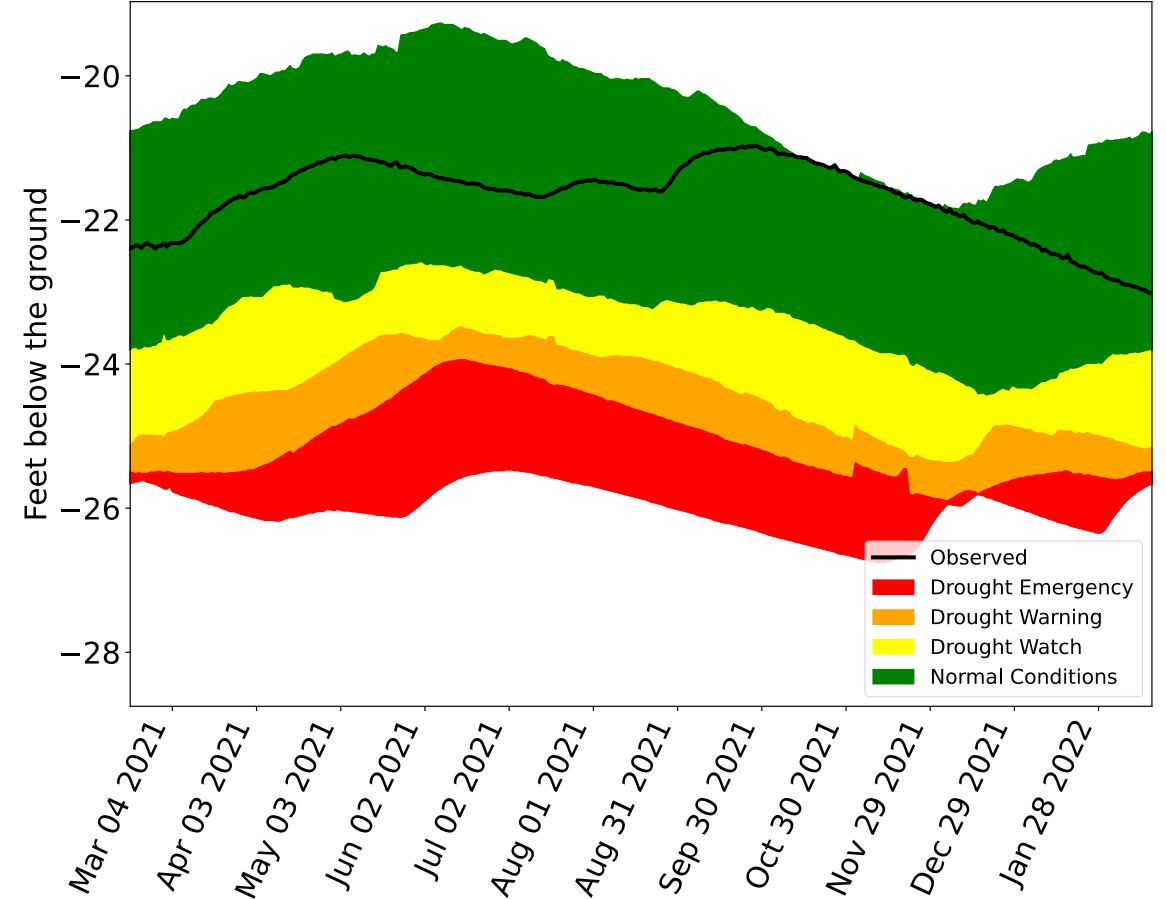
Data Source: USGS

Middle Basin

Monroe County, PA Observation Well

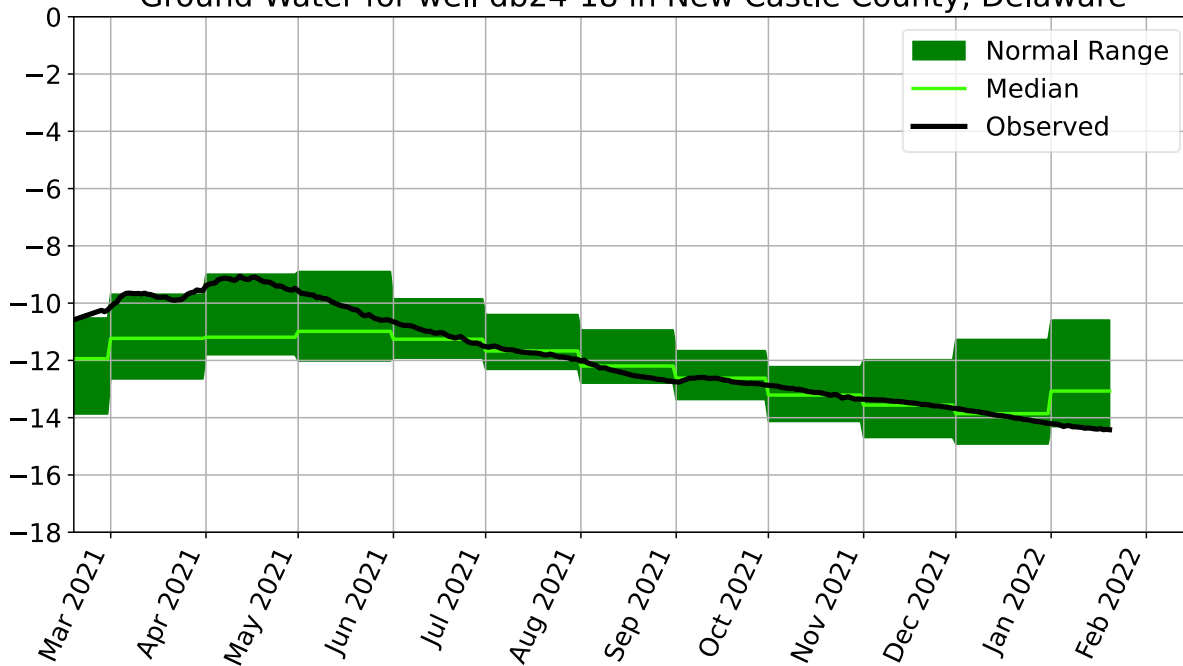


