

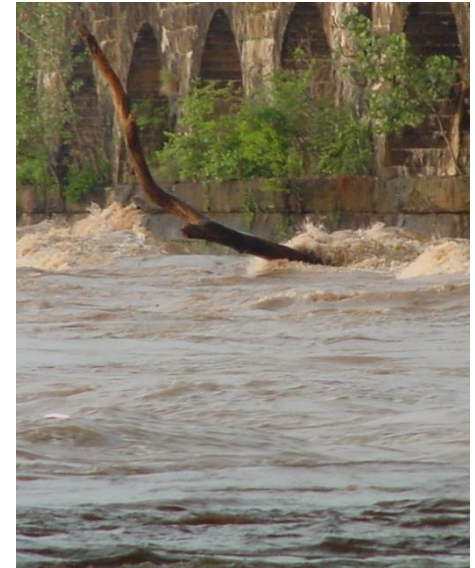
Delaware River Basin Commission

Hydrologic Conditions

Amy L. Shallcross, P.E.
Manager, Water Resource
Operations

Water Management Advisory
Committee Meeting
June 20, 2019

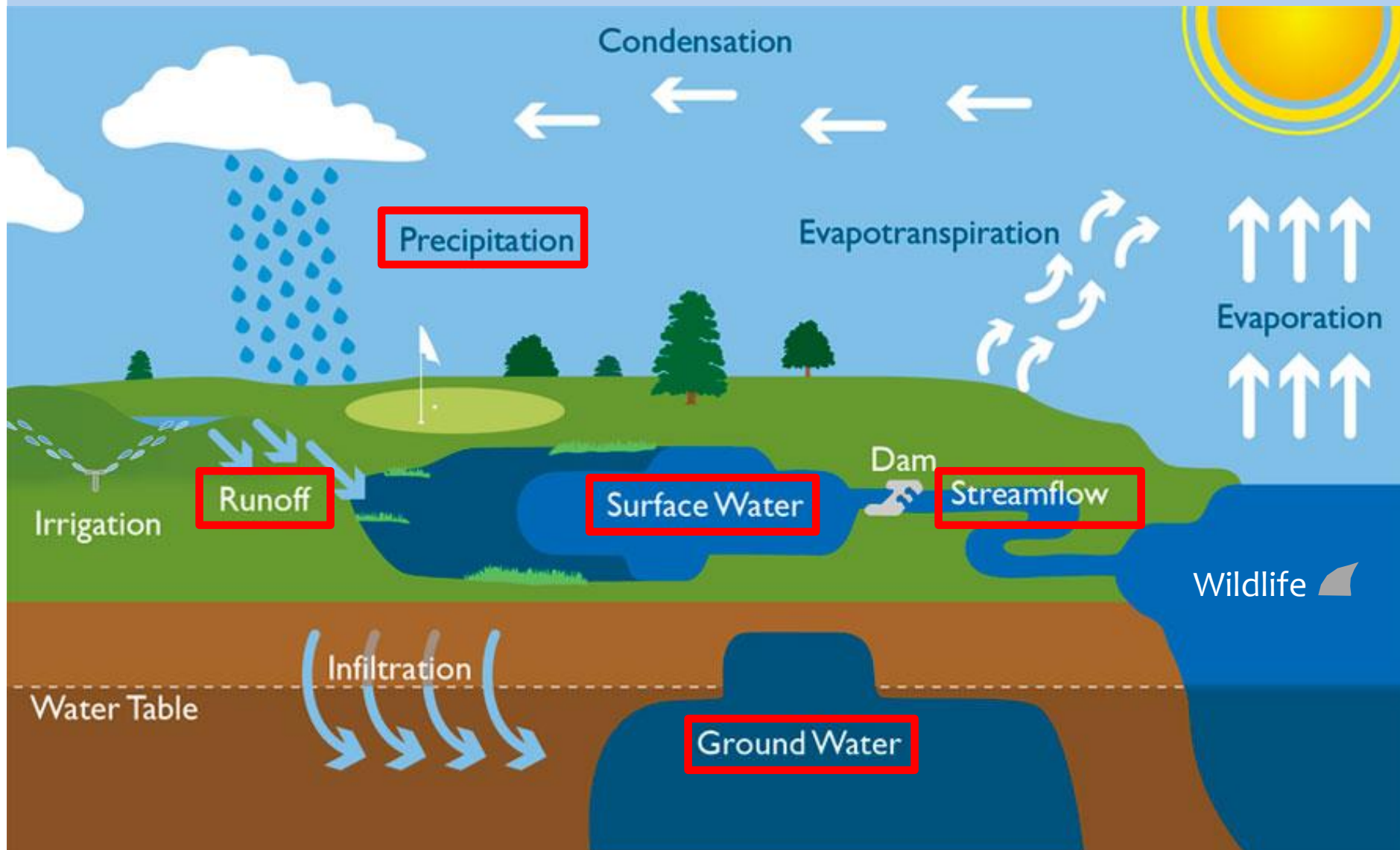
Presented to an advisory committee of the DRBC on June 20, 2019.
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Delaware River Basin Commission

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PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

