

October 2010 USGS Maryland-Delaware-District of Columbia Water Conditions Summary

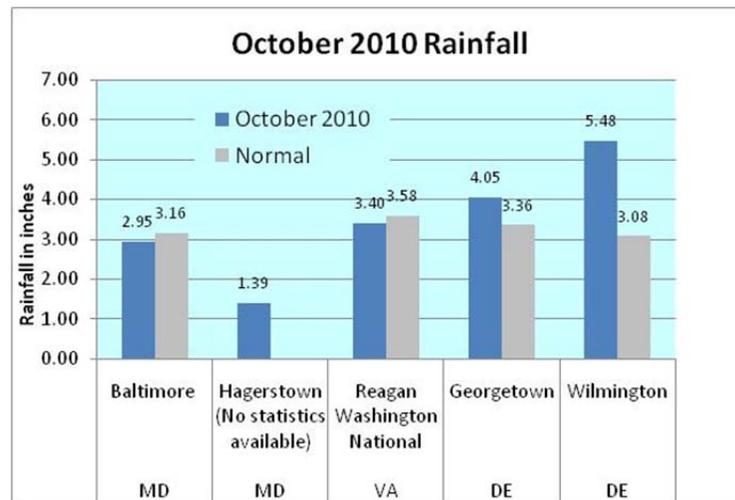
Groundwater and streamflow rose to normal or above normal levels across most of the Maryland, Delaware, and District of Columbia region, and monthly record-high streamflows were set at two streamgages on Maryland's Eastern Shore in October. Groundwater levels were below normal in only two wells and streamflow was below normal at one streamgage used by the U.S. Geological Survey (USGS) to assess the response to climatic conditions in Maryland, Delaware, and the District of Columbia.

During the dry summer, approximately 40 percent of the groundwater and streamflow levels were below normal starting in June. Monthly record lows were set 9 times for groundwater levels and once for streamflow over the summer. The large increase in the number of stations that rose to normal and above normal water levels was due to the 2 to 10 inches of rain received from Tropical Storm Nicole on the last day of September, and near normal precipitation in October.

Precipitation

October rainfall was below normal in Maryland and above normal in Delaware. The lowest rainfall was at Hagerstown, Maryland, with 1.39 inches. The highest rainfall was at Wilmington, Delaware, with 5.48 inches, or 2.40 inches above normal. Rainfall at the Ronald Reagan Washington National Airport in Virginia was 0.18 inches below normal. Temperatures were above normal across the region and for the 8th 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 most of the region within the normal to above normal range, except for Allegany, Garrett, and Washington Counties, which were below normal. The October values ranged from a rainfall deficit of 2.3 inches in Garrett County to a rainfall surplus of 2.8 inches in Caroline County. October rainfall was more than an inch above normal in Delaware.



Sources: National Weather Service

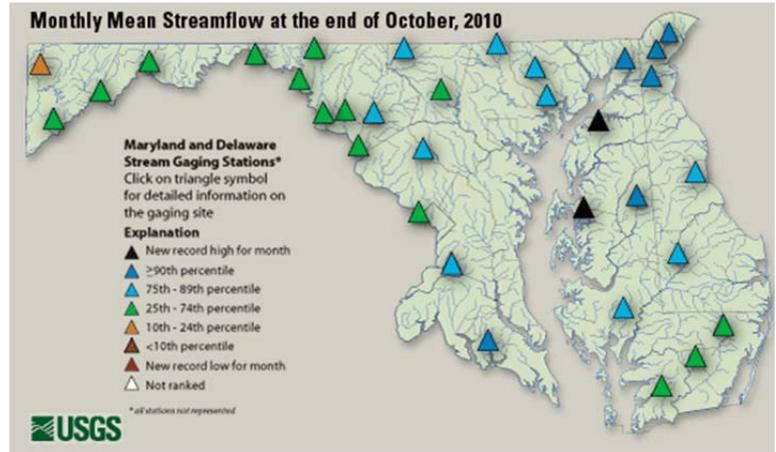
MD and DC: <http://www.weather.gov/climate/index.php?wfo=lwx>

