



News Release

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

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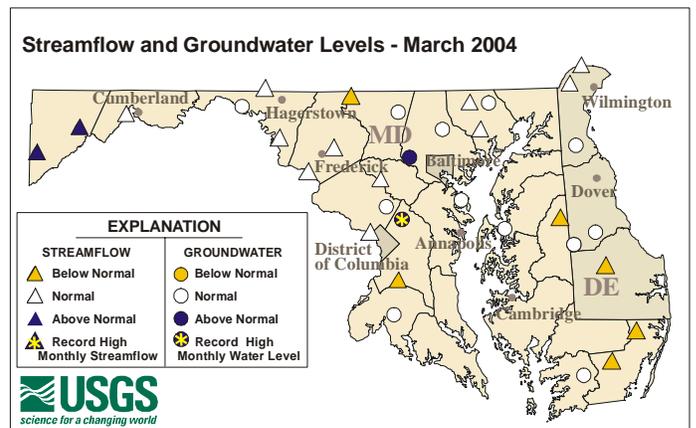
Streamflow and Groundwater Levels Fell in March 2004

Some streamflow and groundwater levels fell in March, but most were in the normal to above normal range across Delaware, Maryland, and the District of Columbia, according to hydrologists at the U.S. Geological Survey (USGS). Below normal precipitation in March caused streamflow levels to fall. Groundwater levels also will be declining soon as the growing season approaches because there is increased water demand from trees and plants.

Status of Streams and Wells

The map to the right shows the wells and streams used by the USGS to monitor water conditions in Maryland, Delaware, and the District of Columbia. In March, streams and wells ranged from above normal (blue/black triangles and circles) to below normal levels (orange/grey triangles and circles). Only two wells had above normal levels in March.

Streamflow was above normal in parts of western Maryland and below normal in Delaware and the Delmarva Peninsula and parts of central Maryland during March.



Precipitation

Precipitation in March was 1.2 inches below normal for Baltimore and has been below normal each month this year, according to the National Weather Service. Some streamflow levels have responded to the lack of precipitation with below normal levels. Groundwater levels typically take longer to respond to climatic conditions. March temperatures were nearly normal and there was only a trace of frozen precipitation.

Chesapeake Bay

Monthly mean streamflow into the Chesapeake Bay during March averaged 94.2 bgd (billion gallons per day), which is only 2 percent below normal. March is typically the wettest month of the year, however it was below normal this year for most of Maryland, Delaware, and the Chesapeake Bay drainage area. Despite the below normal precipitation, abundant flow from the Susquehanna River resulted in near-normal flow to the Bay

for March. More information about USGS studies to help with the protection and restoration of the Chesapeake Bay and its watershed can be found at <http://chesapeake.usgs.gov>.

Streamflow

Streams across Maryland and Delaware were flowing at normal to below normal levels in March, with a few exceptions in western Maryland. 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/>. Current and historical streamflow data can be monitored on the web at: <http://waterdata.usgs.gov/>.

Daily streamflow on the Potomac River near Washington, D.C. averaged 13.6 bgd in March, which is 12 percent below normal for the month of March. More information on the Potomac River is available at: <http://md.water.usgs.gov/monthly/poto.html>

Groundwater-Unconfined or Shallow Aquifers

Groundwater levels in the wells used by the USGS to monitor unconfined or shallow aquifer response to climatic conditions in the bi-state region were mostly at normal to above normal levels during March. Water levels dropped in most of the wells, but remain above normal in Baltimore and Prince Georges Counties, Maryland. This is the seventh consecutive month of record-setting high groundwater levels for Prince Georges County. For 5-year hydrographs of groundwater levels for the climatic indicator wells, visit: <http://md.water.usgs.gov/groundwater/>.

Groundwater-Confined or Deep Aquifers

Although water is plentiful at the surface (streams, reservoirs, and shallow groundwater reserves are full), some of the deep confined aquifers used for water supply by many people living in southern and eastern Maryland and Delaware continue to decline. The water levels continue to decline because they are being pumped at greater rates than the rate at which deep groundwater is recharged, and because the confined aquifers are deep, water levels in confined aquifers take longer to respond to climatic conditions than shallow aquifers. Confined aquifer wells are measured monthly and can be viewed at <http://md.water.usgs.gov/groundwater>. Four wells, including one drilled in March, 2004, in the confined Aquia aquifer in Calvert County, Maryland have real-time water-level data collection and can be viewed at: <http://waterdata.usgs.gov/md/nwis/gw>

Reservoir Storage

Contents of the Baltimore reservoir system remained at 100 percent capacity. Storage in the Triadelphia and Duckett Reservoirs on the Patuxent River, which serves Montgomery and Prince Georges Counties, has decreased 1 percent to 92 percent of capacity.

