Hydrologic Conditions

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DRBC Special Public Hearing November 19th, 2024

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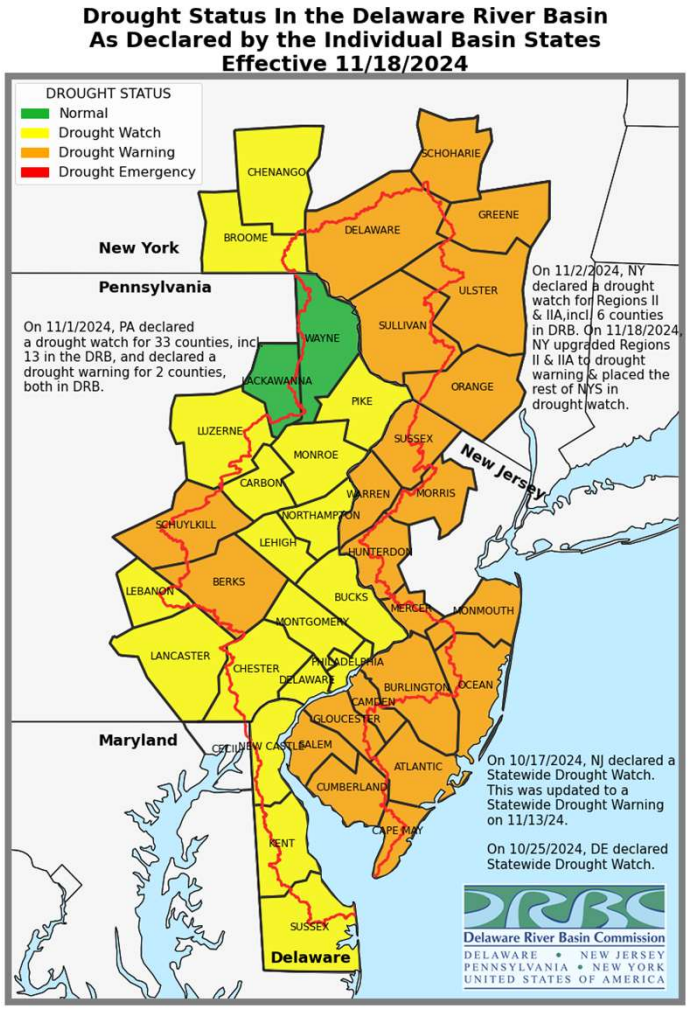

Why are we here?

- State drought declarations
- Lack of precipitation
- Reservoir releases to support flow
- Diversions for Water Supply
- Low reservoir storage
- DRB Drought Operations
  - May be triggered soon
  - Based on NYC combined storage
  - LB reservoir elevations

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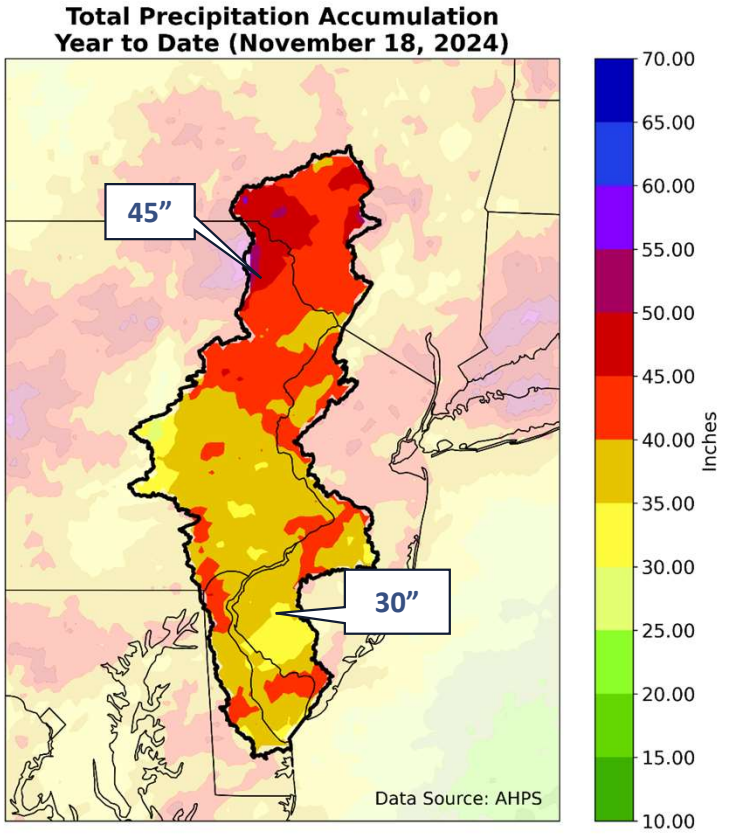
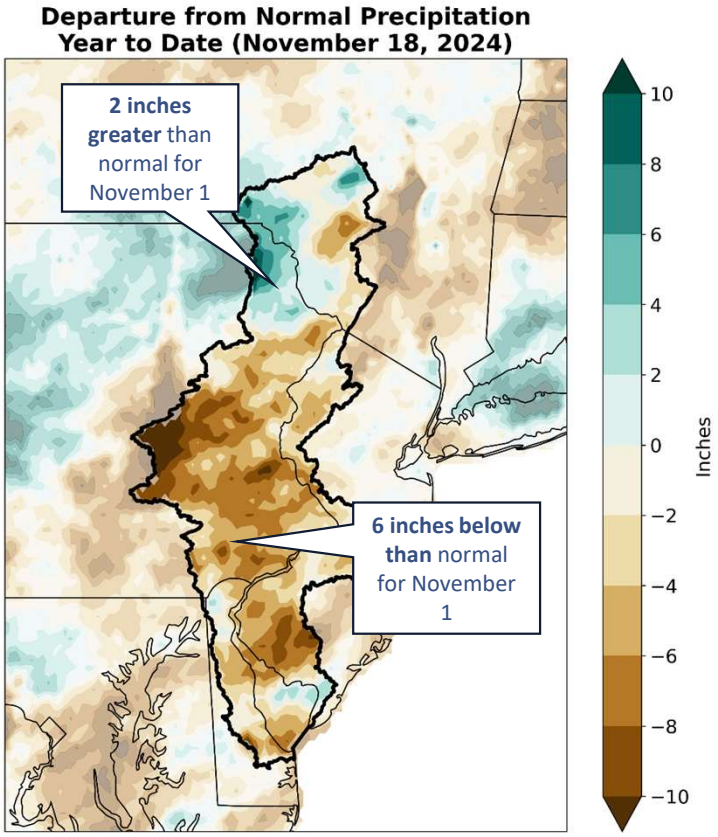
Precipitation since January 1

Majority of the basin has received below normal rainfall for the year. The driest areas are in the western portion of the basin and southwest New Jersey.