Burlington County, NJ Observation Well



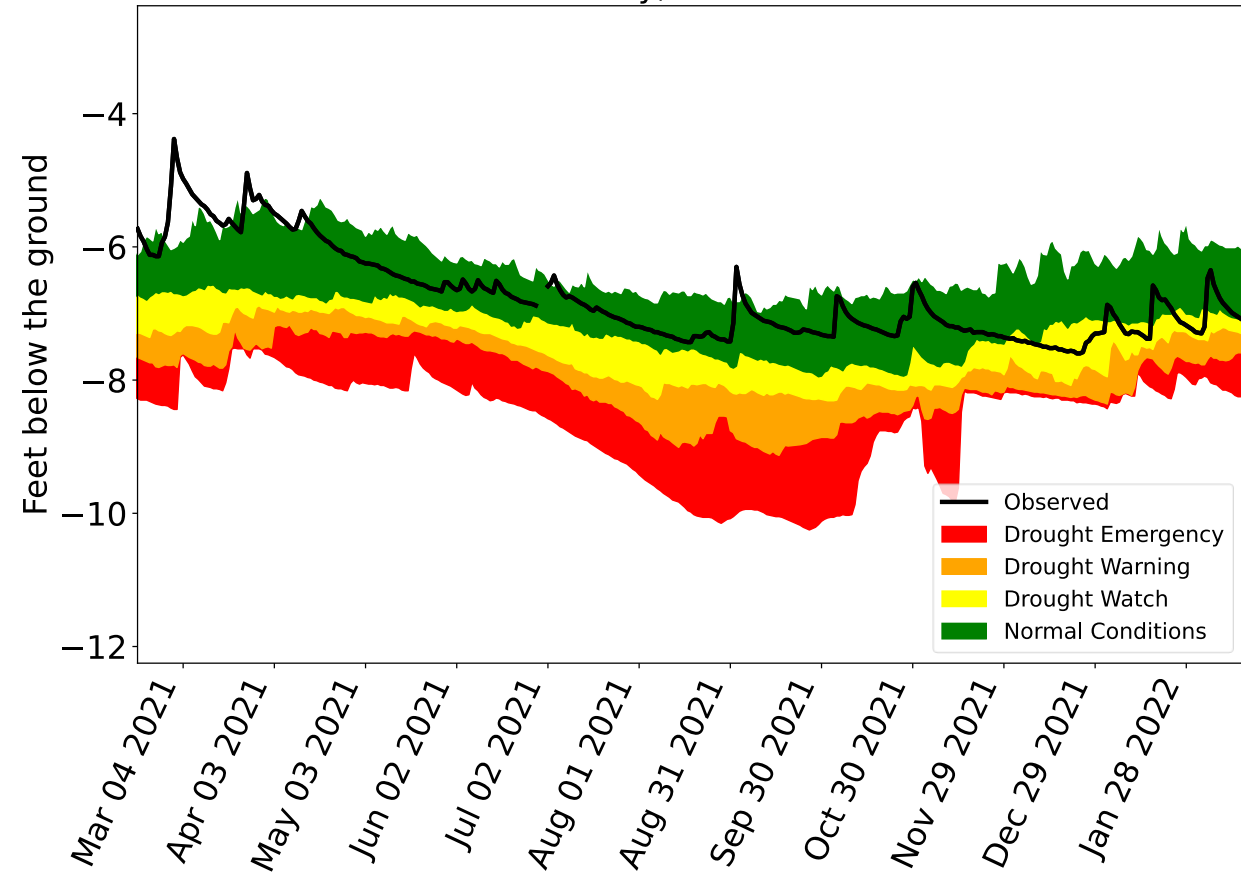
Lower Basin

Ground Water for well db24-18 in New