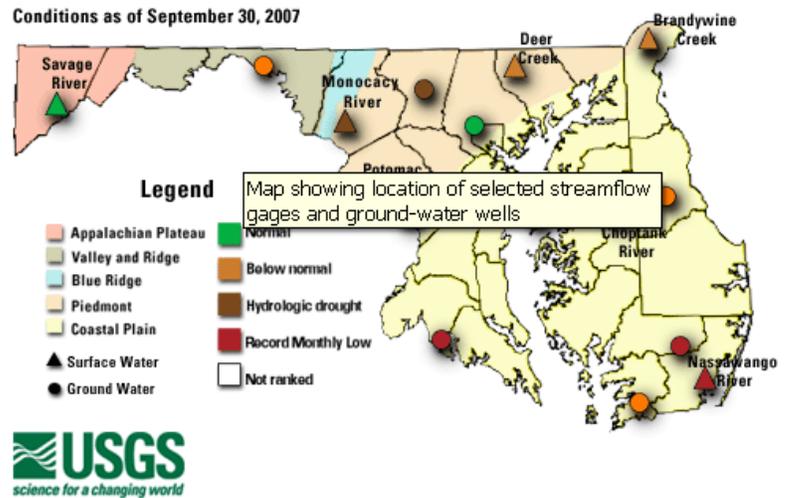


September 2007 USGS Maryland-Delaware-DC Water Conditions Summary

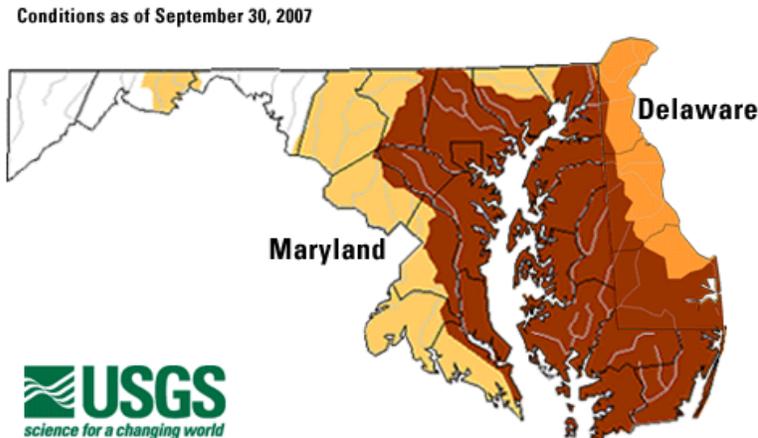
September 2007 was an extremely dry month, with less than an inch of rain reported for most of the Mid-Atlantic region. The lack of rain has devastated agriculture and both Maryland and Delaware have been declared drought disasters.

Water levels are expected to be low at this time of year, but the extreme lack of rain is reflected in the record-setting low streamflow and groundwater levels. Water resources in central and eastern Maryland, and Delaware, have been affected the most.



The map to the right shows only selected streamflow and ground-water monitoring sites. In the more detailed sections below, you will see that three wells and four streams were at record low levels for September, according to hydrologists at the U.S. Geological Survey.

Based on USGS streamflow monitoring gages and ground-water data, the region around both shores of the Chesapeake Bay in the state of Maryland is designated to be in severe hydrologic drought status. Delaware is a combination of severe and moderate along the Delaware Bay.



Note: Map showing hydrologic conditions based on USGS real-time streamflow data.

Explanation - Percentile Classes

Low	<=5	6-9	10-24	
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	Insufficient data for a hydrologic region

The table below is a summary of the four streams and three wells setting new record low water levels in September 2007. Further details and location are in the streamflow and ground-water sections that follow.

Record low September 2007 water levels					
		Monthly mean in cubic feet per second (cfs)	Previous		Normal for
USGS Streamflow Gaging Station	County	September 2007	Record Low	Year	September
Monocacy River at Bridgeport	Frederick	1.8	2.3	1943	21.1
Nassawango Creek near Snow Hill	Worcester	1.3	1.6	1980	8.3
Patuxent River near Unity	Montgomery	2.9	3.8	2002	16.2
Winters Run near Benson	Harford	9.9	10.4	1986	27.9

		Depth in feet below land surface	Previous		Normal for
USGS Water Table Monitoring Wells	County	September 2007	Record Low	Year	September
CH De 45 near La Plata	Charles	11.48	11.05	2002	9.12
CL Ec 75 at Gillis Falls Park near Woodbine	Carroll	4.62	4.59	2002	3.71
WI Cg 20 near Parsonsburg	Wicomico	8.86	8.6	1995	6.61

