



# News Release

U.S. Department of the Interior  
U.S. Geological Survey

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**Release:**  
September 5, 2003

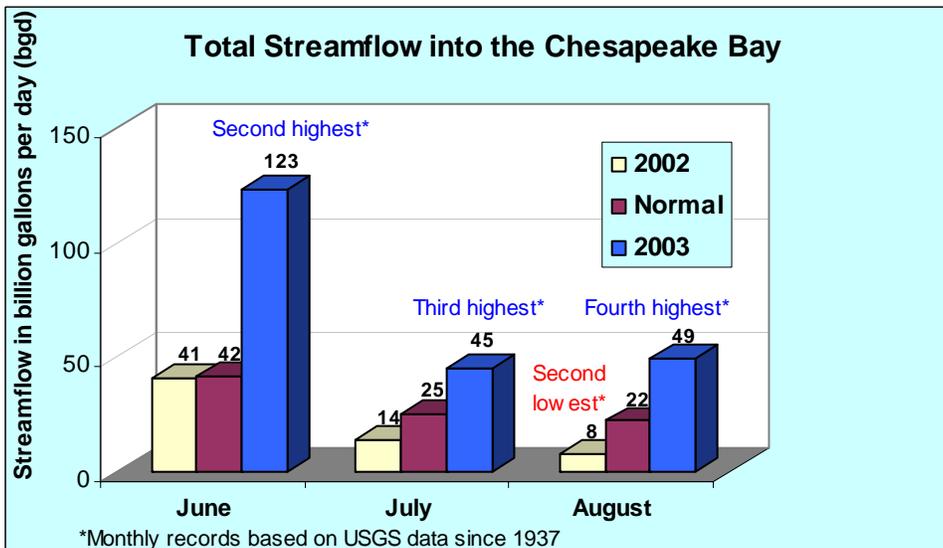
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## Third Consecutive Month of High Flow into the Chesapeake Bay

Total flow into the Chesapeake Bay during August was the fourth highest since record-keeping began in 1937 (66 years), according to hydrologists at the U.S. Geological Survey (USGS) in Baltimore. Since January 2003, the total inflow into the Chesapeake Bay has been above average for each month except February. Several months of above normal rainfall have led to near record-setting high total streamflow into the Chesapeake Bay for the last 3 months.



The graph to the left shows that streamflow into the Bay last summer (2002) was below normal and in August, the total flow was the second lowest on record.

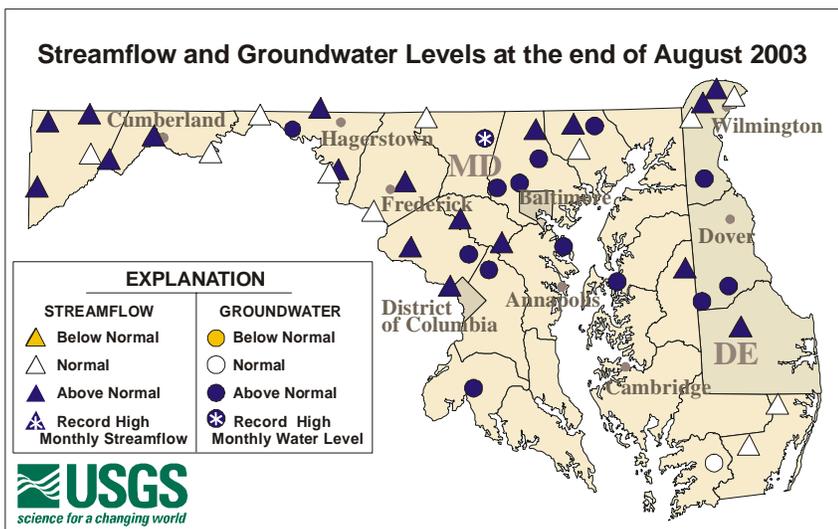
This summer (2003), the region experienced near record-setting high total flows into the Bay for 3 consecutive months. These flows were some of the highest total flows into the Bay in 66 years.

The inflow for August 2003 was six times higher than it was during the drought in August 2002. During August, total flow into the Chesapeake Bay averaged 49.1 bgd (billion gallons per day), which is 125 percent above average and the fourth highest since record-keeping began in 1937. The August average flow is 21.8 bgd. This is the third consecutive month of near record high total flow into the Bay. The highest monthly Bay inflow for August was in 1955, with 62.0 bgd.