Water Monitoring

The USGS has been collecting national streamflow data for 120 years, since 1884. Streamflow monitoring began on the Potomac River at Point of Rocks, Maryland in 1895 and continues today. 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, Delaware, and the District of Columbia, visit 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, Baltimore City, and other agencies. The observation wells used in this analysis are operated in

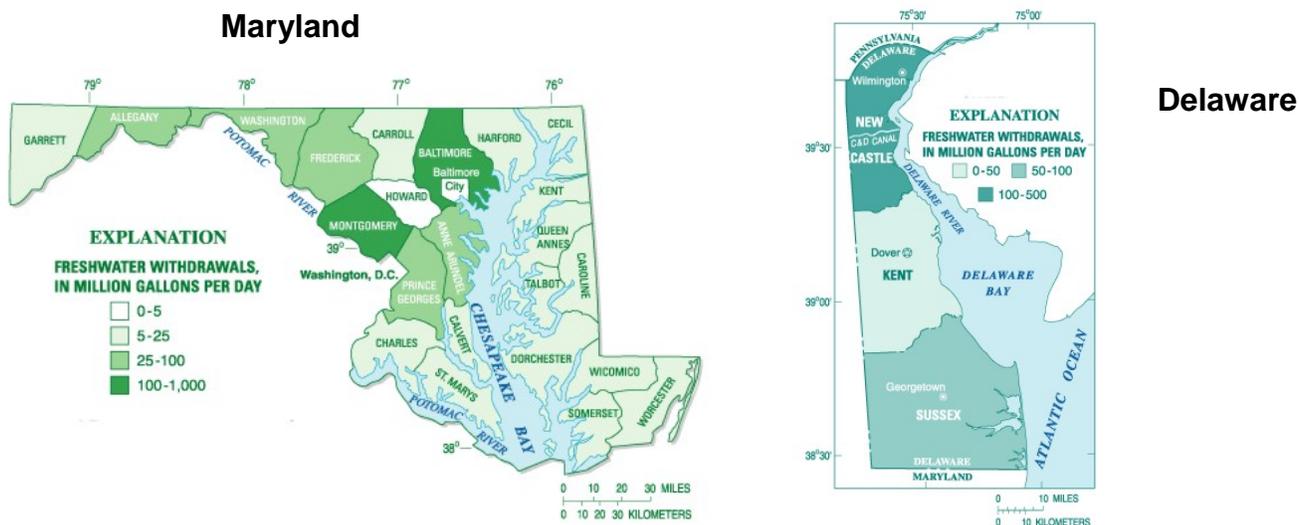
cooperation with the Maryland and Delaware Geological Surveys and the Interstate Commission on the Potomac River Basin. The real-time wells are operated in cooperation with the Maryland and Delaware Geological

Surveys, the Interstate Commission on the Potomac River Basin, and Calvert County, Maryland. The USGS publishes data for 137 streamflow stations and 389 observation wells across Delaware, Maryland, and the District of Columbia.

Recently Released USGS Fact Sheets

As the demand for freshwater increases in Maryland and Delaware, stress is placed on the State's ground-water and surface-water resources. Availability of freshwater in a particular area of the State depends on factors such as precipitation, geology, and topography. Water availability also is affected by changing population and development patterns that directly influence water use.

Maps of freshwater withdrawals by county for Maryland and Delaware are shown here. These maps show which counties have the highest and lowest water withdrawals by county across each State. In Maryland, Baltimore and Montgomery Counties have the highest water withdrawals. In Delaware, New Castle County has the highest freshwater withdrawals.



Maryland and Delaware water-use fact sheets are now available online from our USGS District publications web page. [Freshwater Use in Delaware, 2000](#) provides an overview of freshwater use in the State during 2000 by category of use. [Freshwater Use Trends in Maryland, 1985-2000](#) presents an overview of freshwater-withdrawal trends by use in the State from 1985 through 2000. These Fact Sheets were prepared as part of the USGS effort to compile National Water-Use information every 5 years since 1950. The latest report *Estimated Use of Water in the United States in 2000*, is available online at <http://water.usgs.gov/watuse/>.

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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