Castle County, Delaware



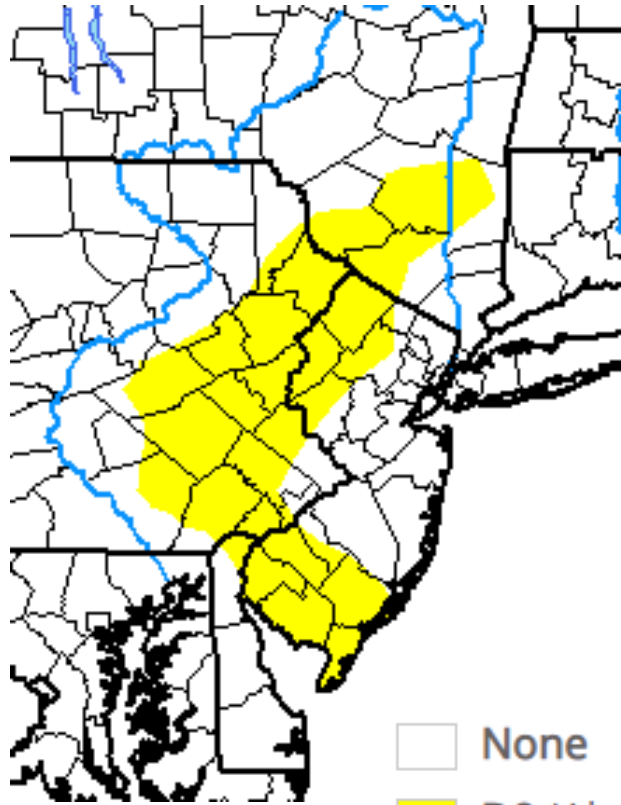
Note: Data for New Castle County, DE is updated through January 15, 2021.