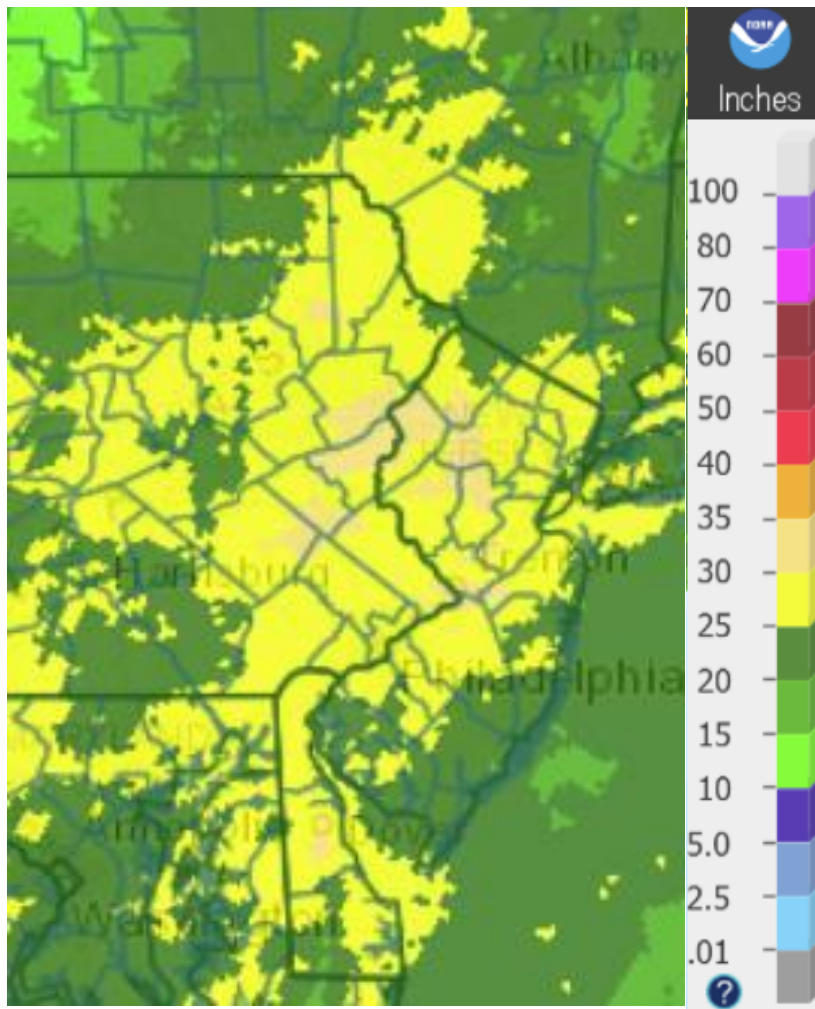
Hydrologic Cycle



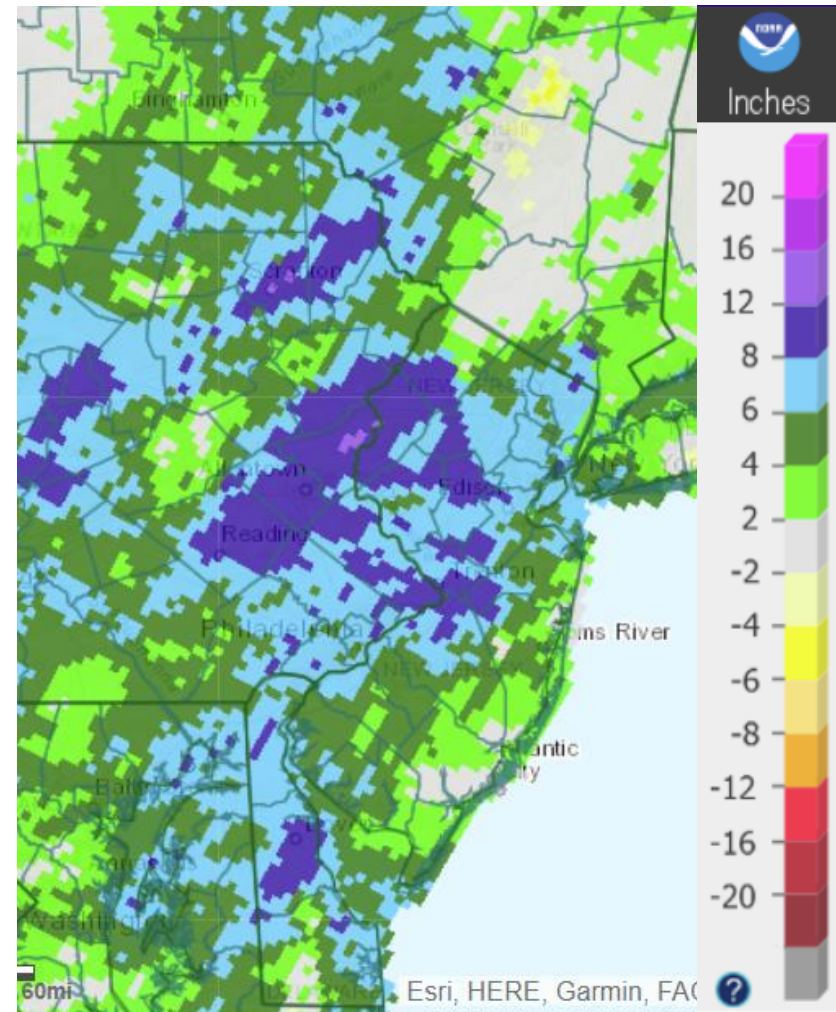


Year-to-Date Precipitation

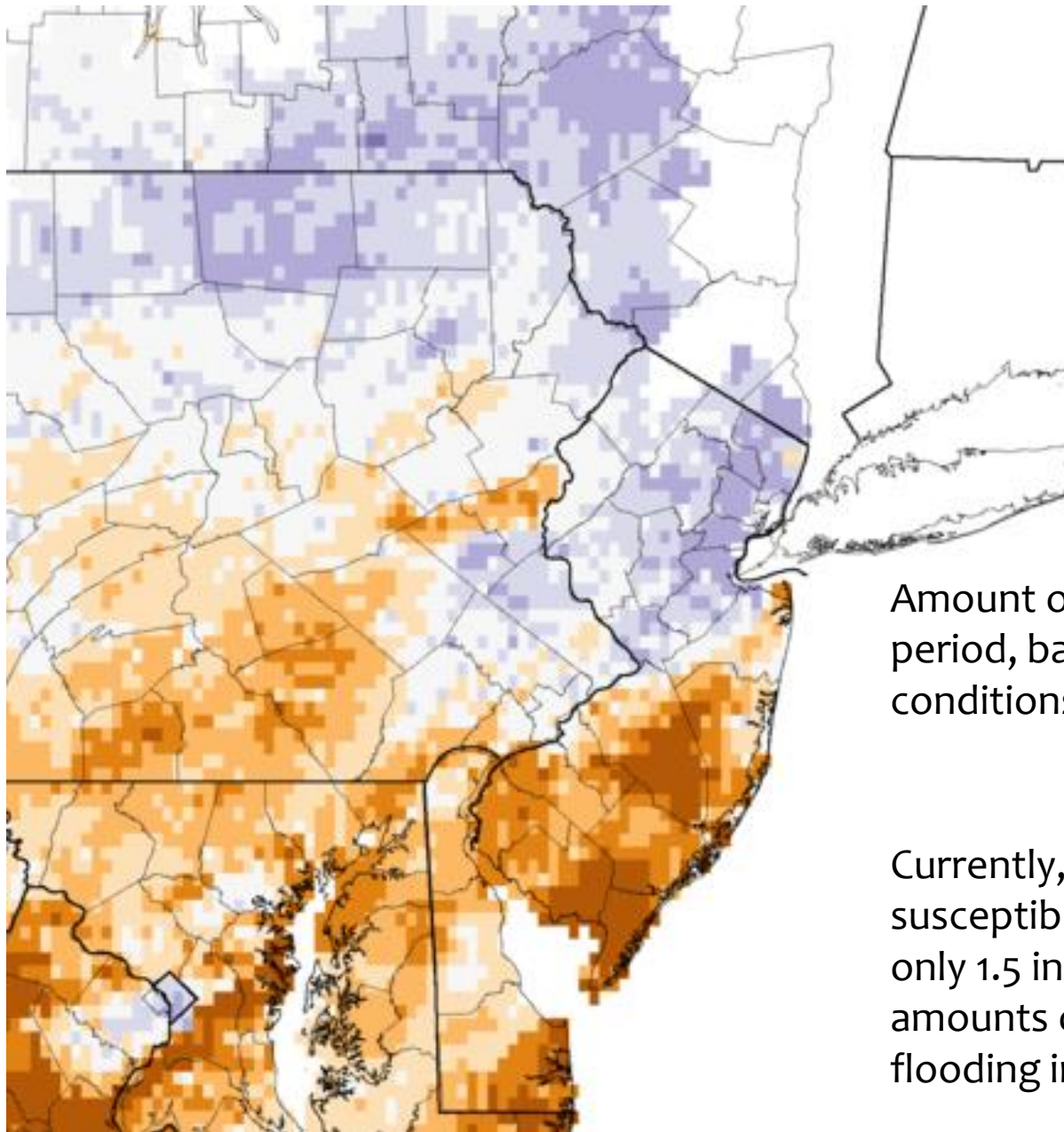
Observed



Departure from Normal

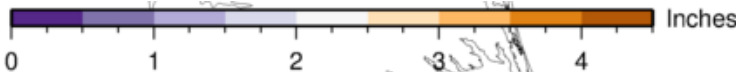


Flash Flood Guidance

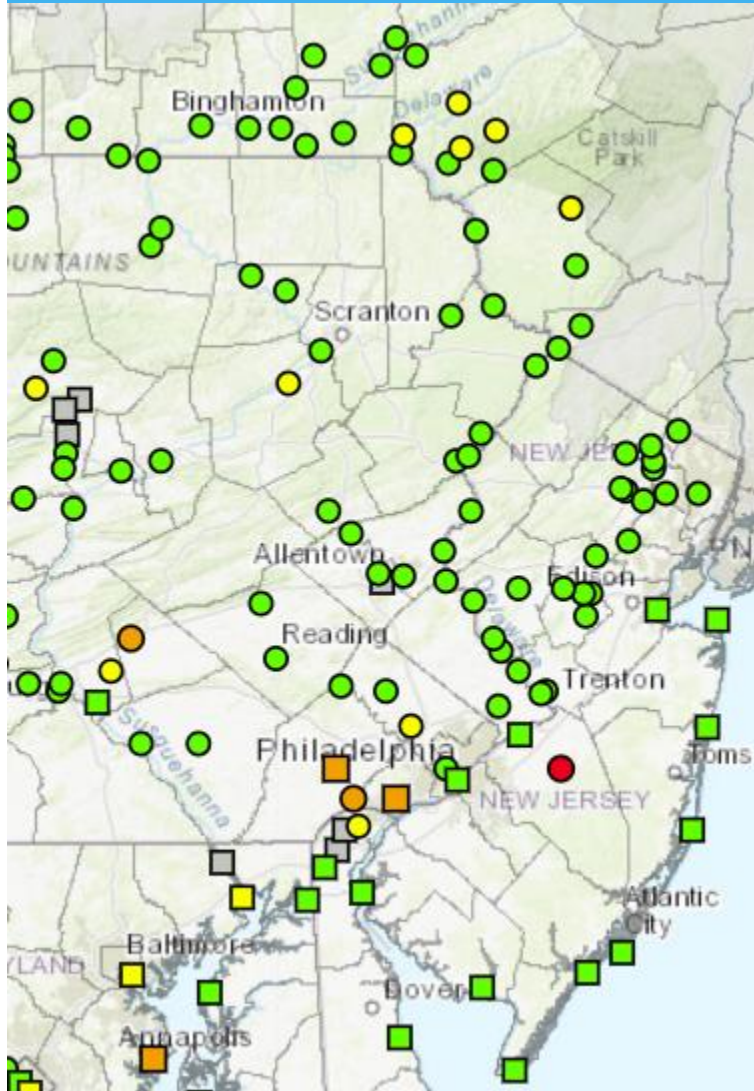


Amount of rain required in a 3-hour period, based on antecedent conditions, to cause flash flooding.

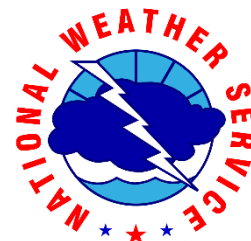
Currently, the upper basin is more susceptible to flash flooding, with only 1.5 inches in 3 hours. Larger amounts of rain are required for flash flooding in the lower basin.