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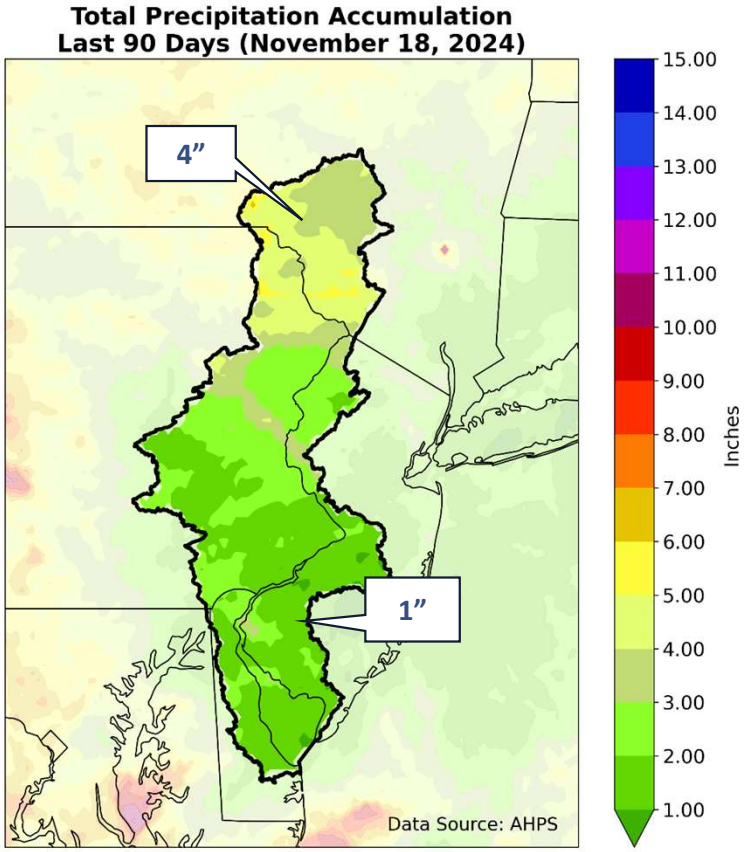
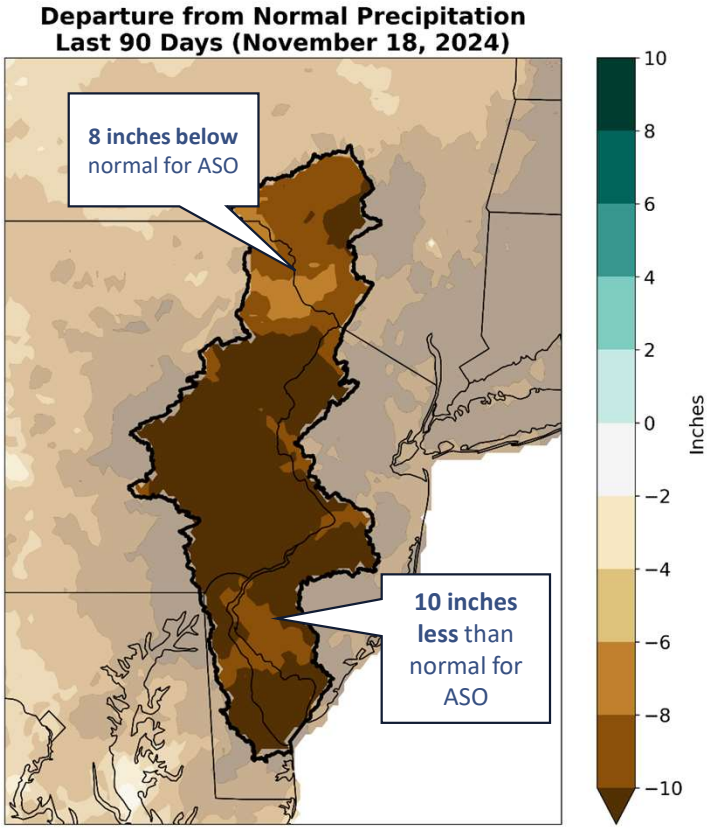
Precipitation – 90 days

Most major rainfall gages in the basin were ranked the driest on record (Philadelphia Airport 2nd).





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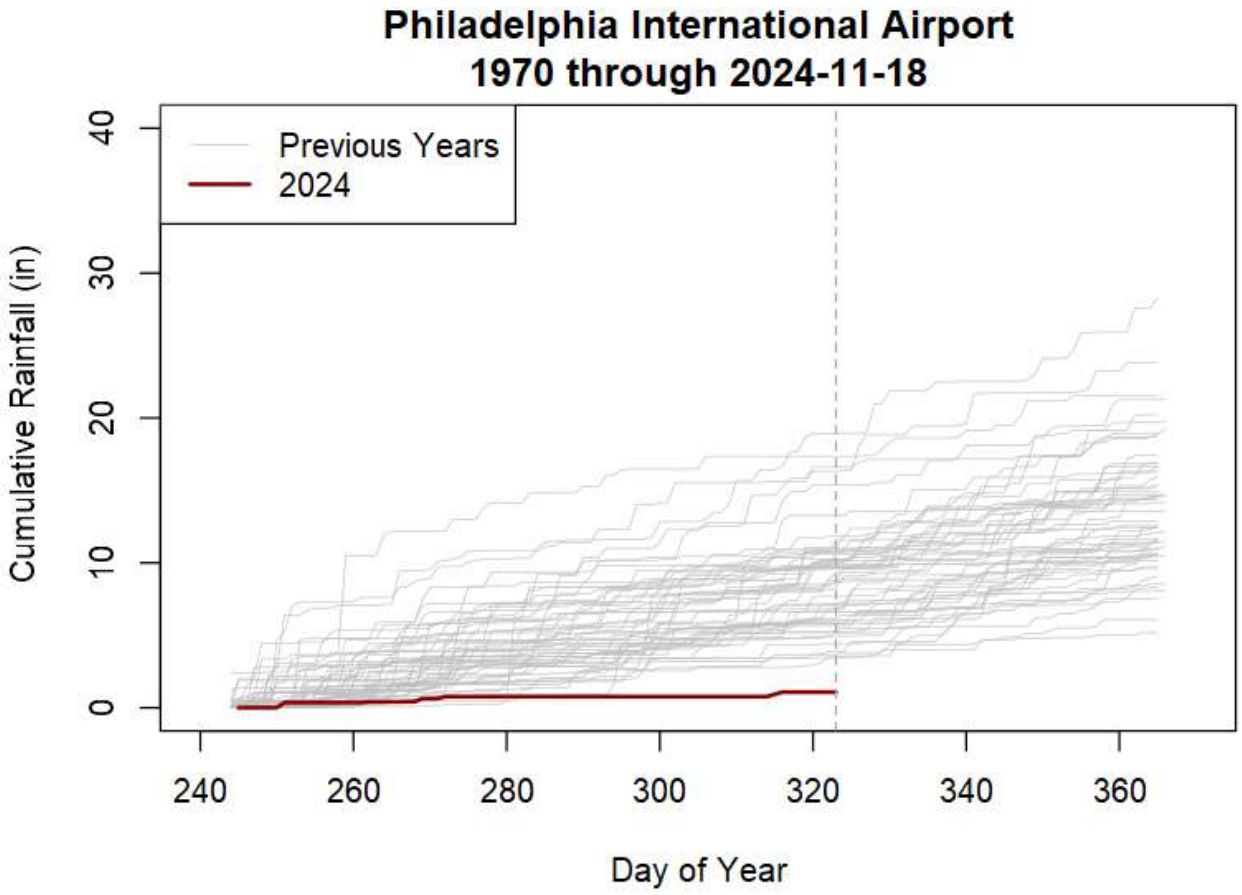
Precipitation since September 1



