



News Release

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

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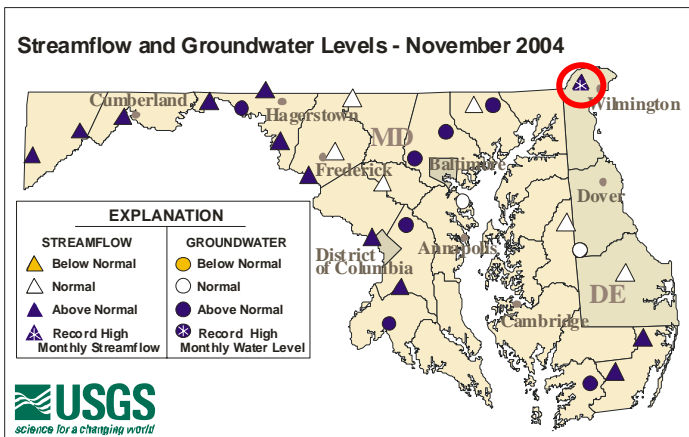
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Water Levels Remain Generally Above Normal High Streamflow in Northern Delaware

Water levels in most of Maryland, Delaware, and Washington, D.C. were above normal in November. In northern Delaware, several rivers reached flood stage in November, according to hydrologists at the U.S. Geological Survey (USGS).

Streamflow and groundwater levels are used to assess 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 Washington, D.C., visit Water Watch at: <http://md.water.usgs.gov/waterwatch/>.



Status of Streams and Wells

The map to the left shows the location and status of wells and streams used by the USGS to monitor water conditions in Maryland, Delaware, and Washington, D.C. for November 2004. Water levels were normal to above normal in Maryland, Delaware, and Washington, D.C., and normal in the central part of the Delmarva Peninsula. White Clay Creek in northern Delaware set a new monthly high streamflow for November (station is circled near Wilmington, Delaware and has an asterisk in the triangle). The previous high was recorded in 1972.

Chesapeake Bay

Monthly mean streamflow into the Chesapeake Bay during November averaged 51.78 bgd (billion gallons per day), which is 32 percent above normal. Normal flow for November is 39.0 bgd.

Streamflow

Streamflow increased and was above normal in many streams in Maryland, Delaware, and Washington, D.C. The Christina River and White Clay Creek in Delaware reached flood stage in November. Water levels on the Delmarva

Peninsula were normal. Current and historical streamflow data can be monitored on the web at: <http://waterdata.usgs.gov/>. 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/>

Daily streamflow for the Potomac River near Washington, D.C. averaged 7.7 bgd in November, which is 45 percent above normal. More information on the Potomac River is available at: <http://md.water.usgs.gov/monthly/poto.html>.

Groundwater

Groundwater levels were mostly above normal during November in wells used by the USGS to monitor unconfined or shallow aquifer response to climatic conditions in the Maryland, Delaware, and Washington, D.C. region. Groundwater levels in the Piedmont region were normal to above normal, while the water level at the monitoring well on the Delmarva Peninsula was normal. For 5-year hydrographs of groundwater levels for the climatic indicator wells, visit: <http://md.water.usgs.gov/groundwater/>.

Precipitation

November rainfall was about 1.5 inches above normal across Maryland, Delaware, and Washington, D.C., according to preliminary rainfall data from the National Weather Service.

Reservoir Storage

Storage of the Baltimore reservoir system remained at 98 percent of capacity in November. The Baltimore reservoirs (Loch Raven, Liberty, and Prettyboy) have been nearly full since May 2003. Storage in the Triadelphia and Duckett Reservoirs on the Patuxent River, which serve Montgomery and Prince Georges Counties, rose 2 percent to 82 percent of capacity in November.

Recently Released Report:

[Hydrogeologic Controls on Ground-Water Discharge to the Metro Subway Tunnel](#)

Excessive water intrusion has been observed inside several of the Washington Metropolitan Area Transit Authority subway tunnels, with the worst leakage occurring along the Red Line tunnels and stations north of Dupont Circle in Washington, D.C. These tunnels were constructed in bedrock that contains permeable (water-bearing) joints and fractures. Excessive water leakage through the walls and water inside the underground facilities has damaged mechanical and electrical components in the tunnel, and has escalated the deterioration rate of the rail system. The U.S. Geological Survey and the Washington Metropolitan Area Transit Authority worked cooperatively on a study from 2000–03 to describe and quantify the factors controlling ground-water flow into the Red Line subway tunnel near the Medical Center Station and Crossover in Montgomery County, Maryland.

The work has been summarized in the USGS report: **Hydrogeologic Controls on Ground-Water Discharge to the Washington METRO Subway Tunnel Near the Medical Center Station and Crossover, Montgomery County, Maryland**, by Earl A. Greene, Allen M. Shapiro, and Andrew E. LaMotte, USGS Water Resources Investigation Report 03-4294, 33 p. Available online at <http://md.water.usgs.gov/publications/wrir-03-4294/>

U.S. Geological Survey

The USGS, a Bureau within the Department of the Interior, has served the Nation and the world for 125 years 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 make important decisions and enhance and protect our quality of life.

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