Areas flooding or that may flood



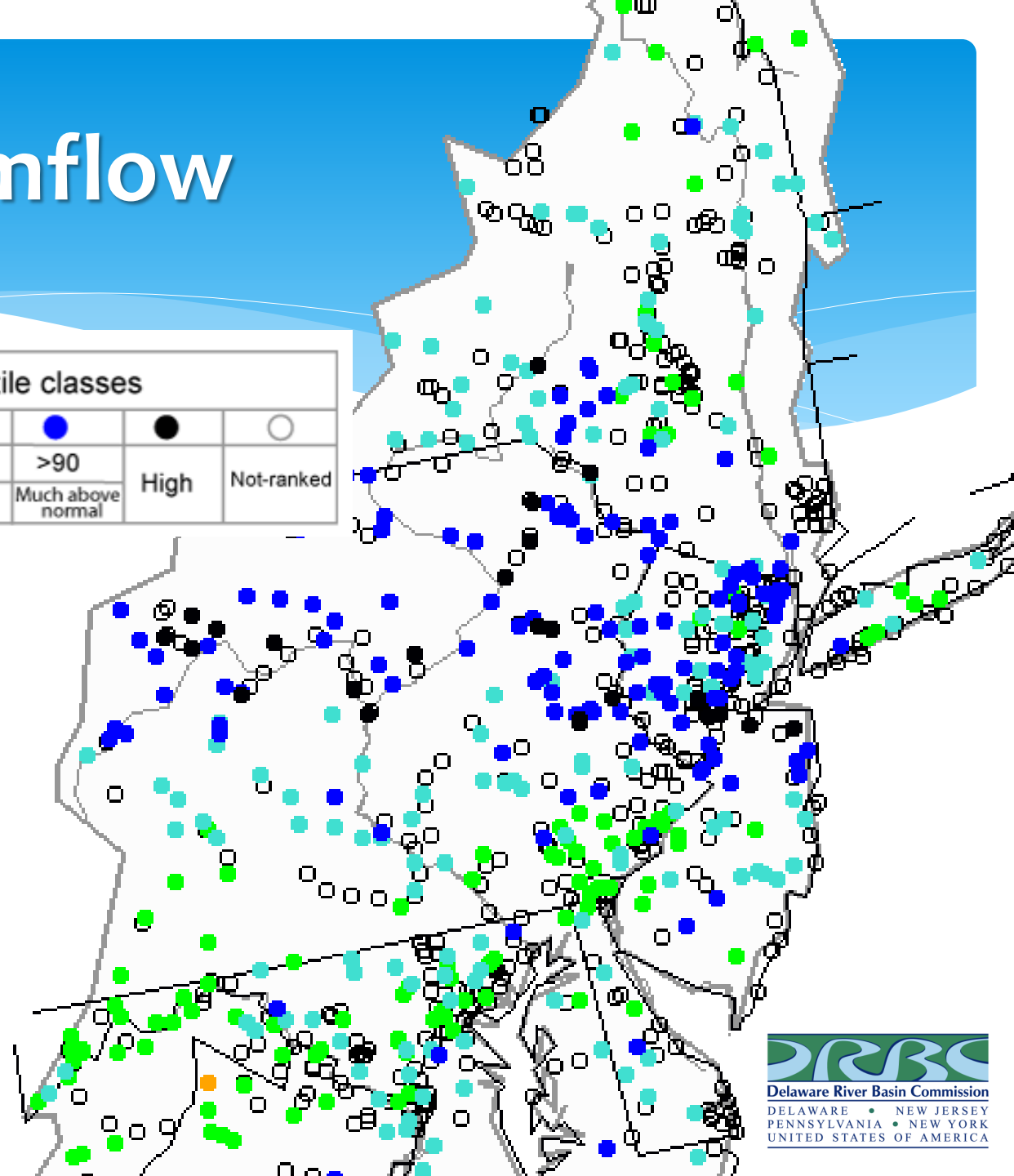
- * N.B. Rancocas at Pemberton (Moderate)
- * Brandywine Creek at Wilmington (Action)
- * Brandywine Creek at Chadds Ford (Action)
- * Eat Branch Brandywine Creek Below Downingtown (Moderate)
- * Red Clay Creek at Wooddale (Minor)
- * Chester Creek near Chester (Minor)
- * Schuylkill River at Norristown (barely Action)
- * W.B. Delaware at Walton (Action)
- * E.B. Delaware River at Harvard
- * NYC are spilling or are near spilling, but being actively manage
- * 3 WTPs in the Schuylkill Basin discharging partially treated effluent