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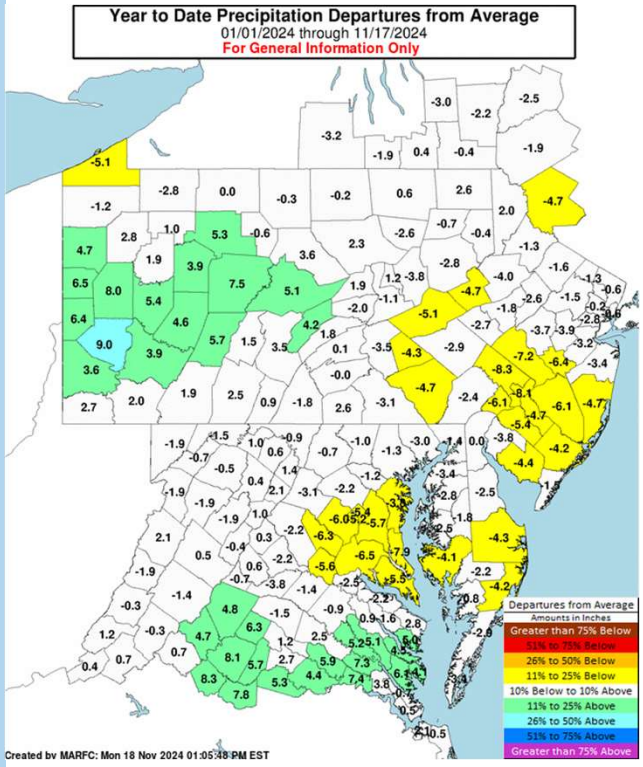
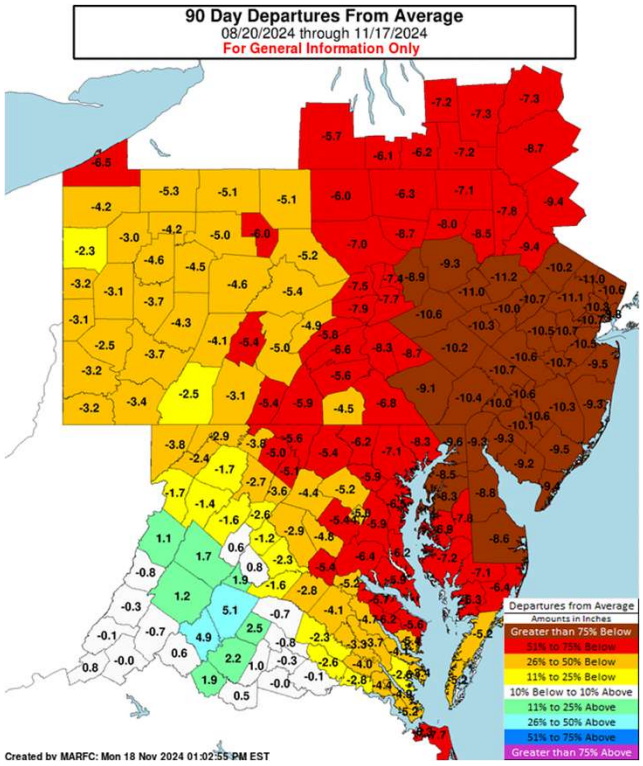
Precipitation Departures

The 90-day and 30-day precipitation deficits indicate less than 25 percent of normal rainfall.

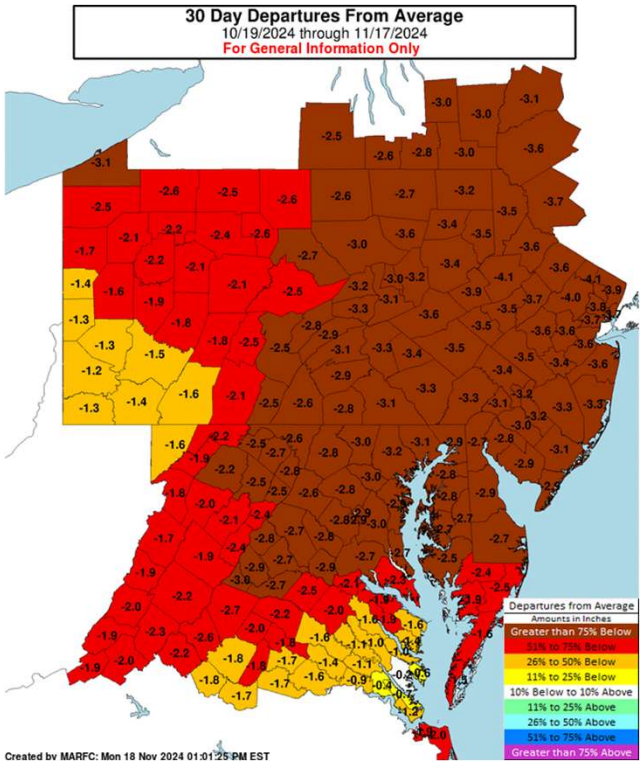
Year-to-date



90-day



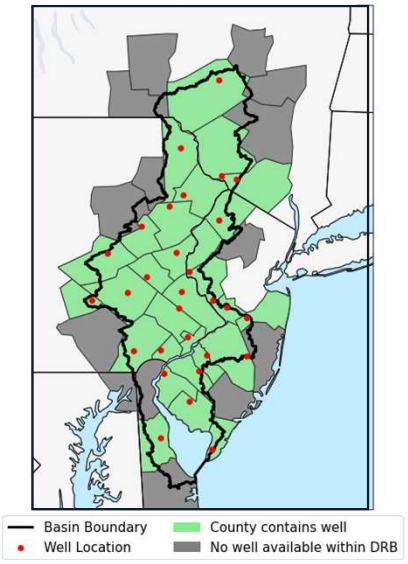
30-day

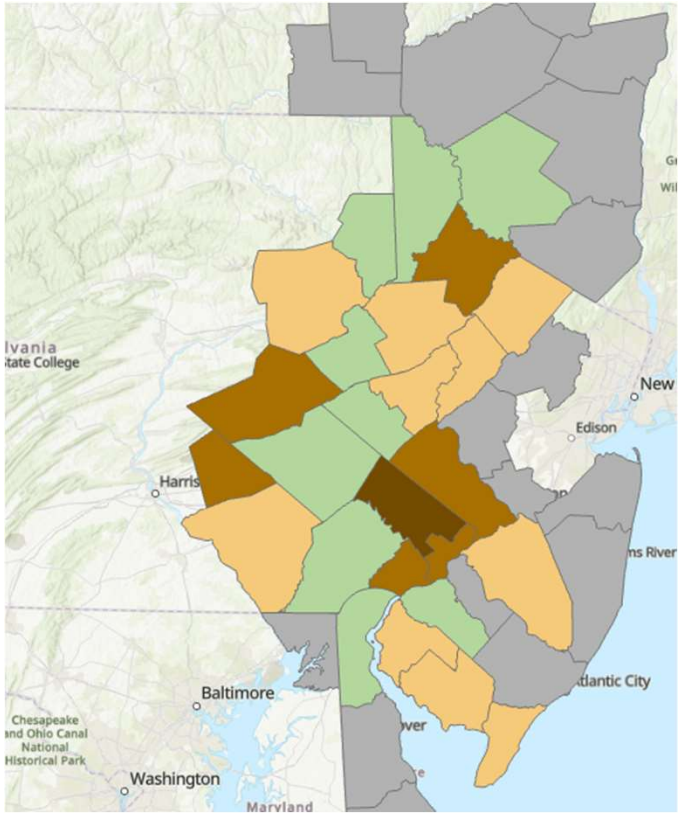


Groundwater Levels

Groundwater levels are mixed. Late July and early August rain may have offset some summer pumping.