Delaware County, PA Observation Well



Drought Monitor

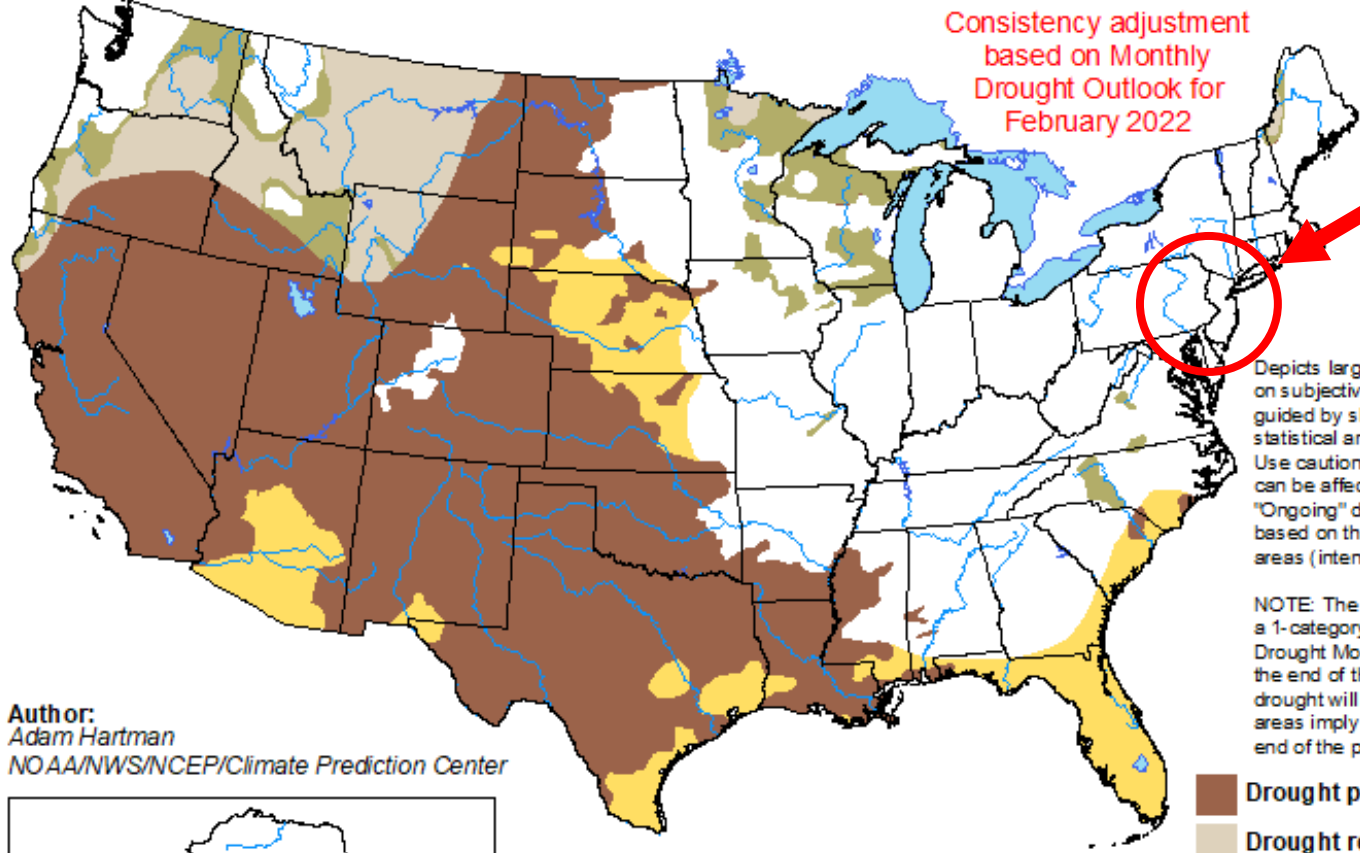
February 15, 2022



- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for February 1 - April 30, 2022
Released January 31, 2022



