

May 2008 USGS Maryland-Delaware-DC Water Conditions Summary

Streamflow and ground-water levels have increased to normal and above normal levels across Maryland, Delaware, and the District of Columbia after one of the wettest Mays on record. A well in Washington County was at a record high water level for May. In late spring, ground-water and streamflow levels typically begin to decline from the peak winter high levels as temperatures get warmer and the growing season begins, but not this year, when the region got nearly 3 times the average monthly rainfall in May.

At sites used by the U.S. Geological Survey (USGS) to monitor water conditions, streamflow levels were normal to above normal in 100% of streams, and 69% of the ground-water levels were normal to above normal in May 2008. The driest regions in April were Southern Maryland and the southern portion of the Delmarva Peninsula, and these were the regions that received the largest amount of rainfall, bringing the streamflow levels from below normal levels to normal or above. Ground-water levels also rose to normal levels in this area. Ground-water levels in wells in central Maryland and Delaware remain below normal.

Precipitation

May 2008 was an extremely wet month, and the second wettest May since 1871 in Baltimore and the third wettest May at the Reagan National Airport in Washington D.C. according to the National Weather Service. Over a 5-day period between May 8 and 12, Baltimore received 6.15 inches of rain and National received 7.71 inches. Several daily record high rainfalls were set. Every County in Maryland and Delaware was at least 1 inch above normal in May and many were more than 2 inches above normal. Normal May rainfall is between 3 and 4 inches. Temperatures were cooler than normal for the first time since April 2007 (National Weather Service).

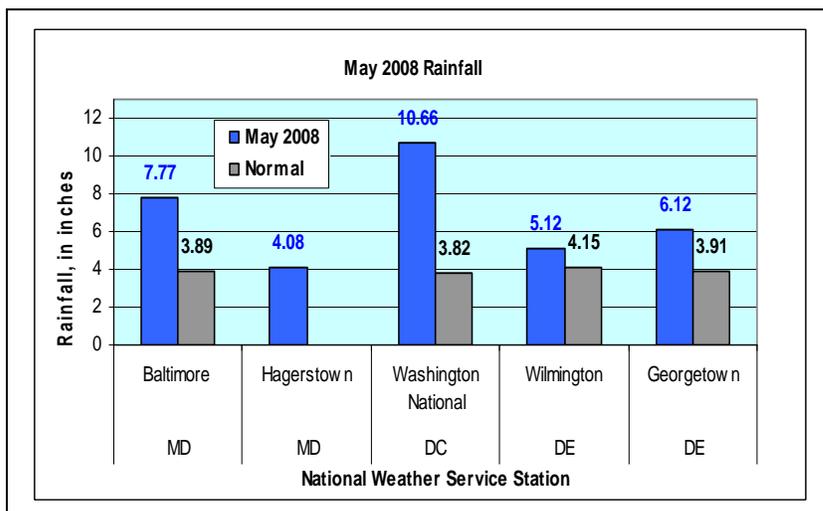
The rainfall deficit for the past 365 days was greatly reduced by the abundant rainfall in May. However, Southern Maryland and the lower Delmarva Peninsula still have deficits for the past 365 days greater than 5 inches, including the following counties: Caroline, Dorchester, Worcester, Somerset, Talbot, and Wicomico in Maryland, and Sussex and Kent Counties in Delaware. In Western Maryland rainfall was 5-7 inches in excess for the 365-day period.

Sources: National Weather Service

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

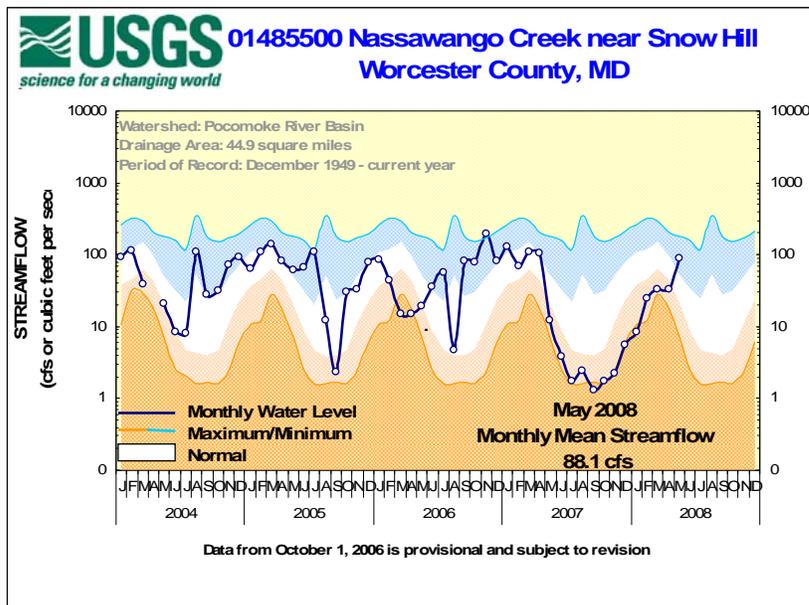
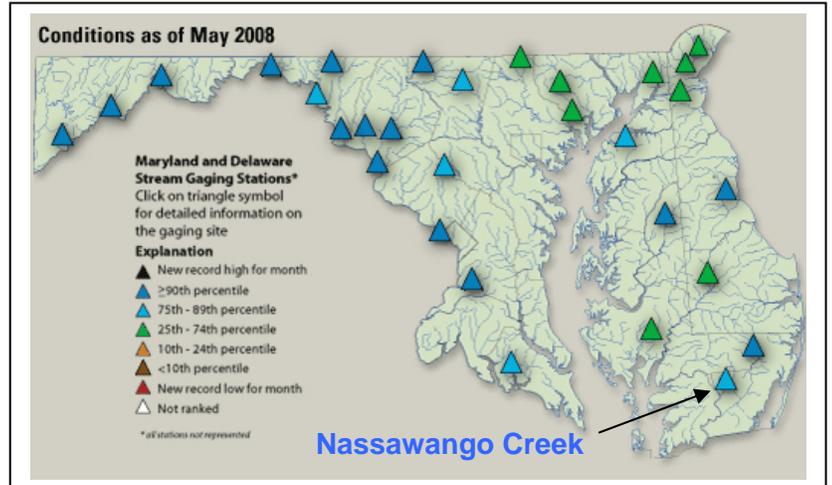
DE: <http://www.erh.noaa.gov/phi/>