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

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

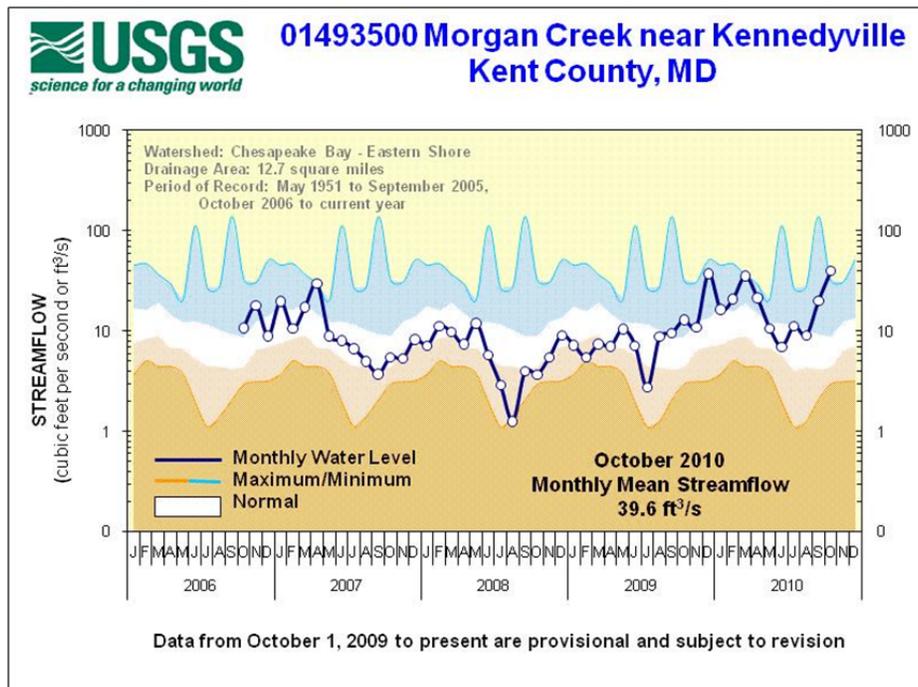
Streamflow

More than half, or 18 of the 33 USGS streamgages used to assess climatic conditions in Maryland, Delaware, and the District of Columbia, had monthly mean streamflow levels that were above normal in October. Two record high October streamflow levels were set in Maryland: Morgan Creek in Kent County, and Sallie Harris Creek in Queen Anne's County. Streamflow was normal at 14 streamgages. Most of the streamflow that caused the high streamflows levels was the result of the rain on the last day of September and the first day of October.



Streamflow was below normal at only one streamgage in October: Bear Creek at Friendsville in Garrett County. In September, streamflow was below normal at 13 streamgages.

Monthly mean streamflow on Morgan Creek was at the highest October level since record-keeping began in May 1951. Precipitation was above normal at the Georgetown and Wilmington weather stations in October. The dark line in the 5-year hydrograph represents the current monthly mean streamflow and the white band shows the normal range (25th to 74th percentile) based on the period of record beginning in 1951.

