

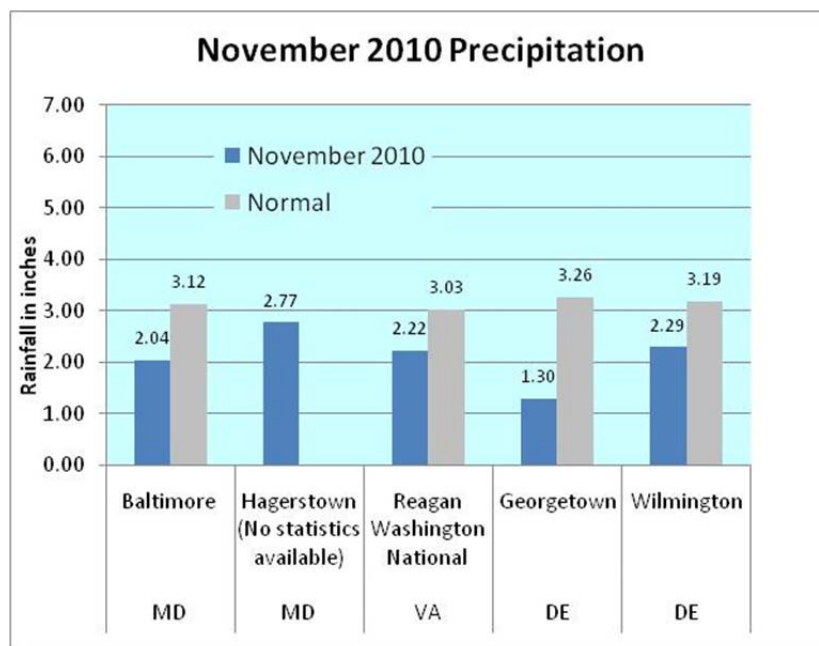
## November 2010 USGS Maryland-Delaware-District of Columbia Water Conditions Summary

Groundwater and streamflow levels were normal in most of the streams and wells monitored by the U.S. Geological Survey (USGS) to assess the response to climatic conditions in Maryland, Delaware, and District of Columbia region in November. Streamflow was below normal at five streamgages and groundwater was below normal at three wells. Water levels were above normal at one streamgage and one well.

### Precipitation

Precipitation in November was below normal in Maryland, Delaware, and the District of Columbia. The lowest rainfall was at Georgetown, Delaware, with 1.30 inches. The highest monthly rainfall was at Hagerstown, Maryland, with 2.77 inches. Rainfall at the Ronald Reagan Washington National Airport in Virginia, the closest National Weather Service station to the District of Columbia, was 0.81 inches below normal. Temperatures were above normal across the region and for the ninth consecutive month at the Baltimore-Washington International Thurgood Marshall Airport (BWI) weather station according to the National Weather Service.

The Middle Atlantic River Forecast Center's 365-day and "year-to-date" departure from the average precipitation maps show the entire region within the normal range. The November values ranged from a rainfall deficit of 2.2 inches in Worcester County to a rainfall surplus of 0.9 inches in Garrett County. November rainfall was more than an inch below normal in Delaware.



Sources: National Weather Service

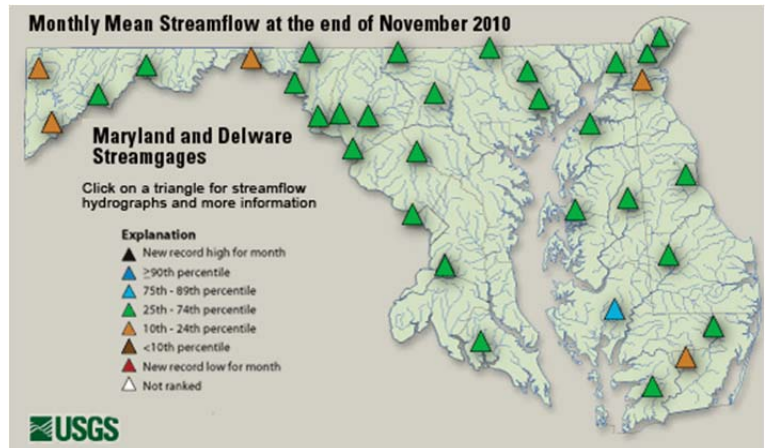
MD and DC: <http://www.weather.gov/climate/index.php?wfo=lwz>