Author:
Adam Hartman
NOAA/NWS/NCEP/Climate Prediction Center

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>

Data Source: NOAA CPC

Spring Outlook 2021 - 2022

La Nina continuing

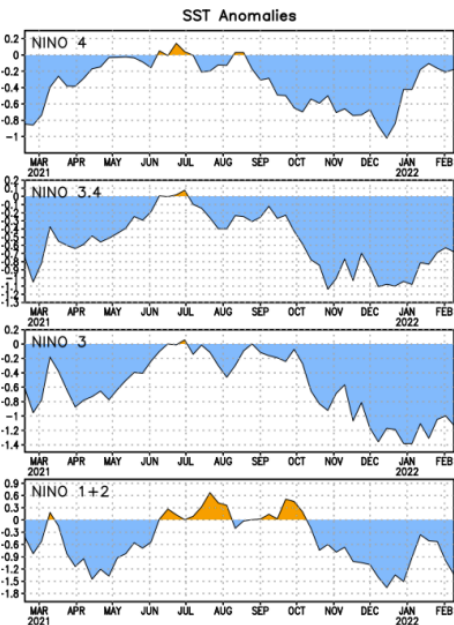
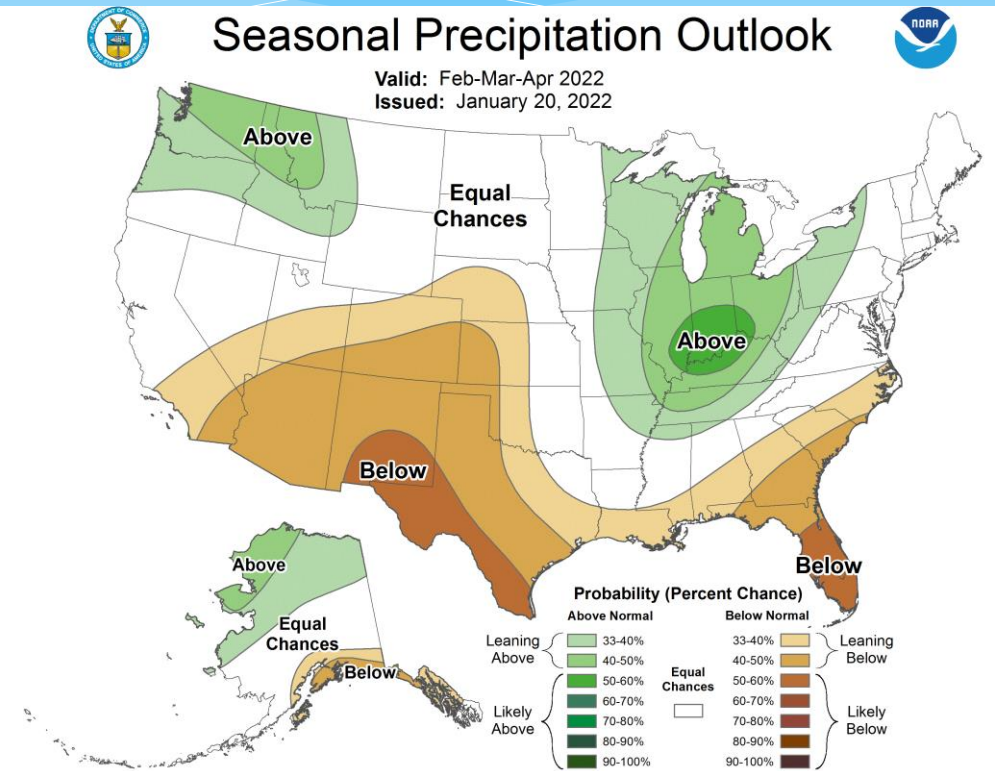
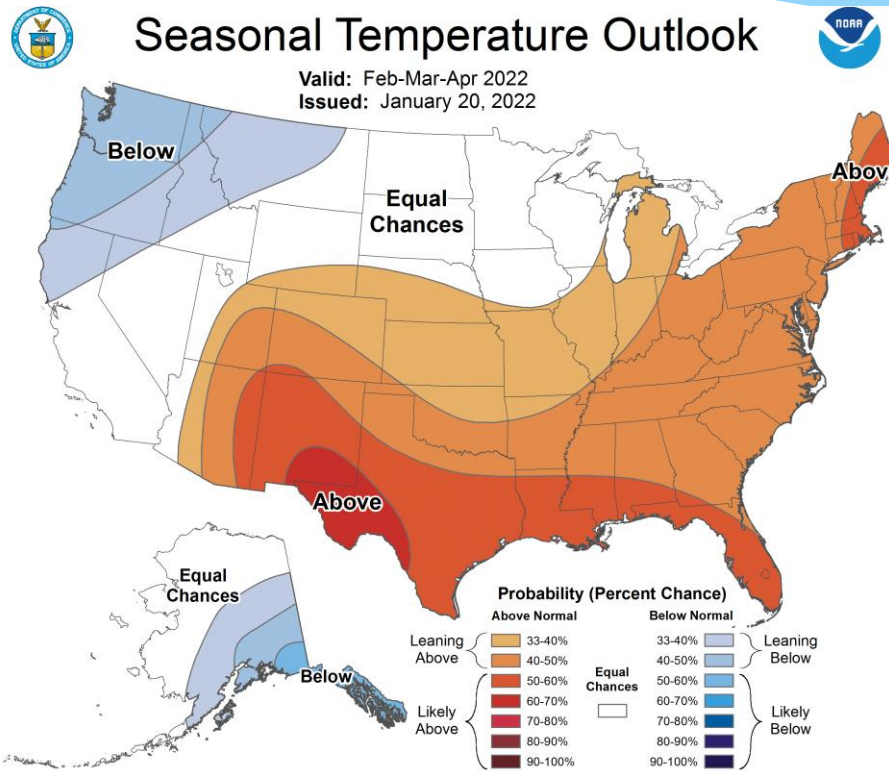


6 more weeks of winter

VS



Spring Outlook calls for warmer than average temperatures and equal chances for above/below average precipitation



Blue = La Nina Conditions

Data Source: NOAA, CPC



High Flows Anticipated

- Combined snowmelt and heavy rain Thursday evening (1-2 inches) will lead to action stage flooding above the NYC reservoirs
- This water will be intercepted by Cannonsville Reservoir

NAM Model Output