Reference Wells





Drought Condition
- No Data
- Drought Emergency
- Drought Warning
- Drought Watch
- Normal

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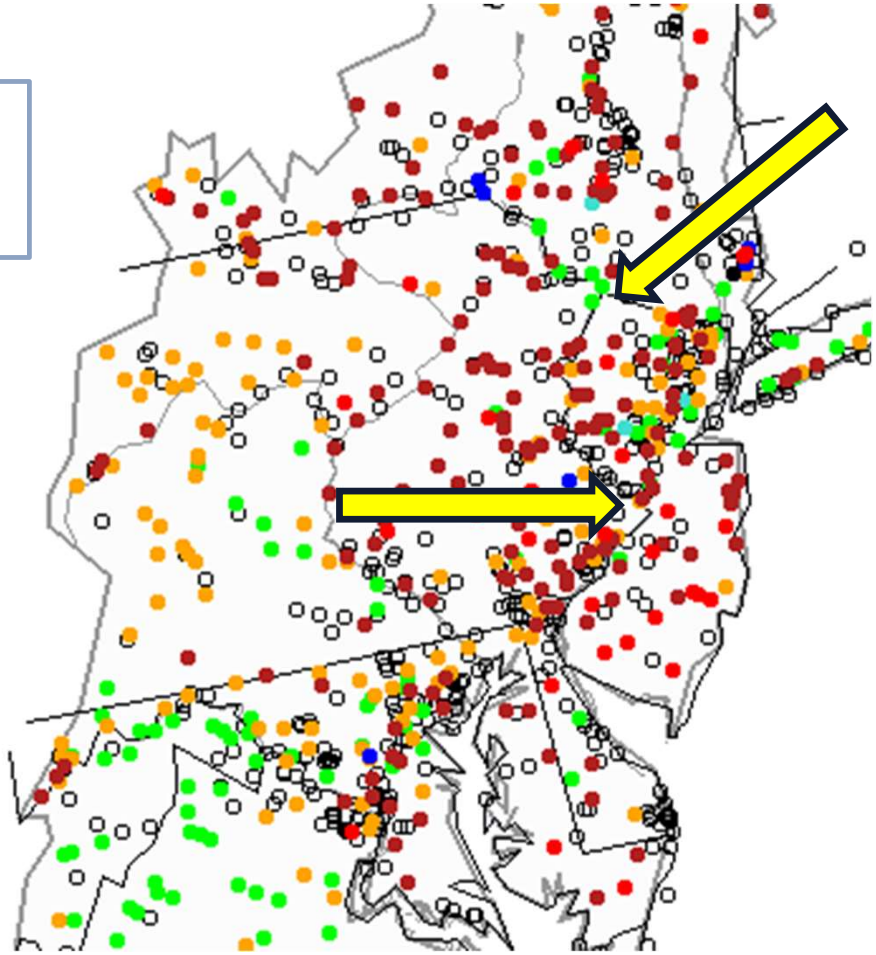
Streamflow

Many tributaries have flows that are **much below** normal. The above normal locations are due to significant reservoir releases for flow objectives.



Flow Conditions:

Upper Basin: Much Below Normal

Central Basin: Much Below Normal

Lower Basin: Much Below Normal

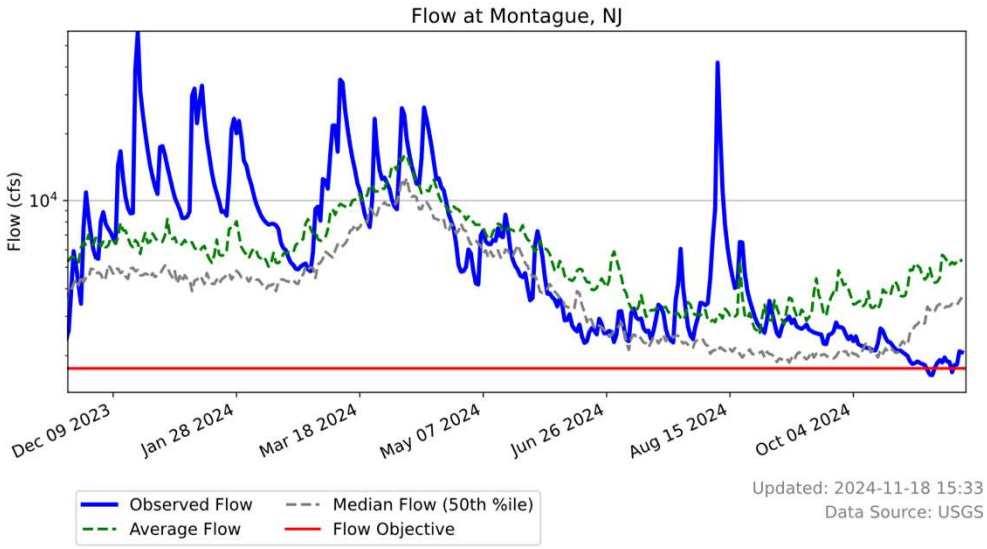
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Map last updated:
2:30 pm, November 18, 2024

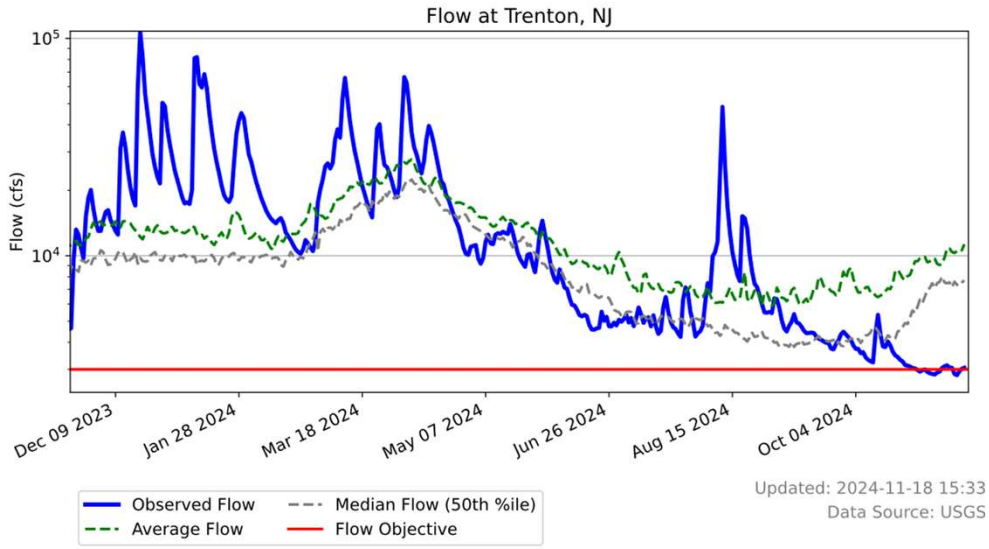
Data Source: USGS

Streamflow

The flow in the river from reservoir releases is 65% at Montague and 60% at Trenton.



