

## USGS and Partner Efforts to Monitor High River Flow During Summer, 2018 and Potential Effects of Hurricane Florence on the Chesapeake Bay Watershed

Prepared by Scott Phillips and Peter Tango, USGS and STAR, Sept 12, 2018

### Chesapeake Rivers are already above normal prior to Hurricane Florence:

- River flows are already high across the Bay watershed due to recent rains during the weekend of Sept 8-9 (see Potomac River page 2 and map on page 3).
- River flow into the Chesapeake set a record for the month of August, at 133,000 cubic feet per second (see graph below).
- River flows to the Chesapeake have been unusually high since May.
- High river flows usually carry more pollutants into the bay and affect salinity levels, which in turn can affect oysters and fish, underwater grasses and other facets of the bay ecosystem.
- More rain from Hurricane Florence is expected particularly in the VA portion of the watershed and could have addition effects on the watershed and Bay.

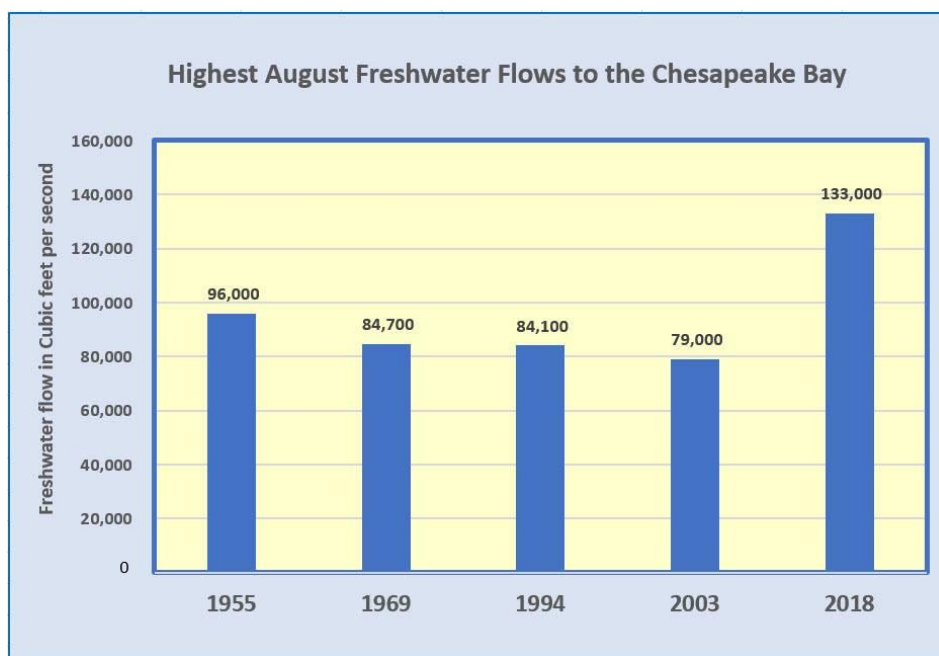


Chart: The five highest freshwater flows into Chesapeake Bay ever recorded in the month of August.

Credit: Wendy McPherson, USGS. For more information

<https://chesapeake.usgs.gov/sciencsummary-rainwaterflow.html>

### USGS and science partners are enhancing monitoring activities in anticipation of Florence.

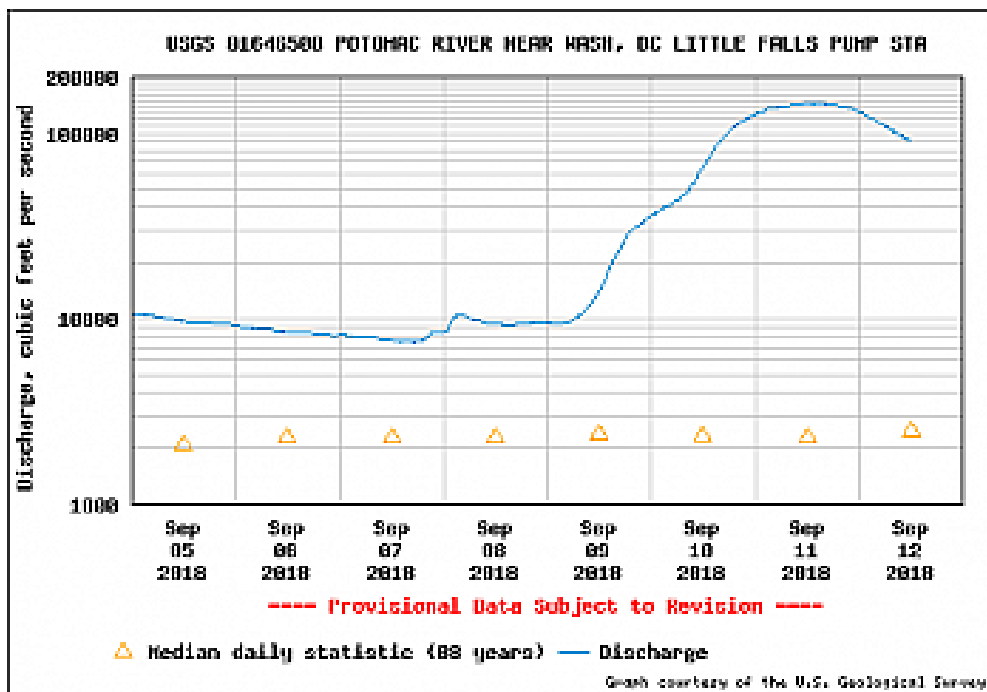
- USGS in VA, WV, MD, and PA offices are working with FEMA, States, and localities to deploy real-time rapid deployment gauges and surge sensors in the lower Chesapeake Bay and at inland locations anticipated to have significant community impacts because of Hurricane Florence and the remnants of Hurricane Gordon.

- 24 sites of the CBP nontidal water-quality network will be sampled in VA. Sample collection is expected to begin Friday (9/14) and continue until streamflow dissipates early next week.
- Another 12 monitoring locations will be sampled around Hampton Roads, VA, which has an Urban Runoff Network. It is expected that measurements will be made during the entirety of the storm response (that is, Thursday-Saturday).
- Sampling of the Susquehanna River at Conowingo continues. The USGS has been collecting storm samples from the high flows due to rain the weekend of Sept 7-8.
- Crews are ready in all the states for water-quality monitoring if rains from Florence move northward.
- Sampling of tidal waters is occurring every two weeks. MD DNR, ODU, VA DEQ, and NOAA are working with CBP Monitoring Team to coordinate collection of water-quality samples in the Bay and tidal rivers.

**For more information:**

**Real-time River Flow in the Chesapeake Watershed.** The most current streamflow conditions in the Mid-Atlantic area are available from the USGS...

<https://waterwatch.usgs.gov/new/index.php?r=02&m=real>



River flow at the Potomac near Washington DC. River flows at above normal across the watershed. Source: USGS WaterWatch

Hednesday, September 12, 2018 12:30ET

Map of real-time river flows for afternoon of Sept 12, 2018. Sites with black symbols are record highs. Sites with blue shades are well above normal. Sites with green have normal flow levels.