Middle Atlantic River Forecast Center: <http://www.erh.noaa.gov/marfc/Maps/precip.html>



Streamflow

Monthly mean streamflow levels were above normal in 21 of the 30 streams used by the USGS as climate indicators across the Maryland, Delaware, and the District of Columbia region. Thirty percent were normal. Fifteen streams had streamflows in the highest 10 percent compared to the period of record, or only 10% of the time are streamflows higher than these levels. The large change in water levels from April when 93% of the streams were normal to below normal was largely because of the 5 days of rainfall that dropped as much as 7-10 inches of rain across the region.

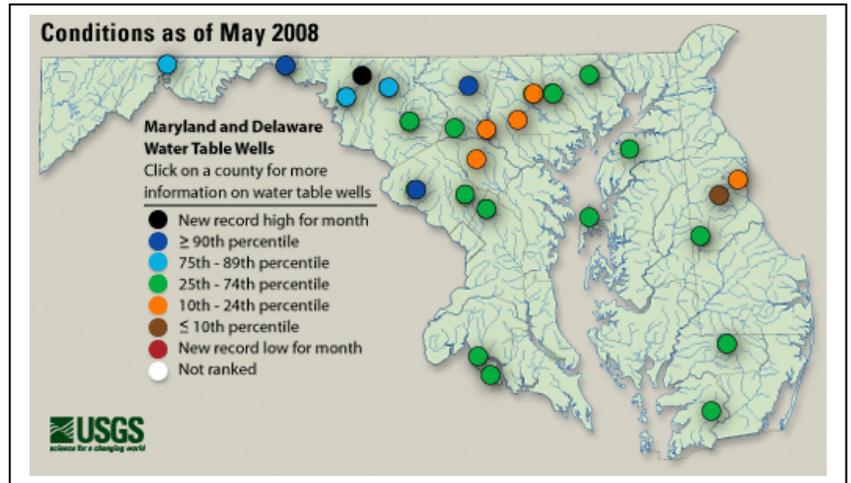


Worcester County received about 6 inches of rain in May. The result, as shown in the five year hydrograph for Nassawango Creek, is that the monthly mean streamflow level (dark line) rose from below normal to above normal levels in May. The long-term trend (1949-present) for May at this site is for streamflow levels to decline this time of year as temperatures and demand from humans and vegetation increase.