Releases by NYC for Montague 48.3 BG

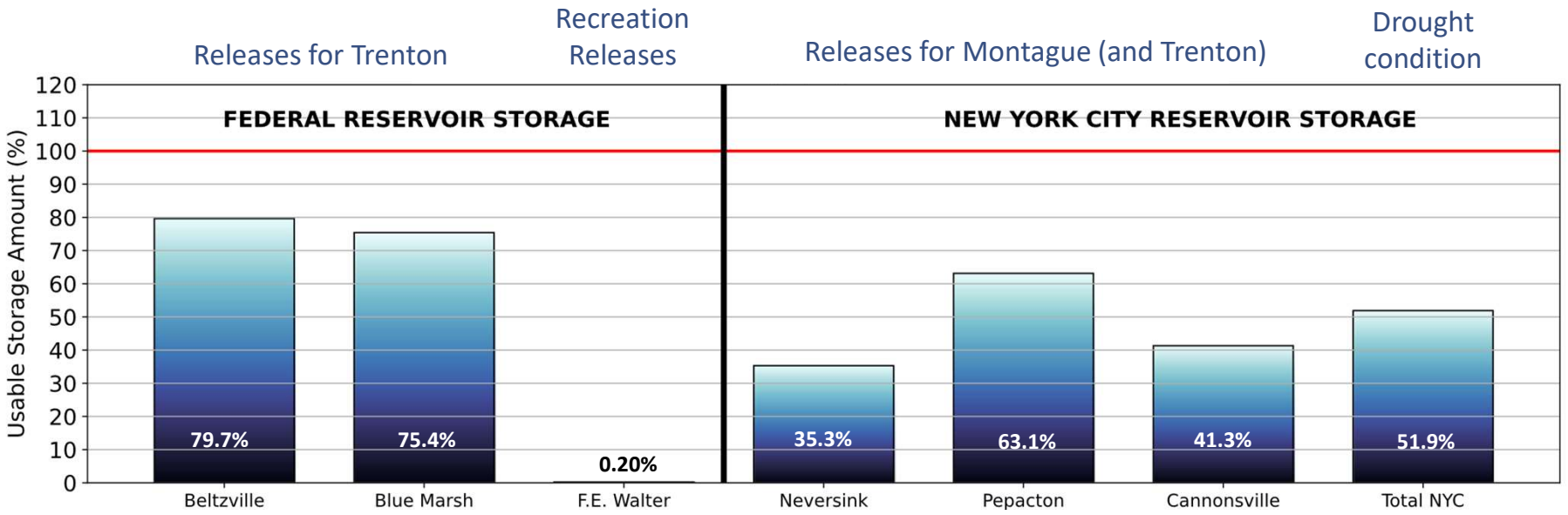


Releases for Trenton: LB: 3.4 BG; NYC: 1.9 BG

Reservoir Storage for Flow Management

Lower basin reservoirs approximately 75% full.* NYC reservoirs are between 35 - 63% full.

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



*Blue Marsh reservoir is 75 percent of summer pool. All of the low flow augmentation storage is available.

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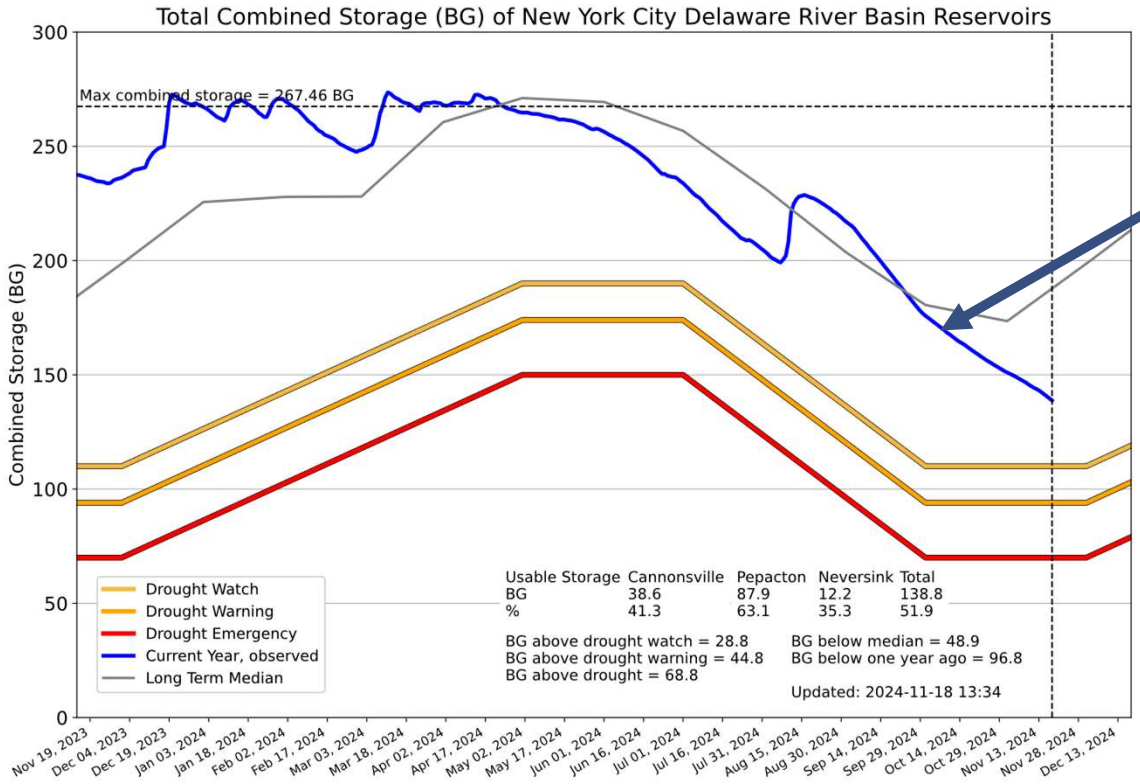
New York City Reservoir Storage

After the large rainfall event in July, the low rainfall and normal releases resulted in decreased storage.



Diversions discontinued in early October, but normal releases continued per Aqueduct Shutdown Plan.

Aqueduct project paused. Diversions are expected to resume today.

Releases will continue to meet Montague.

