



News Release

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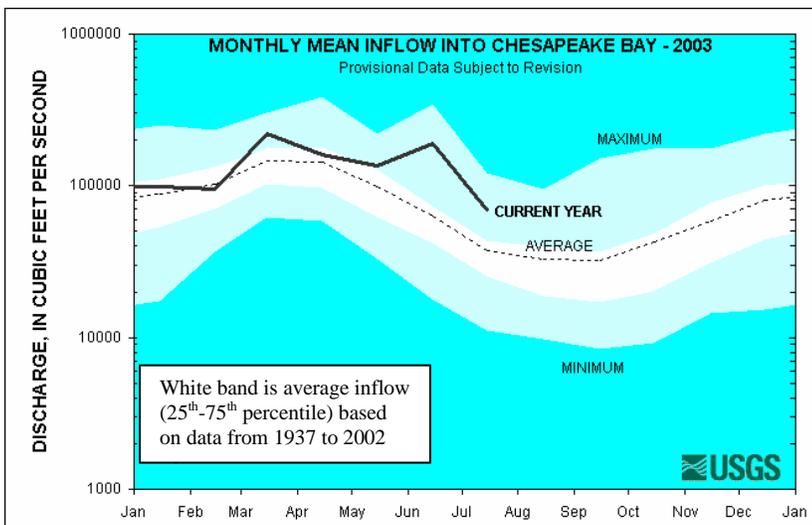
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Flow into Chesapeake Bay near Record High Levels

Total flow into the Chesapeake Bay during July was the third highest since record keeping began in 1937 (66 years), according to hydrologists at the U.S. Geological Survey (USGS) in Baltimore. Above normal rainfall and cooler than normal temperatures for the last 3 months have kept rivers full and the water table high in Maryland and Delaware. Groundwater levels have dropped since June but remain above normal. Two wells reached monthly record highs in July. The high groundwater levels contribute flow to streams during the summer months.

During July, total flow into the Chesapeake Bay averaged 45.1 bgd (billion gallons per day), which is 83 percent above average (see <http://md.water.usgs.gov/monthly/bay1.html>). This is the second consecutive month of near record high total flow into the Bay. The highest monthly Bay inflow for July was in 1972, which may have been residual effects of high water levels from Tropical Storm Agnes.

The downside of the increased streamflow into the Bay is that large amounts of nutrients and sediment are carried into the Bay, which has contributed to 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.

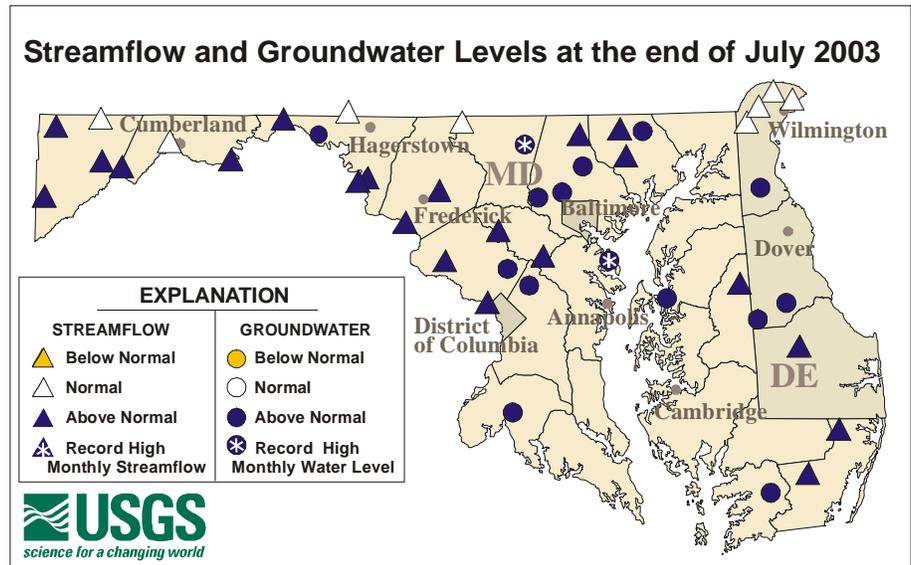


The monthly mean inflow graph shows that in 2003, the total flow into the Chesapeake Bay has been above average for each month except February. The current flow (heavy black line) remains above normal and was the third highest total inflow into the Bay since 1937. The inflow for July 2003 is three times higher than it was during the drought in July 2002.

Groundwater levels in wells used by the USGS to monitor climatic conditions in the bi-state region were at above normal levels, and two wells in Anne Arundel and Carroll Counties, Maryland were at their highest level in 40 years (shown as star symbols on map). Groundwater levels dropped in July, as expected during the growing season because of increased water demand by vegetation, but the groundwater levels remain elevated from the abundant rainfall during May, June, and July. For 5-year hydrographs of groundwater levels for the climatic indicator wells, visit: <http://md.water.usgs.gov/groundwater/>. In contrast, during July 2002, most of the wells and streamflow stations were at below normal levels, and 10 wells reached their lowest levels in more than 40 years.

The map shows that at the end of July 2003, all wells used to measure climatic conditions by the USGS were at above normal levels (dark circle symbol) based on more than 40 years of data. Two record high levels were set and are shown as a stars surrounded by a dark circle symbol.

Streamflow was at normal to above normal levels across Maryland and Delaware.



For news release and images, go to http://md.water.usgs.gov/publications/press_release/current/.

Rainfall either soaks into the ground, saturating the soil and recharging the aquifers, or if the ground is saturated, the excess water runs off into streams, resulting in high streamflow levels. With many groundwater and streamflow levels above normal, there is the potential for localized flooding (for information on flooding, see <http://md.water.usgs.gov/faq/index.html#hydrologyoffloods>.)

Streamflow levels were above normal at the end of July in most streams across Maryland and Delaware. Streams near the Pennsylvania border were at normal levels. The average monthly streamflow of the Potomac River near Washington, D.C. was 7.0 bgd (billion gallons per day), or 117 percent above normal (see graphs at <http://md.water.usgs.gov/monthly/poto.html>.)

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 at full capacity in July. Reservoir data graphs can be viewed at: <http://md.water.usgs.gov>.

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 State. The water resource data are published annually in two volumes (surface water and ground water) and the 2002 Water Year is available at <http://md.water.usgs.gov> under publications.

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 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 of 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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