DE: <http://www.erh.noaa.gov/phi/>

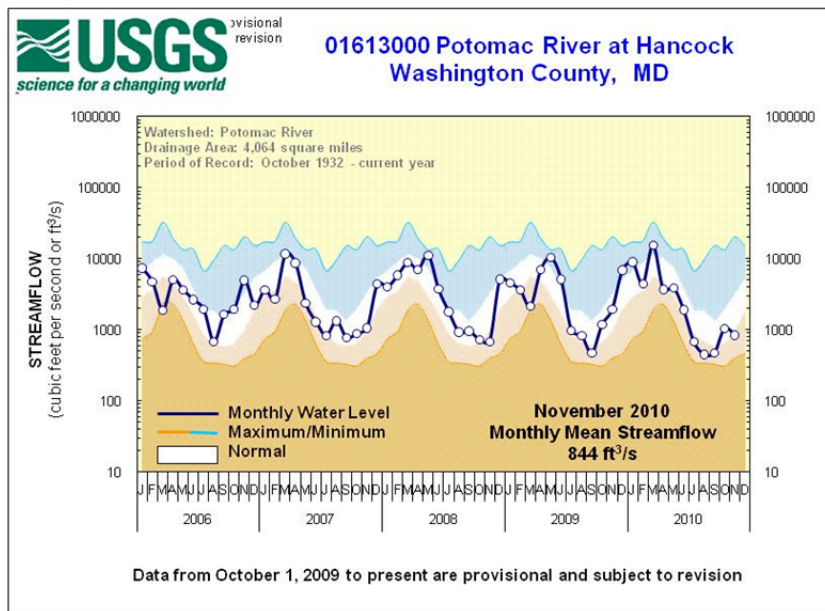
Middle Atlantic River Forecast Center (MARFC): <http://www.erh.noaa.gov/marfc/Maps/precip.shtml>

## Streamflow

In November, monthly mean streamflow was normal in 27 of the 33 USGS streamgages used to assess climatic conditions in Maryland, Delaware, and the District of Columbia. Streamflow was below normal at five streamgages and above normal at one location, the Chicamacomico River on the lower Delmarva Peninsula.



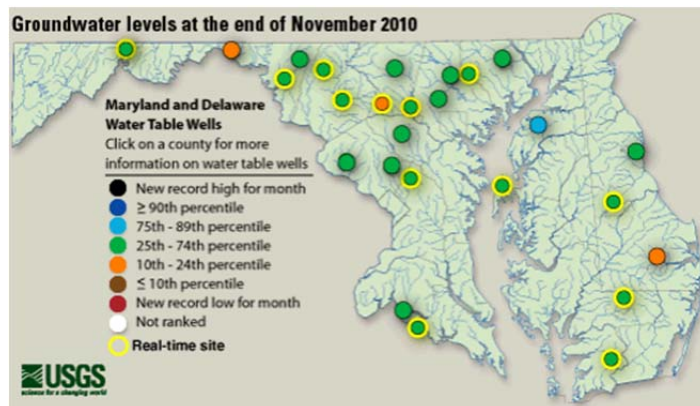
After normal levels in October, the monthly mean streamflow on the Potomac River at Hancock dropped to below normal at 844 cubic feet per second ( $\text{ft}^3/\text{s}$ ) in November. The dark line in the 5-year hydrograph represents the current monthly mean streamflow and the white band shows the normal range (25<sup>th</sup> to 74<sup>th</sup> percentile) based on the period of record beginning in 1951.