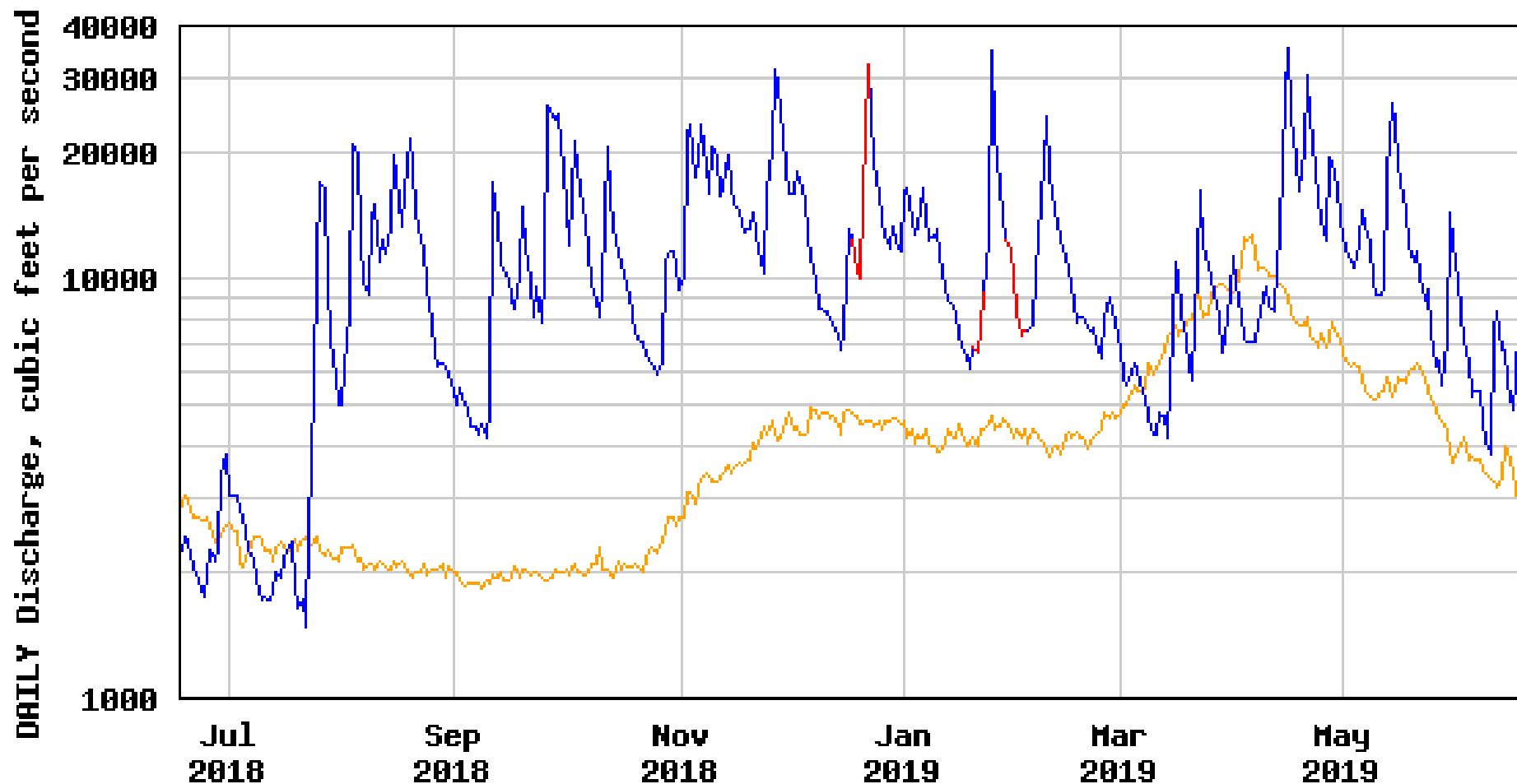
Streamflow

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		

As of 3:30 pm,
Wednesday,
June 19, 2019



USGS 01438500 Delaware River at Montague NJ

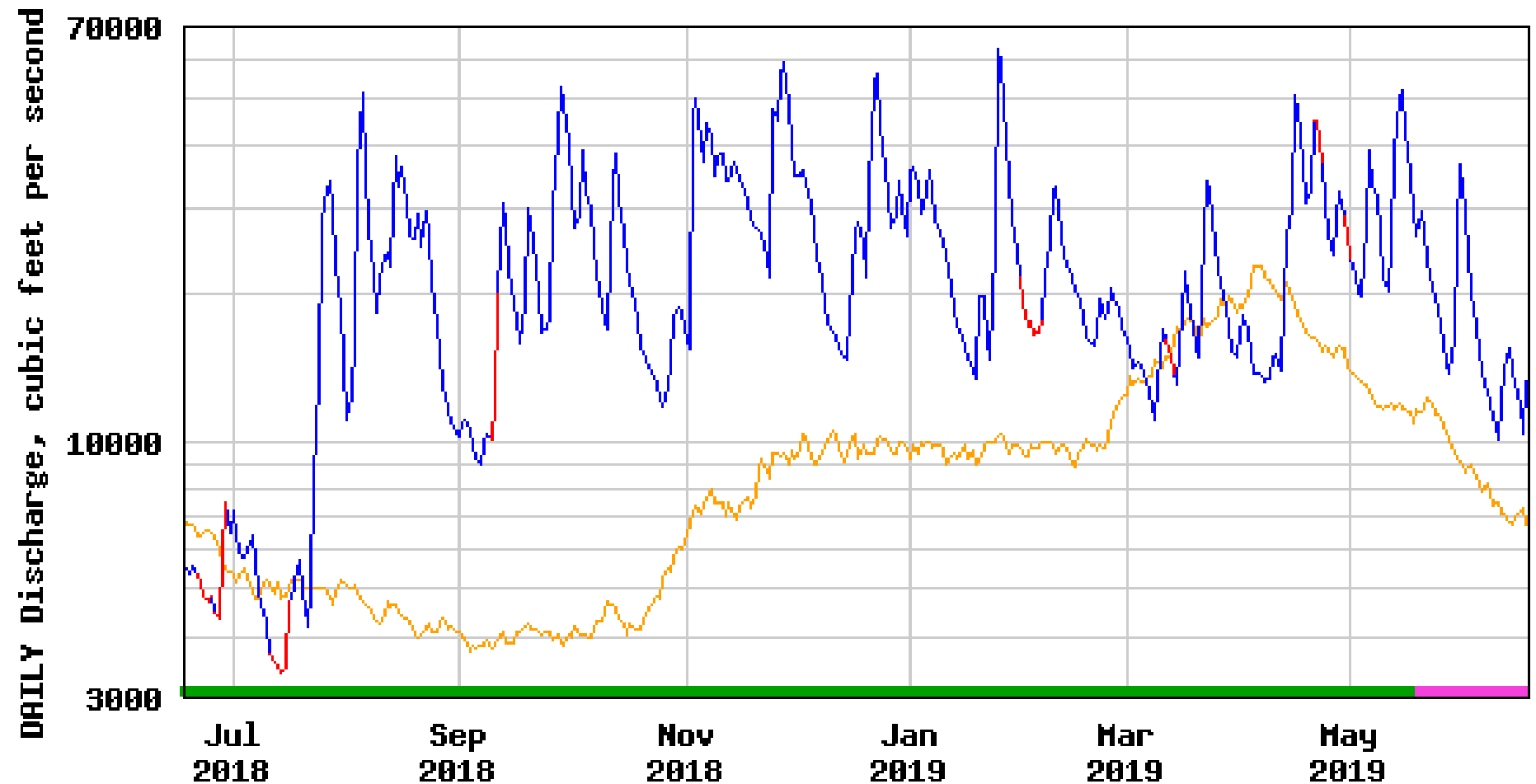


---- Provisional Data Subject to Revision ----

— Median daily statistic (78 years) — Estimated daily mean discharge
— Daily mean discharge



USGS 01463500 Delaware River at Trenton NJ

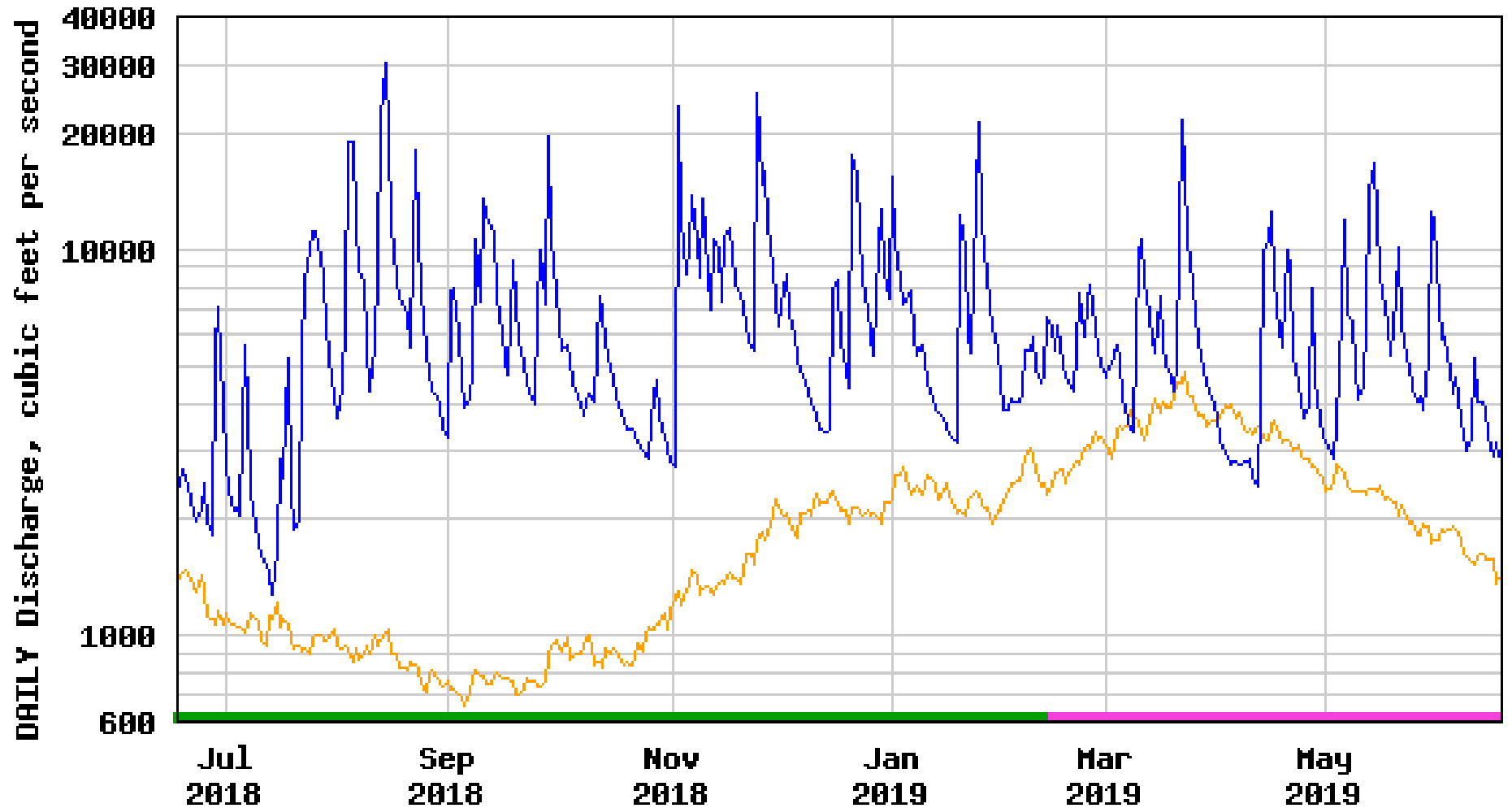


- Median daily statistic (105 years)
- Daily mean discharge
- Estimated daily mean discharge

- Period of approved data
- Period of provisional data



USGS 01474500 Schuylkill River at Philadelphia, PA



Stay Afloat: Always Wear A Life Jacket



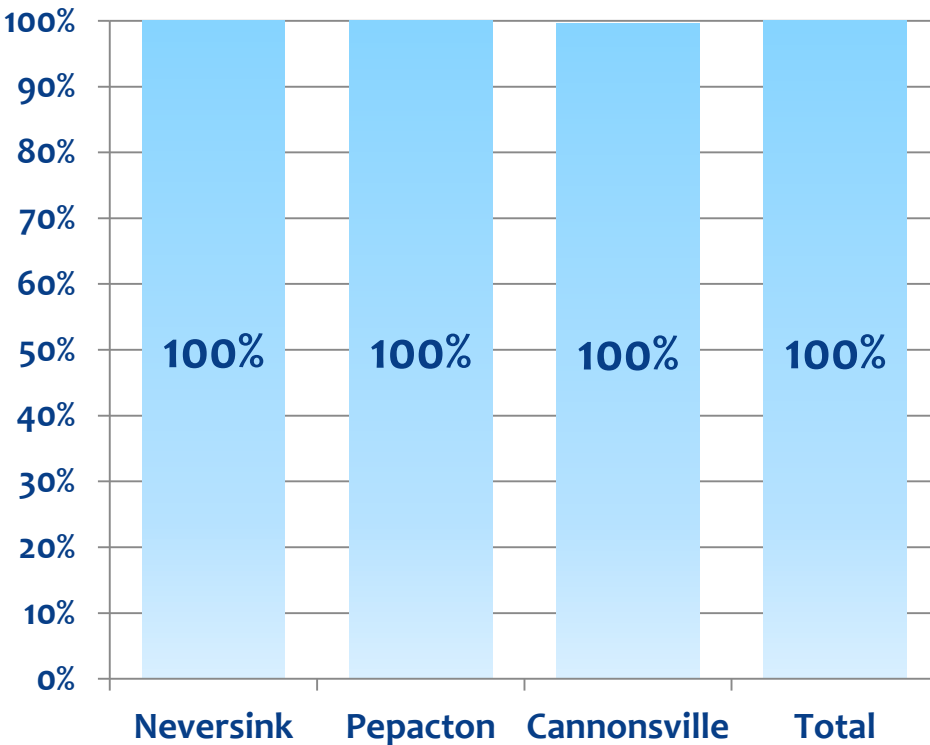
Photo by Tom Amidon
Rafting after FE Walter Release