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

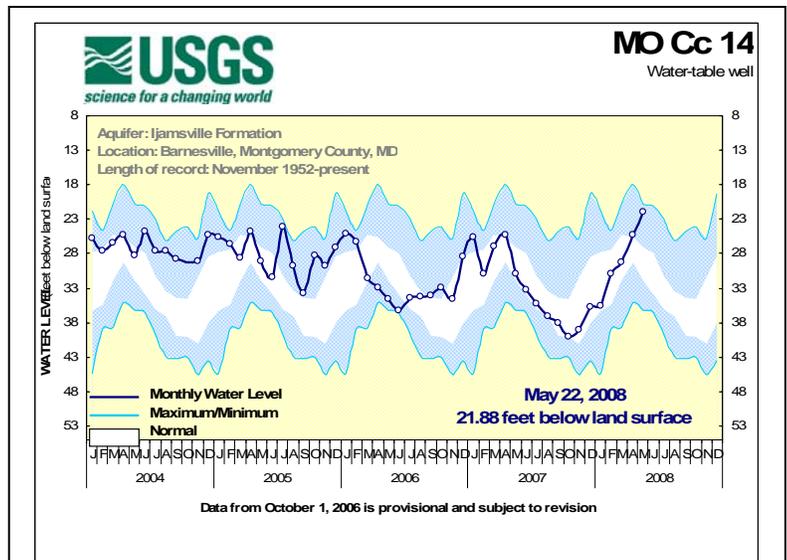
Ground Water

The plentiful May rain allowed ground-water levels in the unconfined wells used by the USGS to measure response to climatic conditions to improve to normal or above normal levels in most areas in Maryland and Delaware. Rainfall was enough to offset the dry conditions experienced last summer. In Washington County, the water level in well WA Bk 25 was the highest it has been in May since 1970 when record-keeping began at this well. The previous high level was in 2003.



Water levels in wells that were below normal rose, but remain below normal because they were so low from the 2007 summer and fall drought. Water levels in six wells in central Maryland and Delaware were below normal. Four wells were above normal in central-western Maryland. Ground-water levels typically begin to drop this time of year and the lowest water levels are usually in the fall.

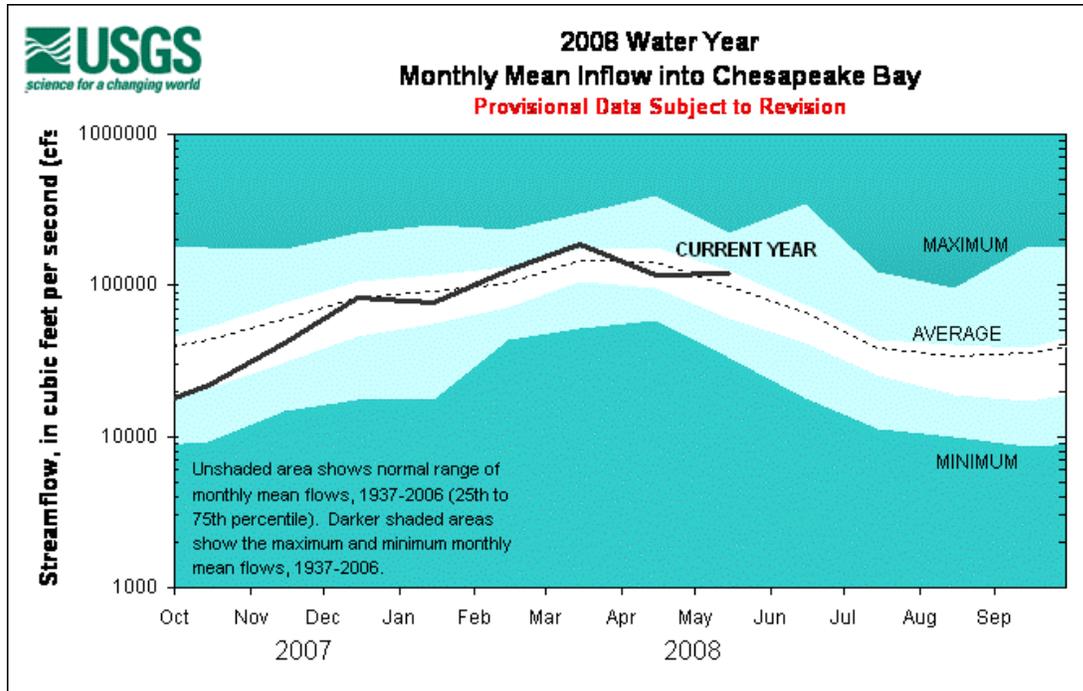
Water levels for this well in Montgomery County rose to a near record monthly high. The 5-year hydrograph shows the water level as a dark line and normal (between the 25th and 75th percentiles) as a white band. Water levels have risen since last fall and would typically begin to fall between April and May, but because the region received double the monthly rainfall, the water levels rose to above normal levels.



Five-year hydrographs for these wells can be viewed at:
http://md.water.usgs.gov/groundwater/web_wells/current/water_table/counties/

Chesapeake Bay Freshwater Flow

The estimated mean monthly flow to the Chesapeake Bay for May was 121,000 cfs (cubic feet per second) or about 124% percent of the long-term mean for May. Average May flow is 97,400 cfs.



Reservoirs

Water available from the Baltimore reservoir system (Loch Raven, Liberty, and Prettyboy) increased to 100% of the available storage (75.53 billion gallons) at the end of May.

Water stored in the Triadelphia and Duckett Reservoirs, which serve Montgomery and Prince George's Counties, increased to 100% of the normal capacity at the end of May.

May 2008	Percent available /normal storage	Volume (billion gallons)	Source
Baltimore Reservoirs			Baltimore City
Loch Raven	100%	21.2	
Liberty	99%	36.5	
Prettyboy	100%	17.85	
Total	100%	75.53	
Patuxent Reservoirs			Washington Suburban Sanitary Commission (WSSC)
Triadelphia	100%		
Duckett	100%		
Total	100%	10.2	