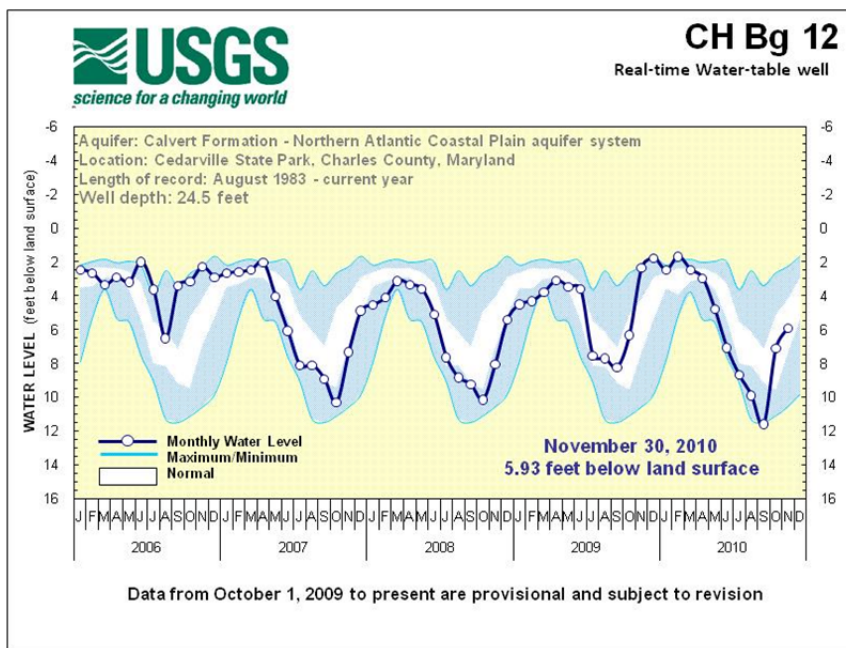
Five-year hydrographs can be viewed at: <http://md.water.usgs.gov/surfacewater/streamflow/>

## Groundwater

Groundwater levels were normal in 22 of the 26 wells used by the USGS to assess climatic conditions in November. The only above normal groundwater level was in Kent County, Maryland. Groundwater levels were below normal in wells in Carroll and Washington Counties in Maryland, and Sussex County, Delaware.



For the second consecutive month, groundwater levels in well CH Bg 12 in Charles County, Maryland were in the normal range after recovering from the record low in September. The 5-year hydrograph shows the water level as a dark line and the normal range (between the 25<sup>th</sup> and 74<sup>th</sup> percentiles) as a white band based on the period of record (1983 to present).



Five-year groundwater hydrographs can be viewed at:

[http://md.water.usgs.gov/groundwater/web\\_wells/current/water\\_table/counties](http://md.water.usgs.gov/groundwater/web_wells/current/water_table/counties)

## Reservoir Levels

At the end of November, storage in the Baltimore reservoirs (Loch Raven, Liberty, and Prettyboy) was 86 percent of available storage capacity, with 65.36 billion gallons in available storage.

The Triadelphia and Duckett Reservoirs, which serve Montgomery and Prince George's Counties, dropped 3 percent to an average of 81 percent of normal storage capacity, with 8.64 billion gallons at the end of November 2010.

<b>November 2010</b>	<b>Percent available/ normal storage</b>	<b>Volume (billion gallons)</b>	<b>Source</b>
<b>Baltimore Reservoirs</b>			<b>Baltimore City – Environmental Services Division</b>
Liberty	83%	30.69	
Loch Raven	90%	19.12	
Prettyboy	87%	15.55	
<b>Total</b>	<b>86%</b>	<b>65.36</b>	
<b>Patuxent Reservoirs</b>			<b>Washington Suburban Sanitary Commission (WSSC)</b>
Triadelphia	89%	4.98	
Duckett	73%	3.66	
<b>Total</b>	<b>81%</b>	<b>8.64</b>	