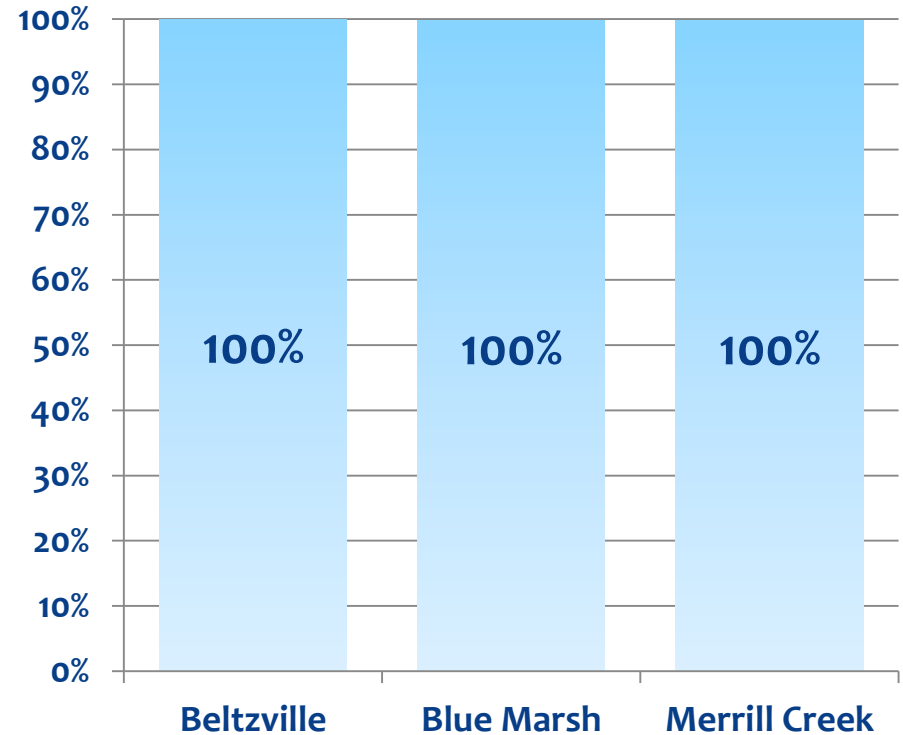
Basin Storage

New York City Delaware

River Basin Storage

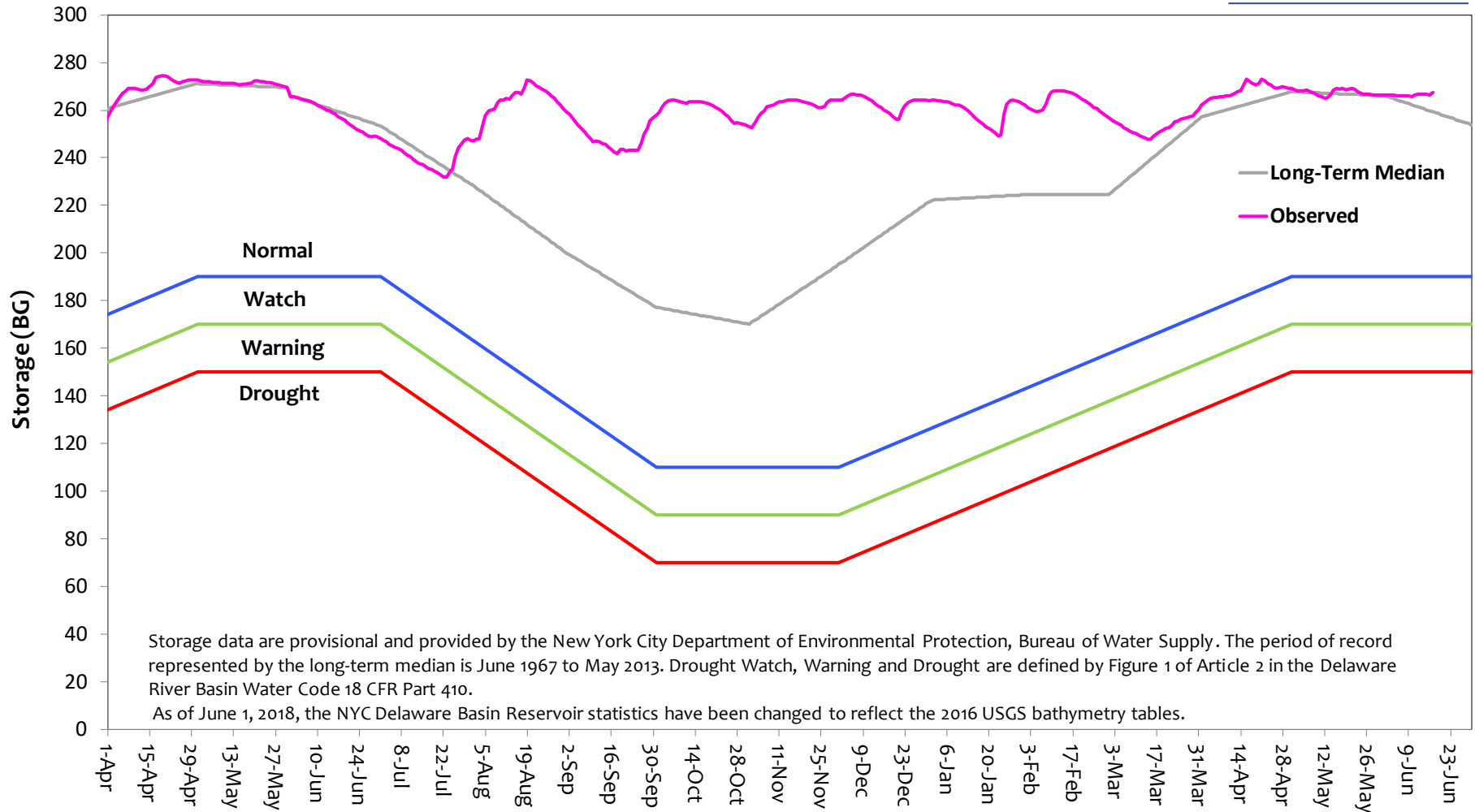


Lower Basin Storage



New York City Delaware River Basin Storage

6/17/2019



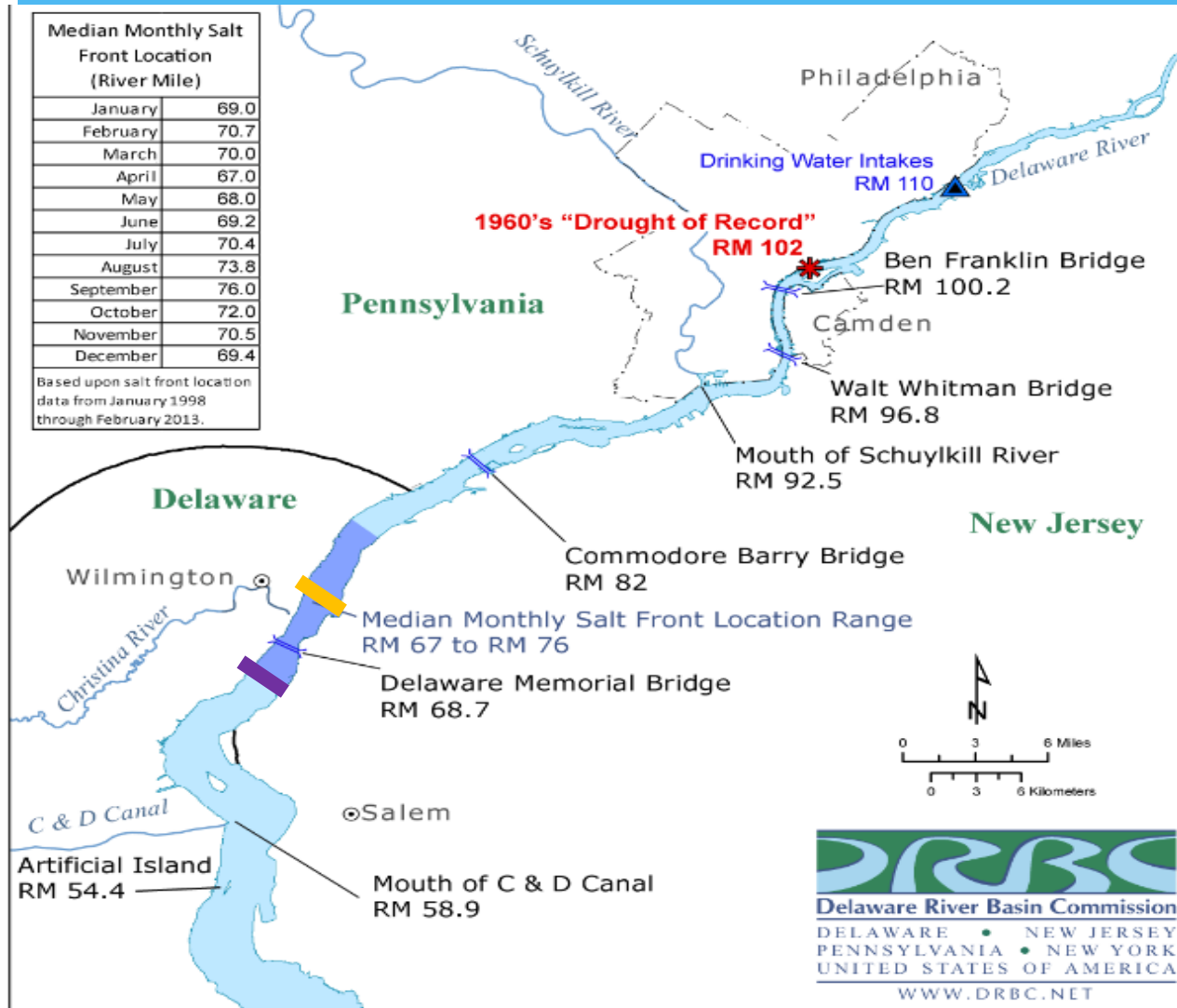
2018-19						
Useable Storage	Cannonsville	Pepacton	Neversink	Total	BG Above Drought Watch =	BG Above Daily Storage Median =
BG	93.1	139.6	34.8	267.5	77	8
%	99.6%	100.2%	100.3%	100.0%	BG Above Drought Warning = 97	BG Above One Year Ago = 10
					BG Above Drought = 117	

Salt Front

Median Monthly Salt Front Location (River Mile)

January	69.0
February	70.7
March	70.0
April	67.0
May	68.0
June	69.2
July	70.4
August	73.8
September	76.0
October	72.0
November	70.5
December	69.4

Based upon salt front location data from January 1998 through February 2013.



Chlorides
7-Day Avg. RM Location of
250 mg/l

Current R.M. 64

