



# News Release

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

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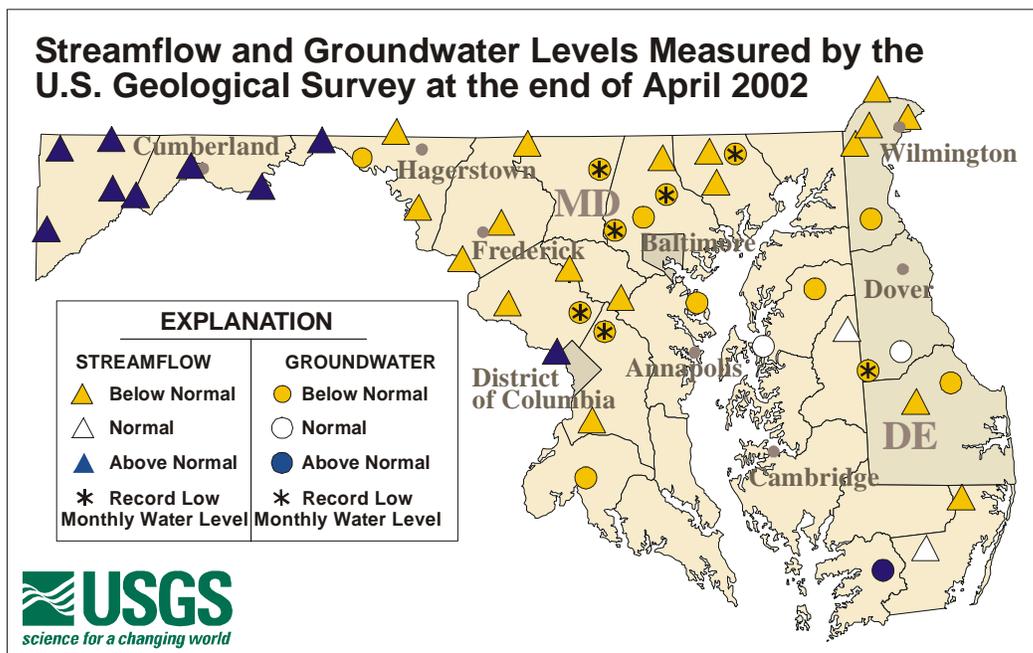
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## April Showers Not Enough to Raise Groundwater Levels

Record low groundwater levels for April were set at seven water-table wells in central Maryland, according to hydrologists at the U.S. Geological Survey (USGS). Above normal rainfall in April helped raise streamflow levels in parts of Maryland, yet more than half of the real-time streamflow stations still had below-normal streamflow across Maryland and Delaware at the end of April. Streamflow and groundwater levels are reflecting the lack of precipitation last fall and winter.



For news release and images, go to [http://md.water.usgs.gov/publications/press\\_release/2002/2002-04/2002-05-02.html](http://md.water.usgs.gov/publications/press_release/2002/2002-04/2002-05-02.html)

April was the first month since August 2001 with above normal rainfall at Baltimore-Washington International (BWI) Airport, according to the National Weather Service. Most of the rain that falls at this time of year is used by plants (evapotranspiration) or evaporates. However, much of the rain during extreme events, such as thunderstorms, may run off and cause flooding, and will not contribute significantly to groundwater recharge. Groundwater levels reflect the long-term effects and the severity of the hydrologic drought and generally take a long time to respond to precipitation events.

Groundwater levels were below normal near month's end at seven wells used for drought analysis in Maryland and Delaware. Record low groundwater levels were set in Baltimore, Carroll, Harford, Montgomery, and Prince Georges Counties in Maryland, and Kent County in Delaware (see graphs at <http://md.water.usgs.gov/groundwater/>). The record for the well in Harford County exceeded the previous April record low set in 1981 by 2.37 feet.

Total flow into the Chesapeake Bay averaged 94.1 bgd (billion gallons per day), which is 43% below average flow into the Bay during April. Streamflow on the Potomac River increased to normal monthly levels after 6 months of below-normal flow. This is largely due to the abundant rainfall in the upper parts of the drainage basin.

Streamflow at Deer Creek in Harford County, Maryland, was the lowest April flow for the period of record. Deficits in streamflow and groundwater remain in central Maryland and Delaware. Above-normal rainfall is needed through the spring and summer to replenish low streamflow and groundwater levels.

Storage in the Baltimore reservoir system increased 3 percent to 62 percent of capacity in April. The Baltimore region has been supplementing the water supply with water from the Susquehanna River since the end of January.

Tracking streamflow and groundwater levels is essential to gauge drought severity and recovery. These USGS data have been provided to State and local water resources managers and are critical for making appropriate decisions on water restrictions. For more information on how the drought is affecting streamflow and groundwater levels in Maryland and Delaware, see Drought Watch at: <http://md.water.usgs.gov/drought/>.

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, and other agencies. The observation wells used in this analysis are operated in cooperation with the Maryland and Delaware Geological Surveys. The USGS publishes data for 128 streamflow stations and 379 wells across Maryland and Delaware.

The U.S. Geological Survey is the Nation's largest water, earth and biological science, and civilian mapping agency providing reliable, impartial scientific information to resource managers, planners, and other customers. This information is gathered in every state by USGS scientists to minimize the loss of life and property from natural disasters, contribute to the sound conservation and the economic and physical development of the Nation's natural resources, and enhance the quality of life by monitoring water, biological, energy, and mineral resources.

**\* \* \* USGS \* \* \***

In-depth information about USGS programs can be found on the USGS home page at <http://www.usgs.gov> and <http://chesapeake.usgs.gov/> for Chesapeake Bay activities.