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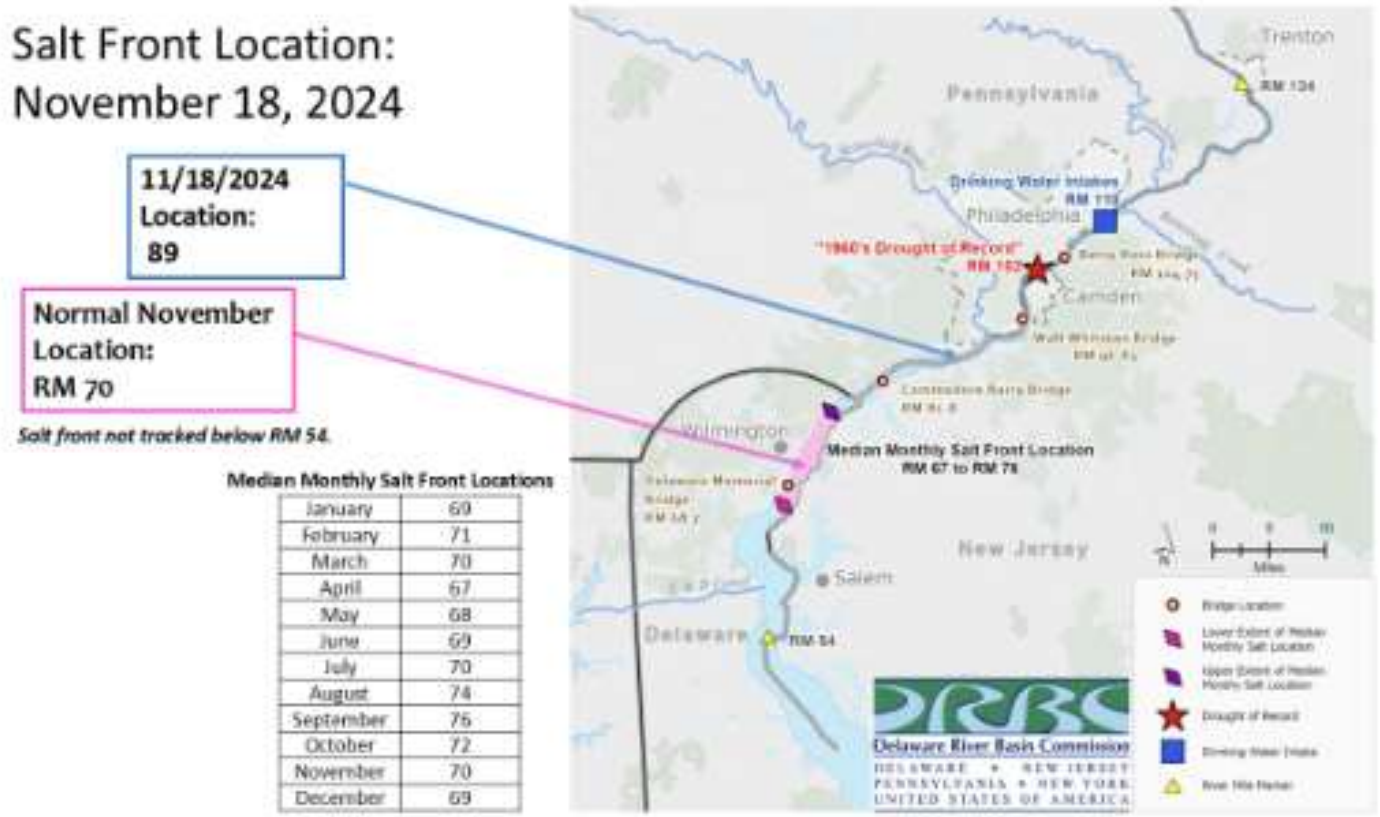
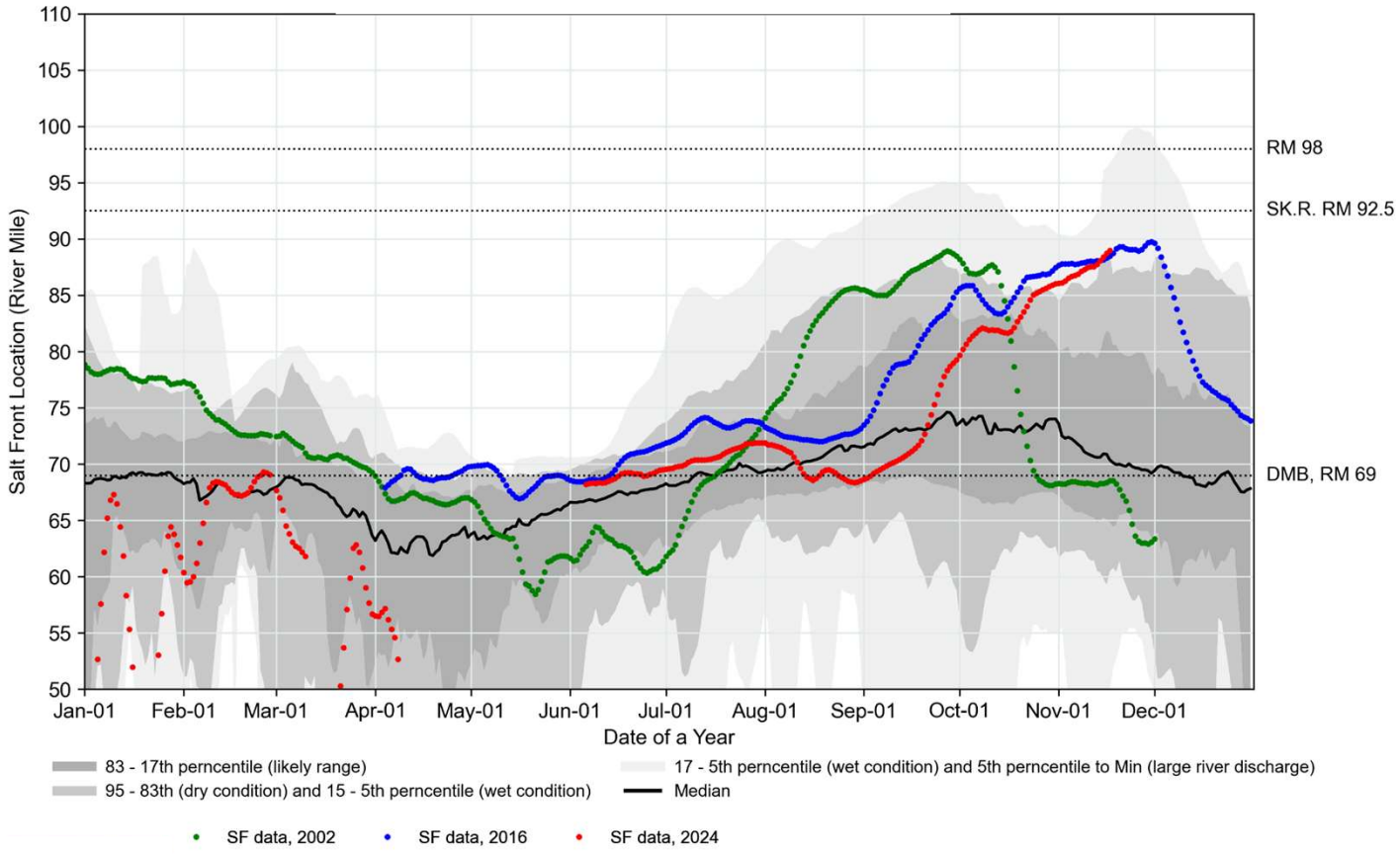
Salt Front Location

The location is currently is at RM 89.3, near the Philadelphia International Airport



Salt Front Location Comparison

The salt front is 0.15 miles upstream of its 11/19 location in 2016.