Normal R.M. 69

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

6/12/2019 - Estimated

Groundwater

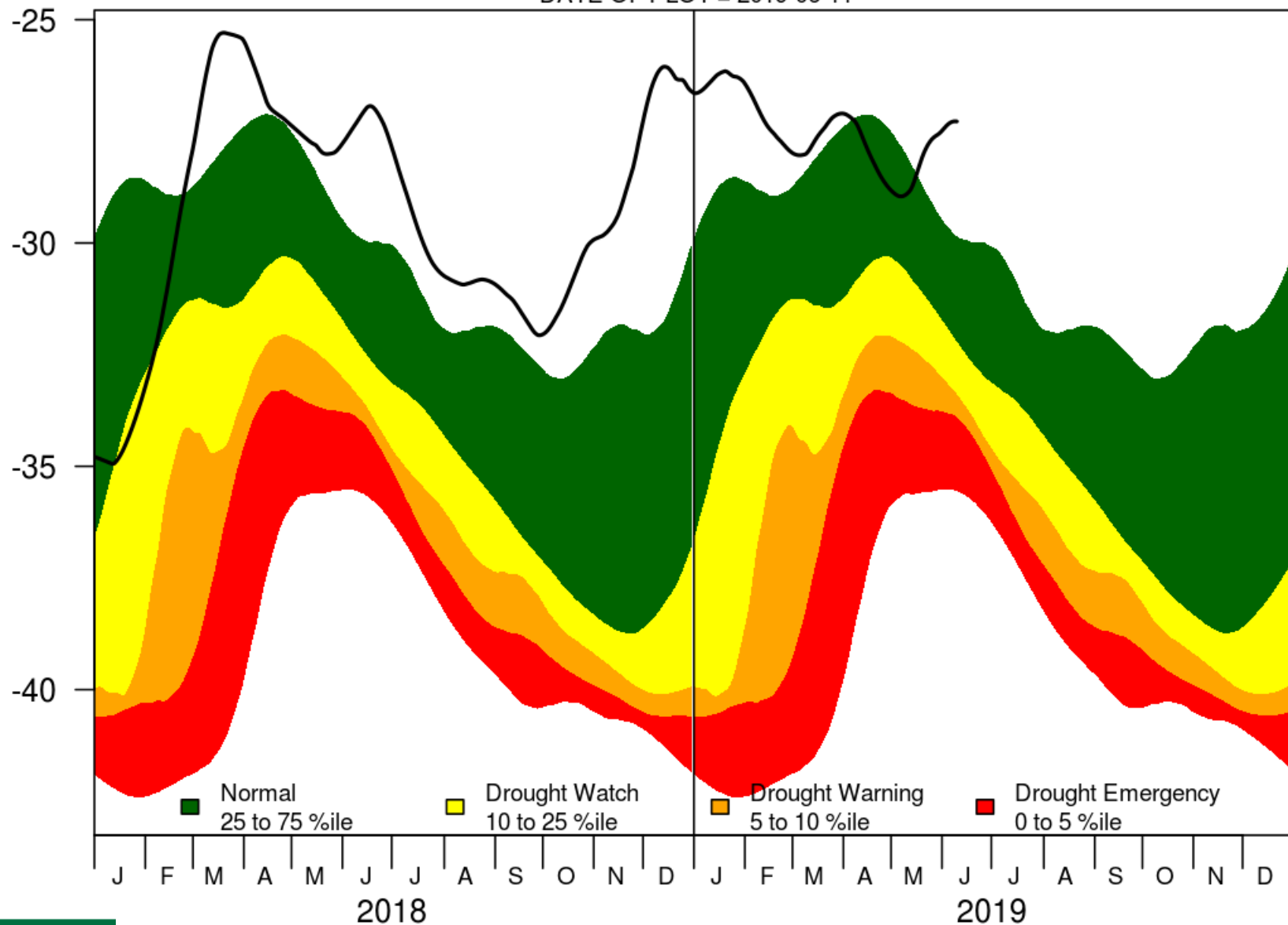
County	State	Agency	Well ID	Initial Year	Indicator 3/2019	Indicator 6/2019
Sullivan	NY	USGS	SV 535	2001	Normal	Above Normal
Wayne	PA	USGS	WN 64	1967	Above Normal	Above Normal
Monroe	PA	USGS	MO 190	1967	Normal	Normal
Carbon	PA	USGS	CB 104	1969	Normal	Above Normal
Schuylkill	PA	USGS	SC 296	1975	Normal	Above Normal
Lehigh	PA	USGS	LE 644	1971	Above Normal	Above Normal
Lebanon	PA	USGS	LB 372	1973	Above Normal	Above Normal
Bucks	PA	USGS	BK 1020	1975	Above Normal	Above Normal
Chester	PA	USGS	CH 10	1966	Above Normal	Above Normal
Delaware	PA	USGS	DE 723	1983	Above Normal	Above Normal
Burlington	NJ	USGS	050689	1955	Above Normal	Normal
Cumberland	NJ	USGS	110042	1972	Above Normal	Above Normal
New Castle	DE	Delaware GS	Db24-18	1993	Above Normal	NA

