

February 2020

Summary of Precipitation Departures and Other Hydrologic Indicators in the Delaware River Basin

Below is a summary of precipitation departures and other hydrologic indicators for the Delaware River Basin (DRB).

February received most of its precipitation in the first half of month, in smaller amounts that totaled to around 2 inches across most of the basin. In the upper basin, some of these precipitation events fell as snow which lingered and fed streams gradually through runoff as melting occurred. The period from Feb 14, 2020 through Feb 24, 2020 featured completely dry conditions for most of the basin. In the last week of the month, one more light precipitation event moved through the area which deposited around a half an inch across the basin. Extremes occurred in the far southern and northern parts of the basin, with both areas reporting above average rainfall amounts for February. The middle portion of the basin remained close to normal, or just below normal with Monmouth, NJ reporting the lowest accumulation of the stations in the basin at 2 inches flat.

The last three months have been relatively close to normal conditions for all. 15 of the 34 counties in the basin are reporting above normal rainfall for the period, with the highest surplus being New Castle, DE at 1.5 inches above normal. In the past 180 days, most of the counties are reporting below normal conditions. Only 2 of the 34 counties are reporting above normal precipitation (Chenango NY and Broome, NY). This makes sense since we are still including the anomalously low September precipitation amounts in the last 180 day analysis.

Thanks to melting snowpack in the upper basin, the reservoirs have been supplied with a consistent inflow. This has helped to keep the combined storage in the reservoirs around 90 percent full over the entire month. Only a small amount of snow remains in the upper basin, and will likely melt in the first week of March with warmer temperature expected across the basin. Most groundwater and surface water conditions are reporting Normal levels. Lehigh county is reporting above normal groundwater conditions, and Lehigh River is also reporting above average flow over the last 28 days.

The Climate Prediction Center has eliminated all areas of drought in the basin according to the most recent drought monitor released February 25, 2020.

Albeit light, the consistent precipitation in the first half of the month was able to supply the system with plenty of freshwater. The salt front reached its maximum upstream location of river mile 70 on February 9th, 2020 before retreating below river mile 64. The last days of the month have seen movement upstream as flows returned close to normal, and ended the month close to river mile 66. For the next month, the average location of the salt front will be near river mile 71.

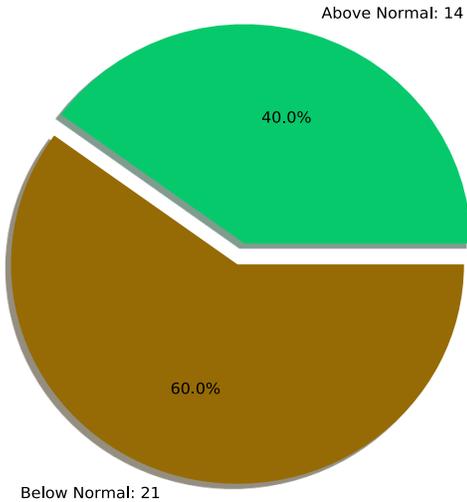
90-Day Period Ending March 2, 2020

Range of 90-Day Precipitation Totals for Delaware River Basin Counties



Lackawanna, PA: 7.6 inches **9.44 inches** **Monmouth, NJ: 11.0 inches**

Number of counties above and below normal



Top 5 Surpluses in the past 90 days for DRB counties:

County, State	Inches From Normal	% From normal
New Castle, DE	1.5	15
Chenango, NY	1.3	15
Broome, NY	0.9	11
Monmouth, NJ	0.7	7
Atlantic, NJ	0.7	7