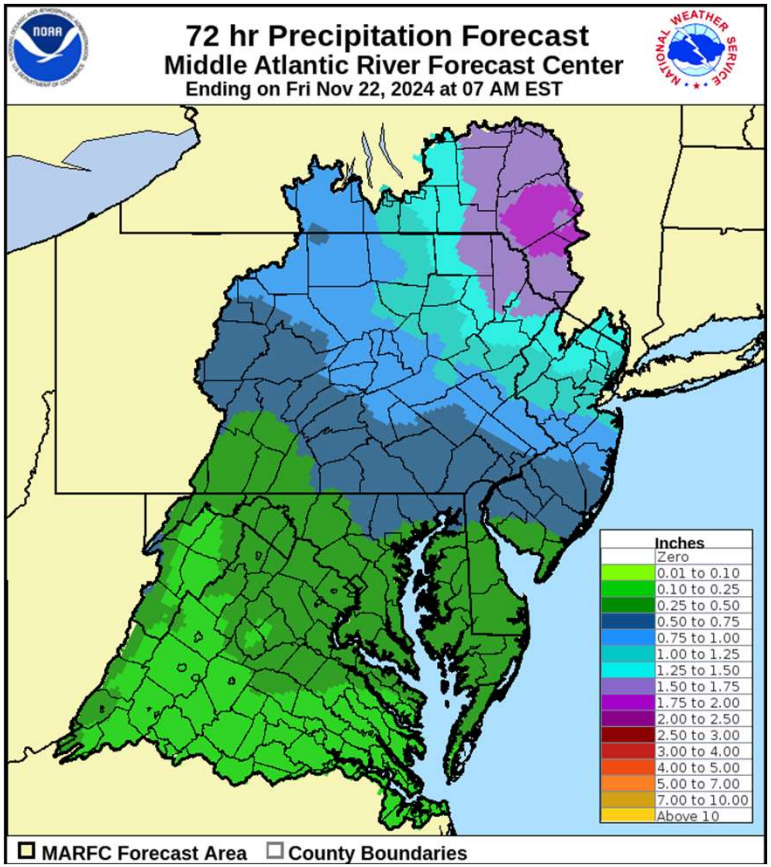
DRB Drought Operations

DRBC's drought operations plan is designed to preserve regional storage and repel salinity.

- Based on NYC combined storage and LB reservoir elevations
- Phased reductions:
  - flow objectives (in emergency increase based on location of salt front)
  - out-of-basin diversions
  - Minimum reservoir releases
- Access to additional storage reservoir for low flow augmentation
- Consumptive use replacement
- Voluntary water conservation

Rainfall Forecast

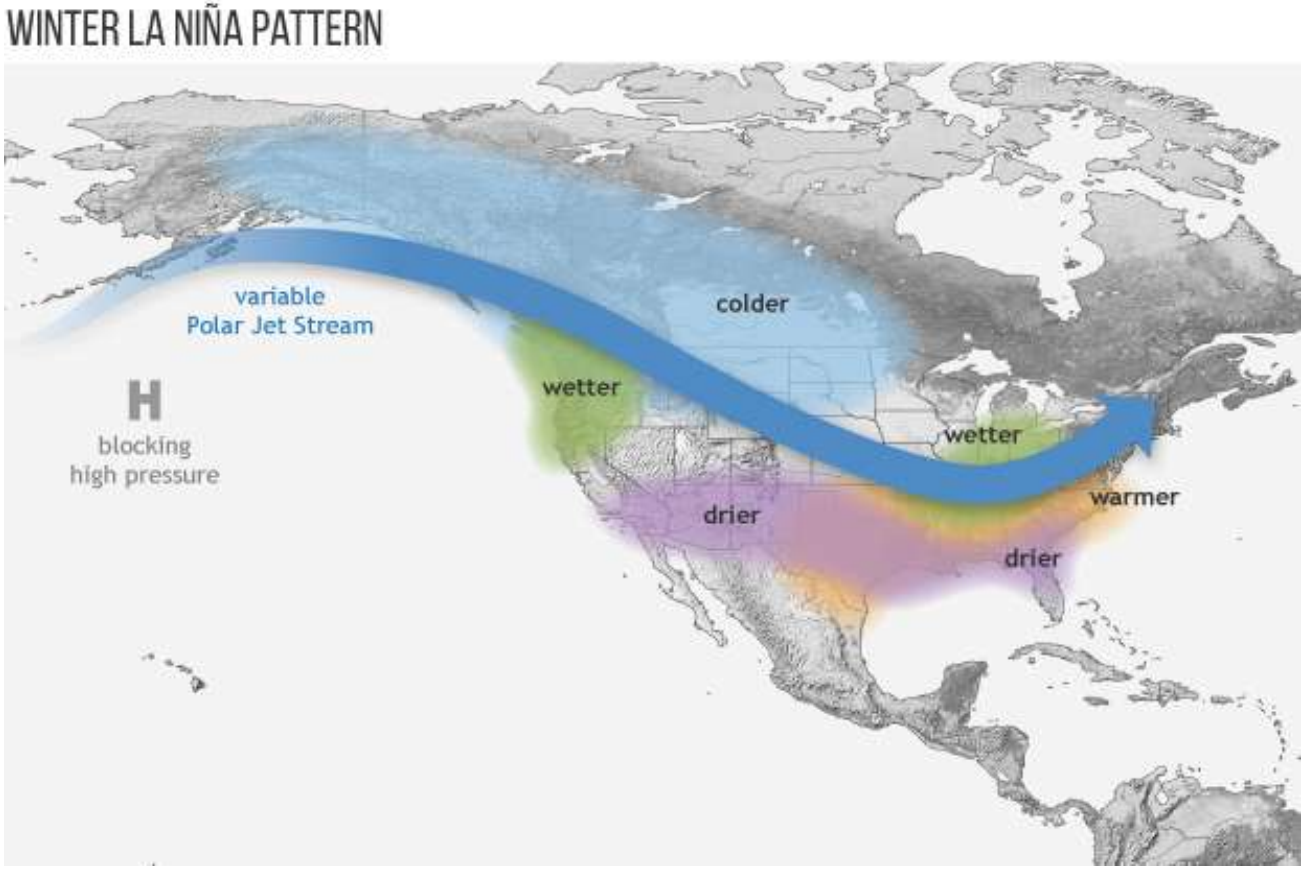
The forecast looks good for rain this week. However, forecasts are subject to change.



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

La Nina Winter Pattern

A mild La Nina is forecast. Typically, La Ninas tend to be wetter and warmer.

