



News Release

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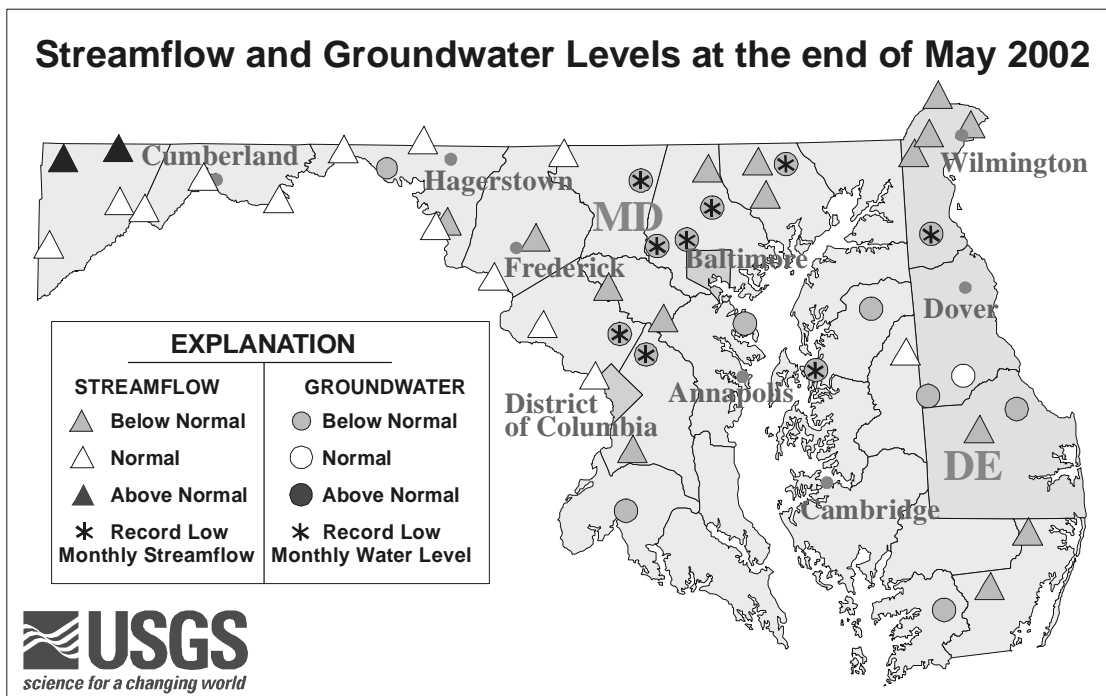
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Groundwater Levels Reflect Long-Term Effects of Drought

Groundwater levels are now lower than during the drought of 1999 and the historic drought of the 1960s, and show little hope of improvement without above-normal precipitation. Record low groundwater levels were set at nine water-table wells in central Maryland and one water-table well in Delaware at the end of May, according to hydrologists at the U.S. Geological Survey (USGS). More than half the rainfall in the summer is used by plants or evaporates, resulting in minimal recharge to groundwater aquifers.

Rainfall from scattered thunderstorms may temporarily raise streamflow levels, yet half of the real-time streamflow stations across Maryland and Delaware had below-normal streamflow at the end of the month. The rapid decline in streamflows after a rainfall event is explained by the low groundwater storage. Streamflows in the summer normally are maintained by groundwater storage, which typically is highest in early spring, yet have been at record lows for months in central Maryland. Streamflow and groundwater levels reflect the long-term effects and severity of the hydrologic drought, and generally do not recover during the summer months.



For news release and images, go to http://md.water.usgs.gov/publications/press_release/2002/2002-04/2002-06-04.html

Groundwater levels were below normal near month's end at 16 of the 17 wells used for drought analysis in Maryland and Delaware. Nine of these wells set record lows for May. Record low groundwater levels were set in Baltimore, Carroll, Harford, Montgomery, Prince Georges, and Queen Annes Counties in Maryland, and New Castle County in Delaware (see graphs at <http://md.water.usgs.gov/groundwater/>). The well used by the USGS to monitor drought with the largest deficit for May is in Carroll County, Maryland, where the current water level is 4.02 feet lower than the previous record low set in May 1992, and is 11.23 feet below normal for May. The well in Harford County, Maryland is 7.47 feet below normal for May.

Streamflow at Deer Creek in Harford County, Maryland, was the lowest monthly May flow for the period of record. Deficits in streamflow and groundwater storage persist in central Maryland and Delaware. Although streamflow is low, flooding can still occur because rainfall during extreme events such as thunderstorms may not infiltrate into the soil and can quickly run off and cause high streamflows. Real-time streamflow is monitored by the USGS across the Nation and can be viewed at: <http://waterdata.usgs.gov/>.

While water levels are low in parts of Maryland, the conditions are near normal for the other parts of the Chesapeake Bay watershed. Total flow into the Chesapeake Bay during May averaged 81 bgd (billion gallons per day), which is 26 percent above average flow into the Bay. This was the first time this year that streamflow into the Bay was in the normal range. Monthly streamflow for the Potomac River was also normal (see graphs at <http://md.water.usgs.gov/monthly/bay.html>).

May rainfall varied widely across the bi-state area with above-normal rainfall in western Maryland and below-normal rainfall at Baltimore-Washington International (BWI) Airport, according to the National Weather Service. The rainfall helped to increase the storage in the Baltimore reservoir system slightly, but storage remained at 62 percent of capacity in May. The Baltimore region has been supplementing the water supply with water from the Susquehanna River since the end of January. Near month's end, the contents of the Triadelphia and Duckett Reservoirs were at 68 percent of capacity.

Tracking streamflow and groundwater levels is essential to gauge drought severity and recovery. These USGS data have been provided to State and local water resource 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/>. Please note that the streamflow and groundwater level data is provisional and subject to change.

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.

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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.