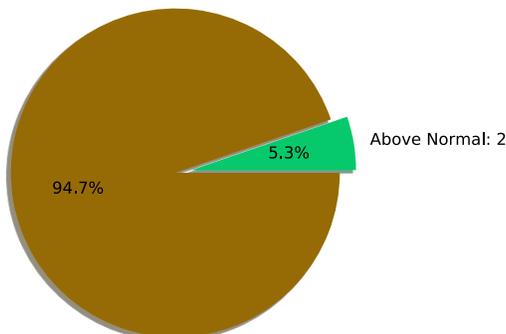
180-Day Period Ending March 2, 2020

Range of 180-Day precipitation totals for DRB Counties



Kent, DE: 16.5 inches **19.29 inches** **Sullivan, NY: 21.7 inches**

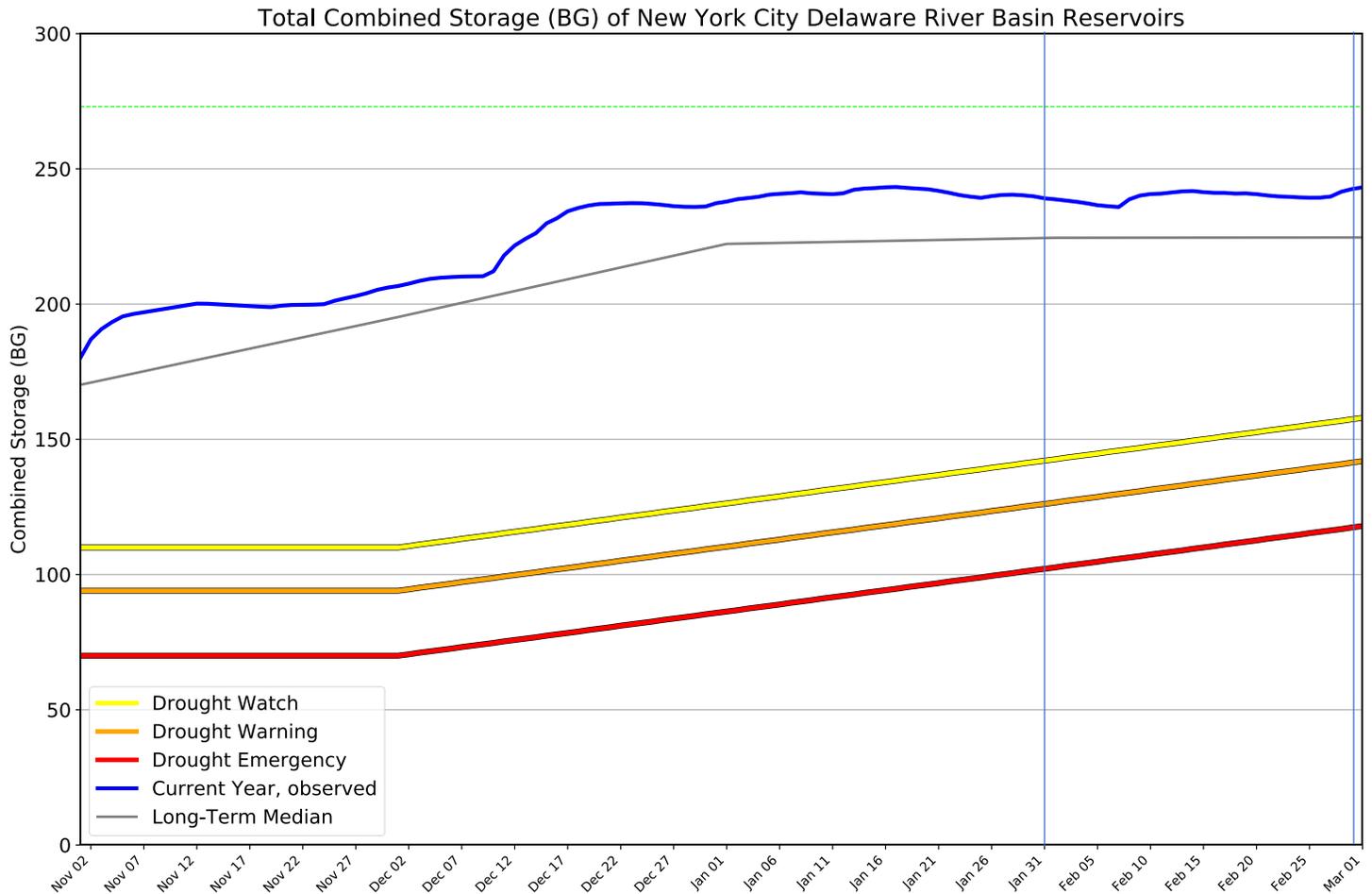
Number of counties above and below normal



Top 5 Surpluses in the past 180 days for DRB counties:

County, State	Inches From Normal	% From normal
Chenango, NY	1.8	9
Broome, NY	0.9	5
Atlantic, NJ	-0.1	0
Delaware, NY	-0.3	2
New Castle, DE	-0.7	3

Storage (NYC and Lower Basin)



NEW YORK CITY

	Usable Storage	
	(BG)	(%)
Neversink	31.4	90.5
Pepacton	128.6	92.3
Cannonsville	83.7	89.6
NYC Total	243.7	91.1

LOWER BASIN

	Usable Storage	
	(BG)	(%)
FE Walter	0.1	2.1
Beltzville	13.5	100.0
Blue Marsh	4.4	77.2

Surface Water and Groundwater Conditions

Surface Water

The table below displays the status (March 2, 2020) of 28-day running average streamflow for the index stations. Water levels within the 25% to 75% range are defined as “normal.”