Ten of 13 Indicator Wells are Above Normal
Two are below Normal

BK 1020 BUCKS COUNTY OBSERVATION WELL

PROVISIONAL DATA - SUBJECT TO CHANGE
RECORD START = 1975-09-04 NUMBER OF YEARS = 41
DATE OF PLOT = 2019-06-11

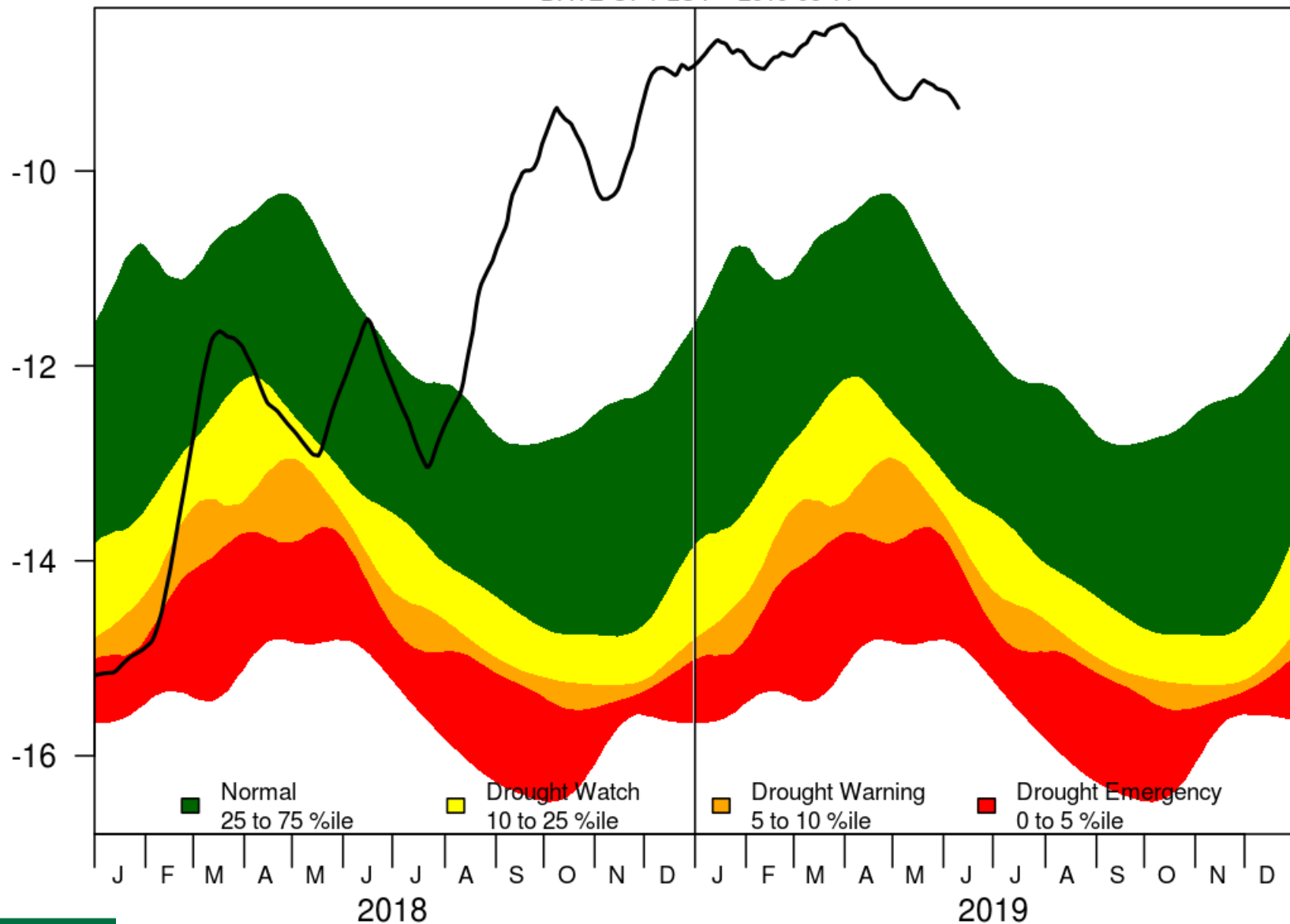
30-Day Moving Average Depth to Water, in Feet Below Land Surface



CH 10 CHESTER COUNTY OBSERVATION WELL

PROVISIONAL DATA - SUBJECT TO CHANGE
RECORD START = 1966-02-15 NUMBER OF YEARS = 49
DATE OF PLOT = 2019-06-11

30-Day Moving Average Depth to Water, in Feet Below Land Surface

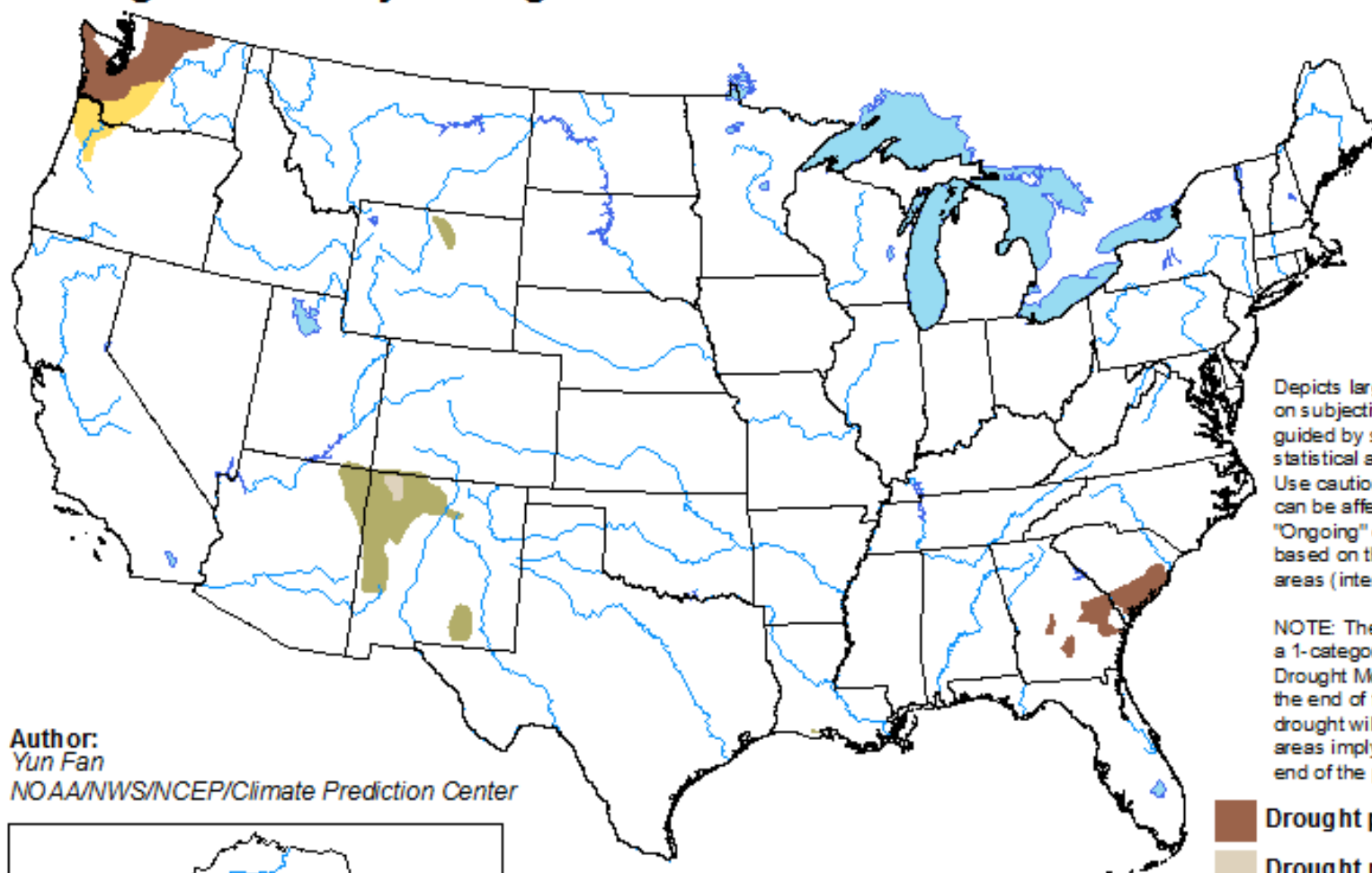


U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for May 16 - August 31, 2019

Released May 16

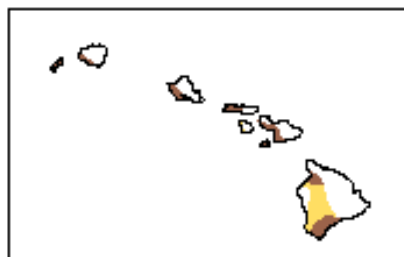
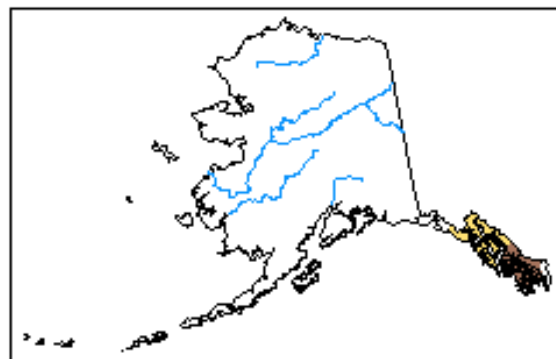