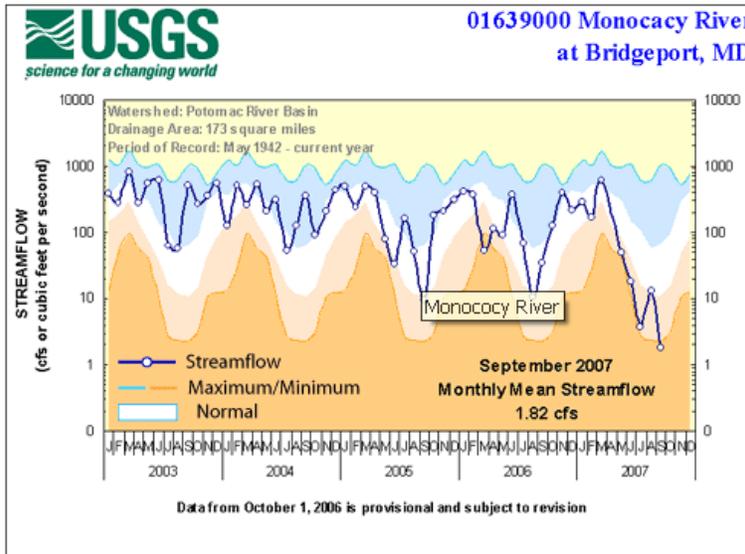
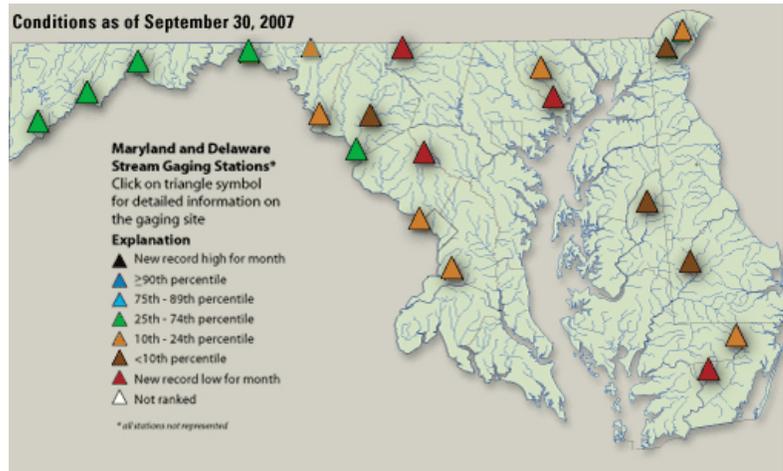
Reservoir levels have dropped along with the streamflow and ground-water levels. The photo below shows the Prettyboy reservoir and boat ramp that is usually submerged on Prettyboy Reservoir in Baltimore County, Maryland.

	
<p>Prettyboy Reservoir in northern Baltimore County, September 30, 2007.</p> <p>Photo by Wendy S. McPherson, Hydrologist, U.S. Geological Survey.</p>	<p>Boat ramp at Prettyboy Reservoir, September 30, 2007.</p> <p>Photo by Wendy S. McPherson, Hydrologist, U.S. Geological Survey.</p>

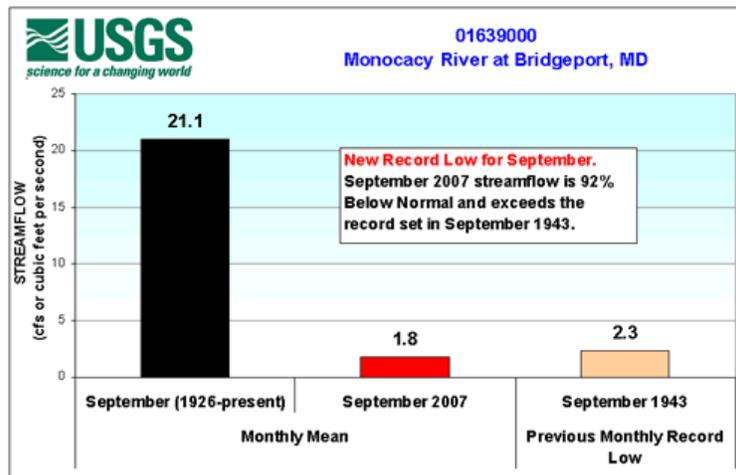
Streamflow

At the end of September, 15 of the 20 USGS streamflow gaging stations used to characterize streamflow conditions were below normal. Four streams in Maryland were at their lowest September level since record keeping began.

The streams setting monthly mean record lows for September in Maryland include the Monocacy River, Nassawango Creek, Patuxent River, and Winters Run in Harford County. The streams that were normal were in western Maryland. The Choptank River was 1.2 cubic feet per second (cfs) away from a new record low for September.



The streamflow level on the Monocacy River at Bridgeport, MD shows how it dropped abruptly to the record low condition of 1.82 cfs. The previous record September low was in 1943 with 2.3 cfs. Normal for September is 21.1 cfs.