The abundant streamflow into the Bay causes nutrients and sediments to be transported into the Bay, which has contributed to algae blooms and very low dissolved oxygen levels. The low dissolved oxygen levels harm fish, crabs, and other organisms in the Bay. More information about streamflow, water quality, and the Chesapeake Bay can be found at <http://md.water.usgs.gov/monthly/bay.html> and [www.chesapeakebay.net](http://www.chesapeakebay.net).

The total rainfall amount at the Baltimore-Washington (BWI) Airport from January to August 2003 was 11.35 inches above normal and is already near the normal total rainfall level for the year, according to the National Weather Service. Many months of above normal rainfall have led to above normal water levels and the ground is saturated in Maryland and Delaware. The result is that when it rains, the water has little place to go except to accumulate in depressions or become runoff, filling our waterways. The high water levels leave the region vulnerable to flooding should a hurricane engulf the mid-Atlantic region this fall (for information on flooding, see <http://md.water.usgs.gov/faq/index.html#hydrologyoffloods>.)

Groundwater levels remain elevated from the abundant rainfall during the summer. Groundwater levels in wells used by the USGS to monitor climatic conditions in the bi-state region were at normal to above normal levels, and the well in Carroll County, Maryland reached its highest level in 40 years for the second straight month (shown as star symbol on map). The high groundwater levels contribute flow to streams, which are already flowing at above normal levels.



In Maryland and Delaware, most of the water levels are above normal, shown as dark circles and triangles in the map to the left.

The well in Carroll County, Maryland has reached a record high level for August. This is the second straight month this well has set a record monthly high. In August 2002, this well reached its lowest level on record.

For news release and images, go to [http://md.water.usgs.gov/publications/press\\_release/current/](http://md.water.usgs.gov/publications/press_release/current/).

Although groundwater levels are high, they continue to drop in some areas because recharge doesn't usually occur during the summer months due to the growing season and the large amount of water needed by vegetation. For 5-year hydrographs of groundwater levels for the climatic indicator wells, visit: <http://md.water.usgs.gov/groundwater/>.

Streamflow levels were above normal at the end of August in most streams across Maryland and Delaware. Streamflow has been above average every day since February 2003 at the Potomac River near Washington, D.C. The average monthly streamflow of the Potomac River near Washington, D.C. was 5.0 bgd or 89 percent above normal. It has been a great year for recreational water users such as kayakers because of the consistently high flows.

Current and historical streamflow data can be monitored on the web at <http://waterdata.usgs.gov/nwis/rt>. Five-year monthly streamflow hydrographs from the USGS stream-gaging network can be viewed on the USGS website at <http://md.water.usgs.gov/surfacewater/streamflow/>.

High groundwater levels and above normal rainfall helped to keep reservoir storage levels in the Baltimore reservoir system and in the Triadelphia and Duckett Reservoirs on the Patuxent River near capacity in August.

Streamflow and groundwater levels are used to assess the current water conditions and can be used to predict the potential for flooding and drought conditions. These USGS data have been provided to State and local water resource managers and are critical for making appropriate decisions on water regulation. For more information on streamflow and groundwater levels in Maryland and Delaware, see Water Watch at: <http://md.water.usgs.gov/waterwatch/>.

The Water Resources Discipline of the USGS, in cooperation with Federal, State, and local agencies, collects and publishes a large amount of data pertaining to the water resources of Maryland, Delaware, and Washington D.C. each water year (October 1 to September 30). The resulting annual report documents hydrologic data gathered from the USGS's surface-water and groundwater data-collection networks in each state. These data, accumulated during many water years, constitute a valuable database that can be used to develop an improved understanding of the water resources of the region. The water resource data are published annually in two volumes (surface water and groundwater) and data for the 2002 Water Year is now available at <http://md.water.usgs.gov> under publications.

The real-time streamflow stations used in this analysis are operated in cooperation with the Maryland and Delaware Geological Surveys, the Maryland State Highway Administration, the U.S. Army Corps of Engineers, the Maryland Department of Natural Resources, the Maryland Department of the Environment, Baltimore County, and other agencies. The observation wells used in this analysis are operated in cooperation with the Maryland and Delaware Geological Surveys. The real-time wells are operated in cooperation with the Maryland and Delaware Geological Surveys and the Interstate Commission on the Potomac River Basin. The USGS publishes data for 137 streamflow stations and 379 observation wells across Maryland and Delaware.

The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

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