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

Author:
Yun Fan
NOAA/NWS/NCEP/Climate Prediction Center

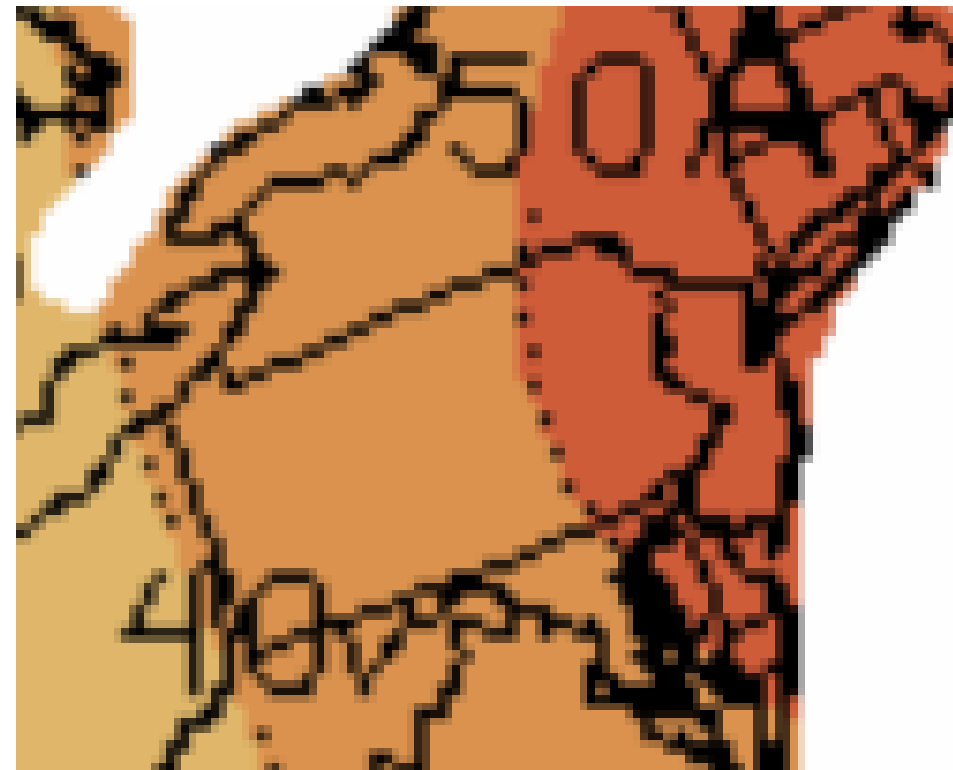
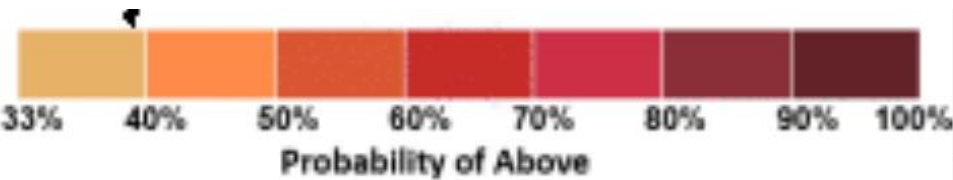


<http://go.usa.gov/3eZ73>

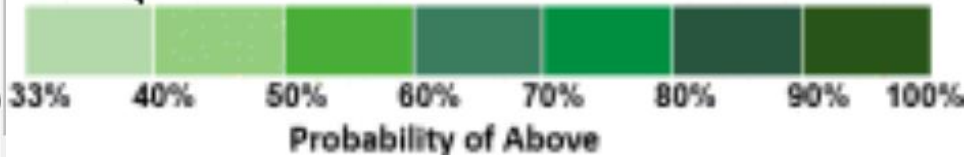


NOAA 3-Month Outlook

Temperature

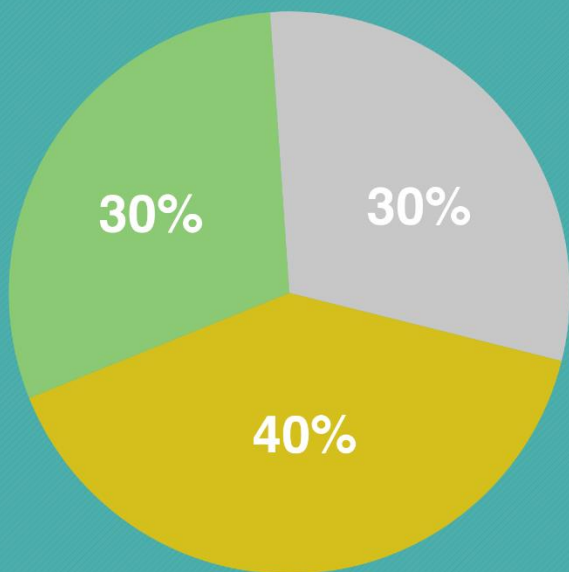


Precipitation





2019 Atlantic Hurricane Season Outlook



■ Above-normal ■ Near-normal ■ Below-normal season

Season probability

Named storms
9-15

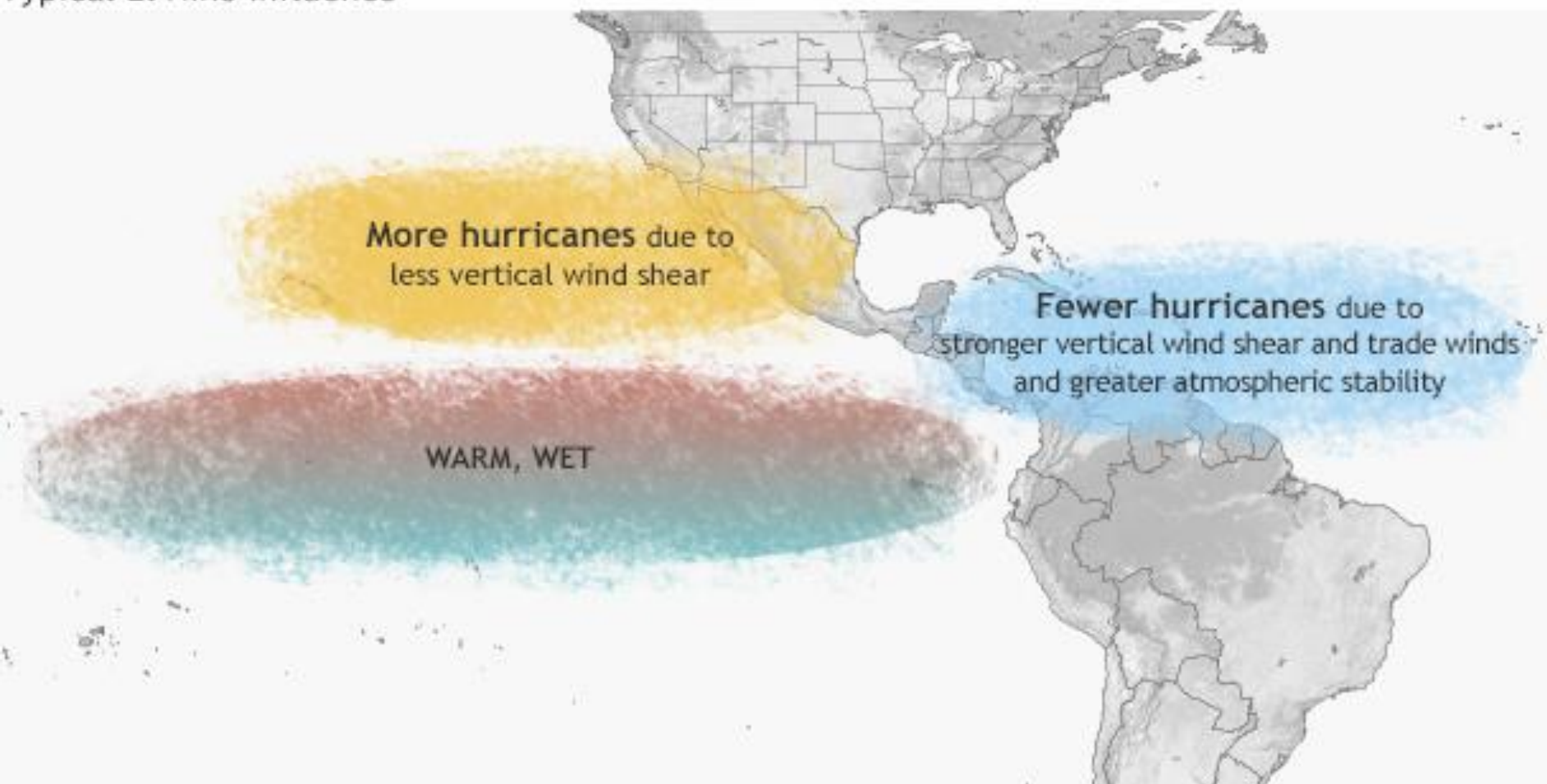
Hurricanes
4-8

Major hurricanes
2-4

Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on Twitter.

May 23, 2019

Typical El Niño influence





DRBC Spring Photo Contest Winner

*Tulipes à
Frenchtown*
by
Laura Orbine



Have a safe and happy summer!

**Photo by Carl LaVo
D&R Canal Spillway,
Lambertville, NJ**