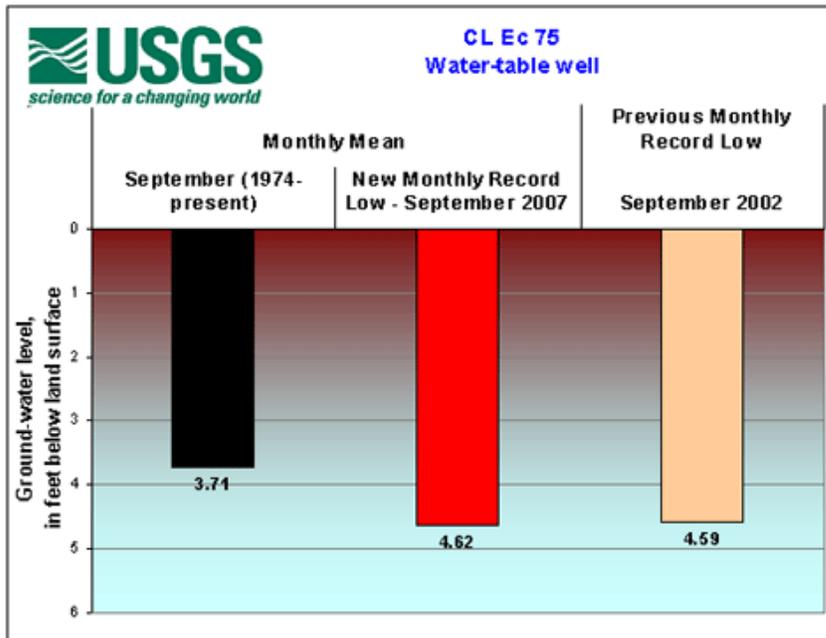
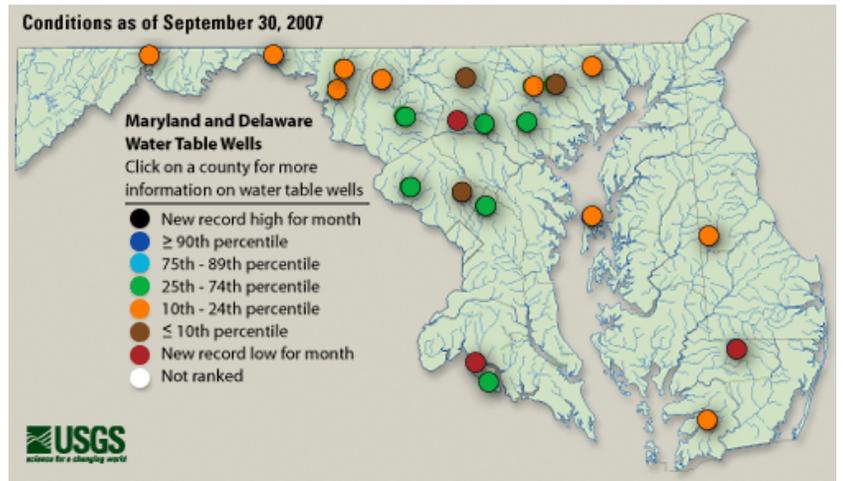


In Delaware, Nanticoke River and White Clay Creek were below the 10th percentile and Brandywine Creek was below normal with 18.4 cfs.

Ground Water

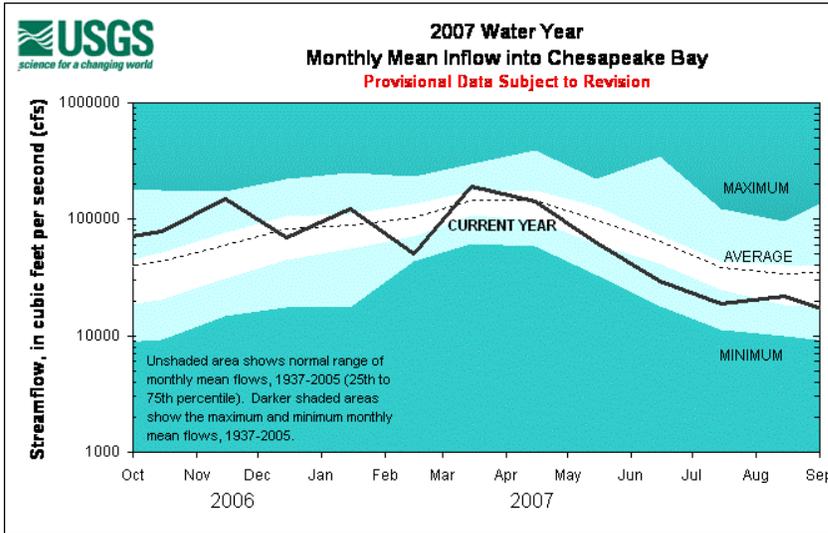
Lack of rainfall also affected ground-water levels across Maryland and Delaware. Of the 22 wells used to monitor hydrologic conditions by the U.S. Geological Survey (USGS), 16 of the ground-water levels were below normal and three set new record lows for September.