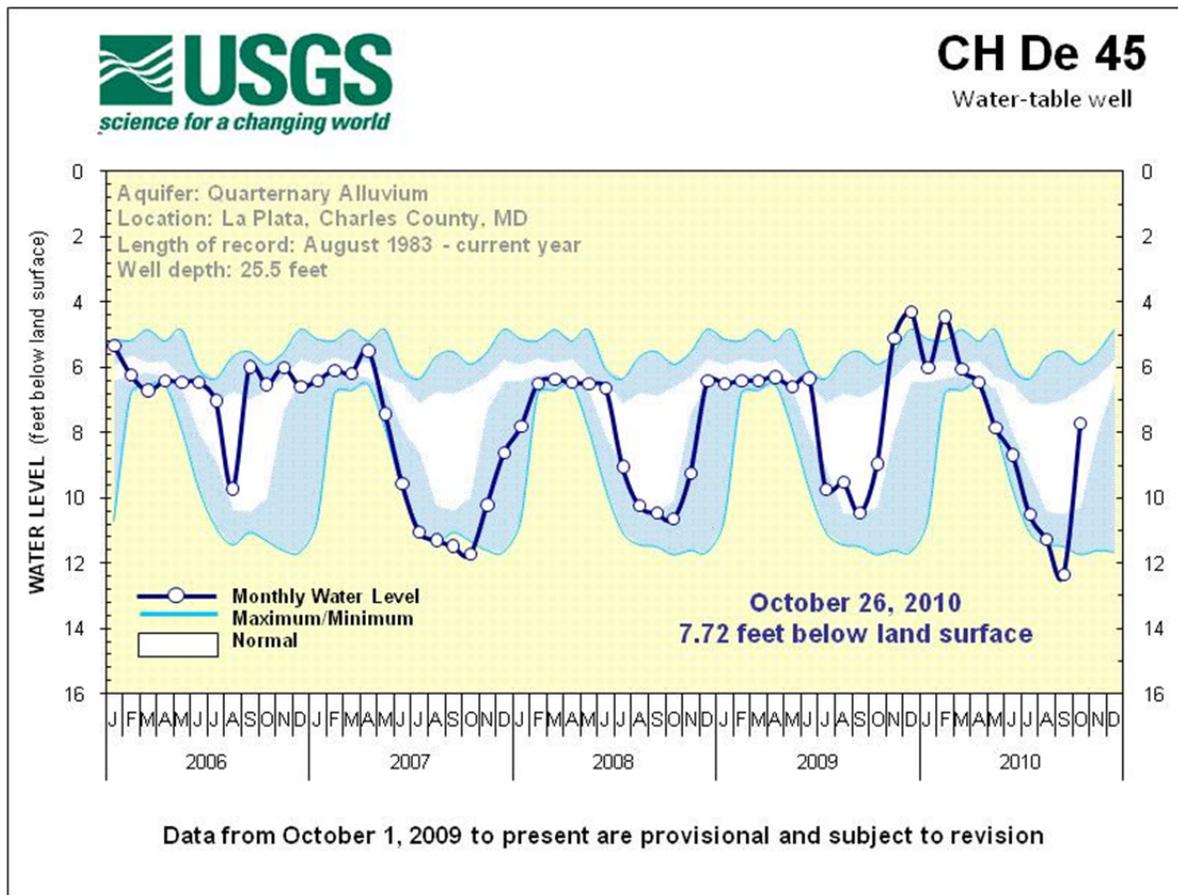


Five-year hydrographs can be viewed at: <http://md.water.usgs.gov/surfacewater/streamflow/>

Groundwater

Groundwater levels recovered from their low in September, when 11 of the 26 wells had water levels below normal and 4 of the wells were at record monthly lows. In October, only 2 of the 26 wells (one in Carroll County and one in Delaware) used by the USGS to assess climatic conditions had below normal groundwater levels. Groundwater levels were normal in 21 wells and above normal in 3 wells in October.

Groundwater levels rose 4.63 feet in well CH De 45 in Charles County, Maryland since the September record low of 12.35 feet below land surface. In October, the water level was in the normal range at 7.72 feet below land surface. The water level in this well was at a monthly record high of 4.46 feet below land surface in February 2010 and an all-time high in December 2009. The 5-year hydrograph shows the water level as a dark line and the normal range (between the 25th and 74th 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

Reservoir Levels

At the end of October, storage in the Baltimore reservoirs (Loch Raven, Liberty, and Prettyboy) rose 2 percent to 87 percent of available storage capacity, with 66.25 billion gallons in available storage.

The Triadelphia and Duckett Reservoirs, which serve Montgomery and Prince George’s Counties, rose 8 percent to an average of 84 percent of normal storage capacity, with 8.92 billion gallons at the end of October 2010.

October 2010	Percent available/ normal storage	Volume (billion gallons)	Source
Baltimore Reservoirs			Baltimore City – Environmental Services Division
Liberty	84%	31.04	
Loch Raven	94%	20.11	
Prettyboy	85%	15.10	
Total	87%	66.25	
Patuxent Reservoirs			Washington Suburban Sanitary Commission (WSSC)
Triadelphia	92%	5.15	
Duckett	75%	3.77	
Total	84%	8.92	