PA COUNTY INDEX STATION	CURRENT STATUS
Dyberry Creek Nr Honesdale	Above Average
Bush Kill at Shoemakers	Normal
Brodhead Creek Nr Analomink	Normal
Lehigh River at Stoddardsville	Above Average
Pohopoco Creek at Kresgeville	Normal
Little Lehigh Creek Nr Allentown	Normal
Monocacy Creek at Bethlehem	Normal
Lehigh River at Bethlehem	Normal
Neshaminy Creek Nr Langhorne	Not Valid
Pennypack Creek at Lower Rhawn St, Phila.	Normal
Schuylkill River at Landingville	Normal
Schuylkill River at Berne	Normal
Tulpehocken Creek Nr Bernville	Normal
Schuylkill River at Pottstown	Normal
Perkiomen Creek at Graterford	Normal
Schuylkill River at Philadelphia	Normal
Chester Creek Nr Chester	Normal
Brandywine Creek at Chadds Ford	Normal

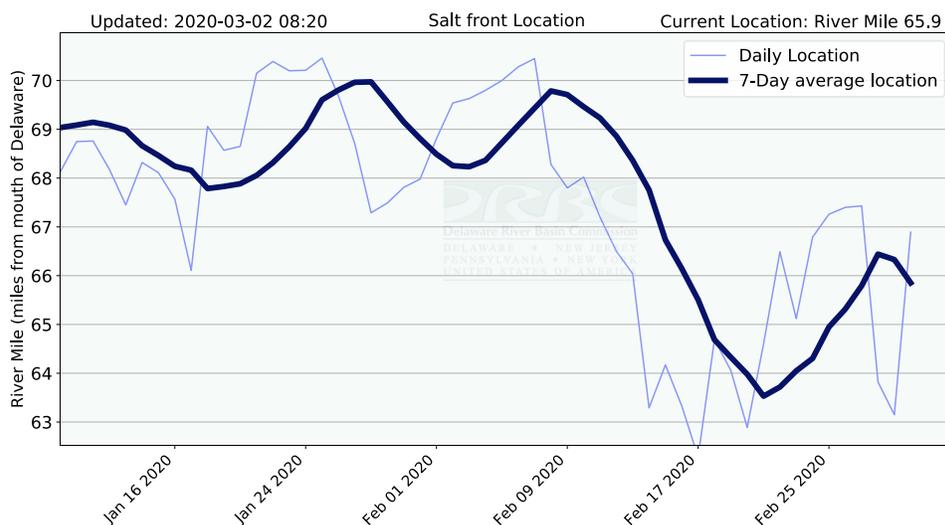
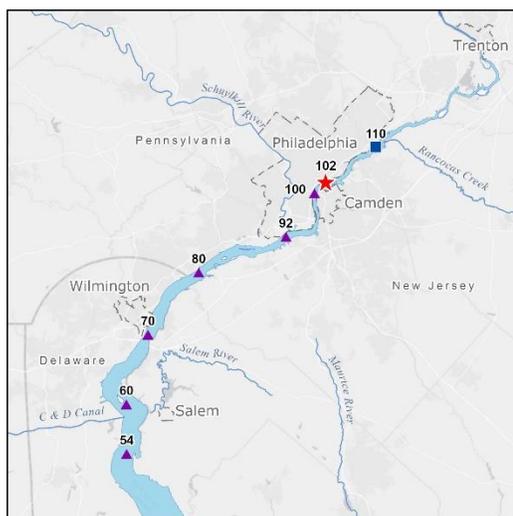
Groundwater

The table below displays the status (March 2, 2020) of groundwater levels for 12 wells in the Delaware River Basin. Water levels within the 25% to 75% range are defined as “normal.”

COUNTY	STATE	DATA SOURCE	WELL ID	INDICATOR AS OF 2020-02-19
Wayne	PA	USGS	WN 64	Normal
Monroe	PA	USGS	MO 190	Normal
Carbon	PA	USGS	CB 104	Normal
Schuylkill	PA	USGS	SC 296	Normal
Lehigh	PA	USGS	LE 372	Above Normal
Bucks	PA	USGS	BK 1020	Normal
Chester	PA	USGS	CH 10	Normal
Delaware	PA	USGS	DE 723	Normal
Lebanon	PA	USGS	LB 372	Normal
Burlington	NJ	USGS	050689	Normal
Cumberland	NJ	USGS	110042	Normal

Delaware River Salt Front Location

The salt front is defined as the 250 parts-per-million isochlor. The seven-day average location of the salt front is used by DRBC as an indicator of salinity intrusion in the Delaware Estuary. The salt front’s location fluctuates along the main stem Delaware River as streamflow increases or decreases in response to changing inflows, diluting or concentrating chlorides in the river.



Note: DRBC does not calculate the location of the saltfront below river mile 54.

Report prepared by DRBC Staff. Acknowledgments: NWS-MARFC; USGS; Delaware Geological Survey (DGS).