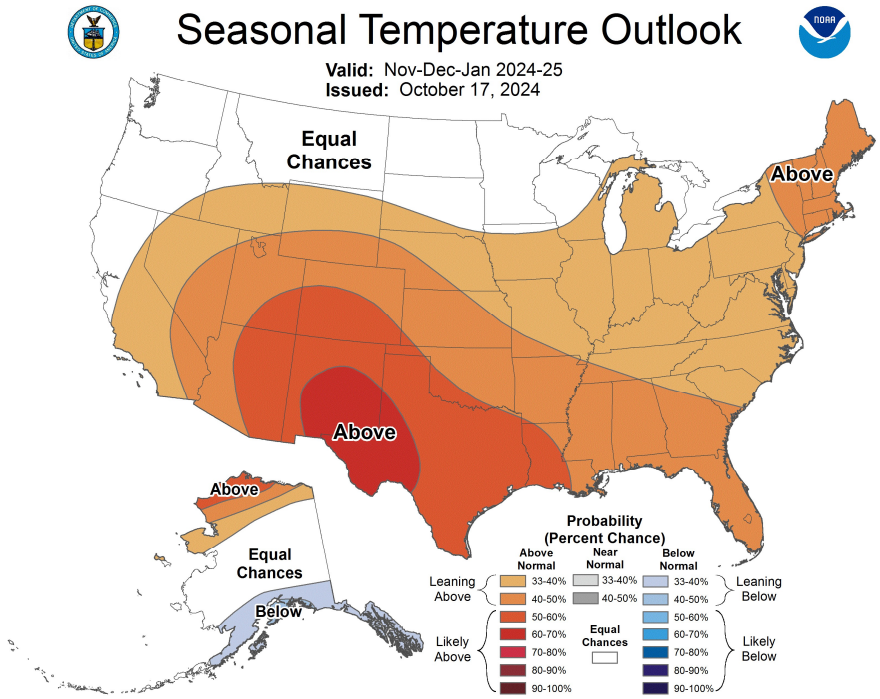


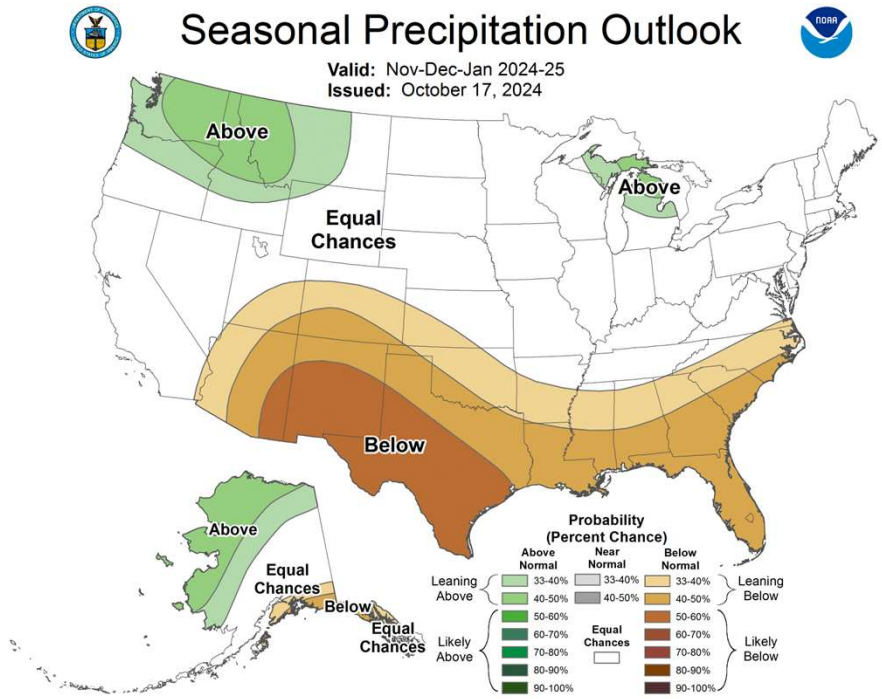
Not all La Ninas are the same. Forecasts are based on analogs (past La Ninas).

Climate.gov

NOAA Seasonal Outlook

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





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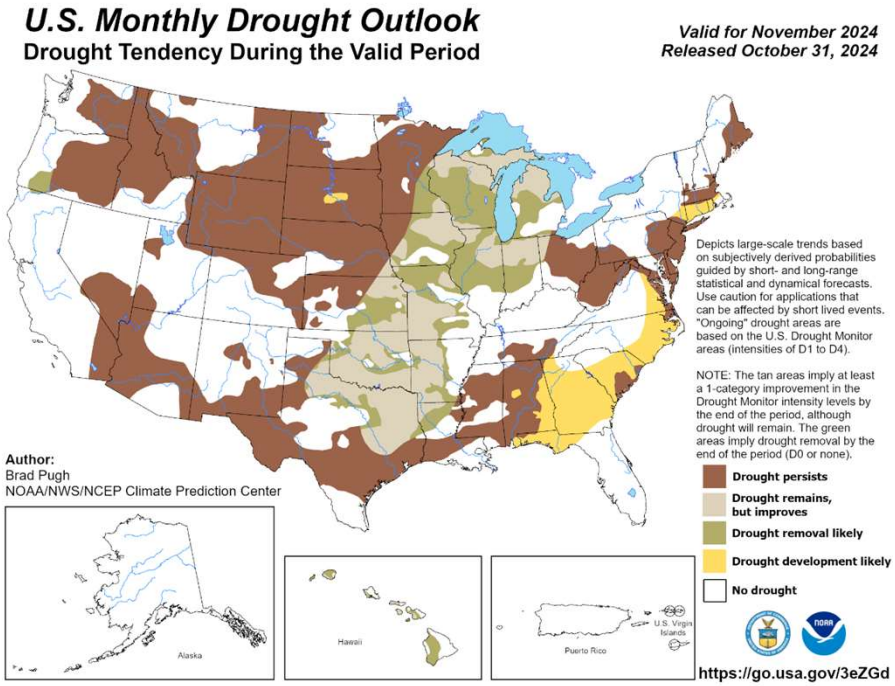
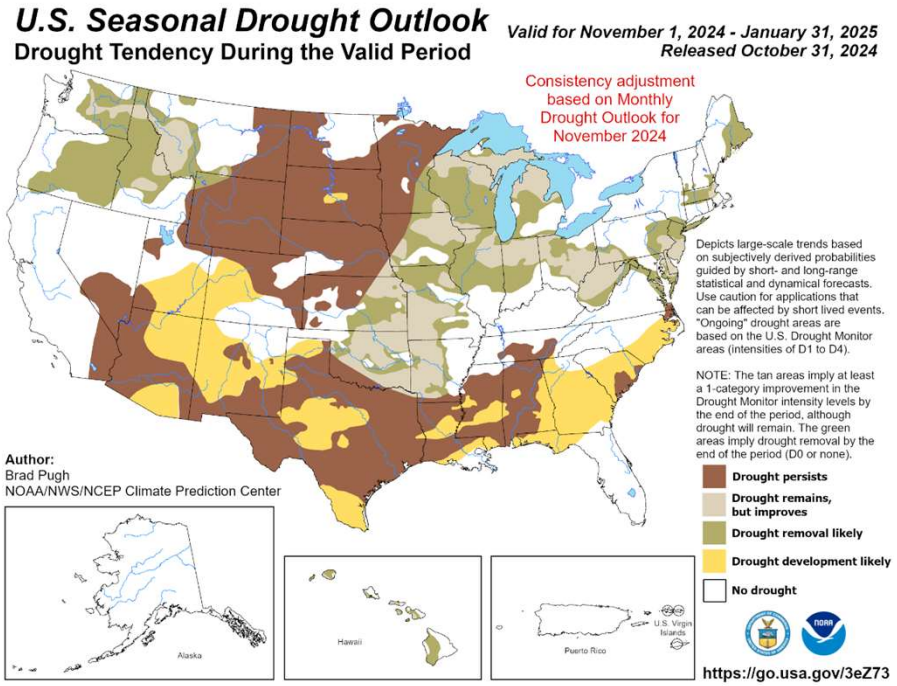
U.S. Drought Monitor Outlook

The monthly outlook is for persistent drought. The seasonal outlook is for improvement.





Hydrologic conditions summary

- Hydrologic conditions in the basin are DRY
- DRB Drought Operations likely to be initiated soon
- Current predictions are for drought conditions to persist

Have a great Thanksgiving!

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