The record-setting wells are located in Wicomico, Charles, and Carroll Counties. Wells in Baltimore, Charles, Harford, and Wicomico Counties were extremely low. Without normal rainfall, many of the wells will be below normal or record low in the coming months.



The ground-water level is shown in depth below land surface for this Carroll County, Maryland well. In September 2007, the water level was 4.62 feet below land surface. This exceeds the previous record of 4.59 feet set in 2002.

Chesapeake Bay Freshwater Flow

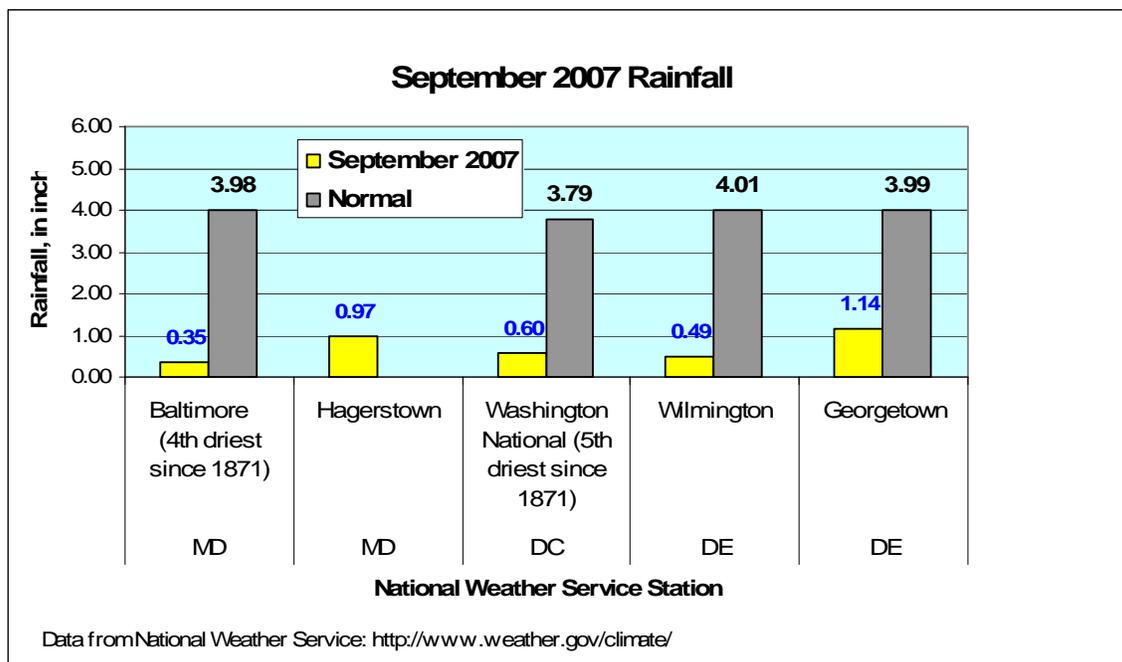


The estimated mean monthly flow to the Chesapeake Bay for September was 14,500 cfs (cubic feet per second) or about 41 percent of the long-term mean for September. Average September flow is 35,800 cfs.

Freshwater flow to the Bay has been below normal for the last 5 months. September 2007 was the 16th lowest flow for September since Bay-wide record keeping began in 1937, but is still above the minimum flow estimate of 8,470 cfs set in 1964, and is also greater than the 12,700 cfs estimated in the drought year of 2002.

Precipitation

National Weather Service rainfall data showed less than an inch in each of the five stations shown below. The Baltimore weather station registered only 0.35 inches of rain, which was the fourth driest month since 1871 and there were only 4 days of measurable rainfall (National Weather Service). There were only three days of measurable rainfall at Washington National and it was the 5th driest year since 1871. The brown lawns and vegetation, as well as the low streamflow and ground-water levels, are clear effects of the lack of rain.



Reservoirs

Contents of the Baltimore reservoir system (Loch Raven, Liberty, and Prettyboy) dropped 8% to 76% available at the end of September. Water stored in the Triadelphia and Duckett Reservoirs, which serve Montgomery and Prince George's Counties, dropped 7% to 55% of the normal capacity at the end of September.

September 2007	Percent available	Volume (billion gallons)	Source
Baltimore Reservoirs			Baltimore City
Loch Raven	88%	26.80	
Liberty	77%	18.36	
Prettyboy	71%	12.16	
Total	76%	57.32	
Patuxent Reservoirs			WSSC
Tridelphia	66%	3.67	
Duckett	43%	2.17	
Total	55%	5.84	