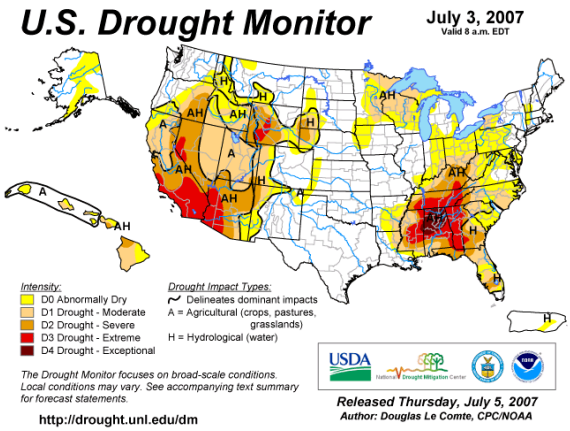
June 2007 USGS Maryland-Delaware-DC Water Conditions Summary

The U.S. Geological Survey (USGS) collects streamflow and groundwater data to monitor water conditions of the Maryland, Delaware, Washington D.C. region. Based on USGS streamflow, groundwater data, and precipitation data from the National Weather Service, the Maryland region is abnormally dry at the end of June 2007. This supports the status of the U.S. Drought Monitor set by the National Drought Mitigation Center which shows Maryland in yellow (abnormally dry). If the dry weather continues in July and August, many water levels will approach drought status.

USGS Streamflow and groundwater levels are available online at: **http://waterdata.usgs.gov/nwis**

Drought status from the Drought Mitigation Center **http://drought.unl.edu/dm/monitor.html**



Precipitation

The weather in Maryland has been dry the last two months with below normal rainfall in May and June. In May, only 0.94 inches of rain fell at BWI according to the National Weather Service. That is 2.95 inches less than normal for May. In June, 2.20 inches of rain fell, but this was 1.23 inches less than normal for June. Hagerstown had 3.18 inches of rain in June and Reagan National Airport only 1.38 inches. In May, Reagan had only 1.75 inches and it was the 22nd driest on record.

In the last 6 months, rainfall has been below normal 4 months. For the year to date in Maryland, the rainfall amounts to a deficit of 5.7 inches in Montgomery County, to slightly above with 0.2 inches in Kent County.

2007
BWI

	Rainfall	Normal	Departure	Comment
Jan	2.48	3.47	-0.99	
Feb	2.04	3.02	-0.98	
Mar	4.17	3.93	0.24	
Apr	5.00	3.00	2.00	
May	0.94	3.89	-2.95	4th driest in history
Jun	2.20	3.93	-1.23	

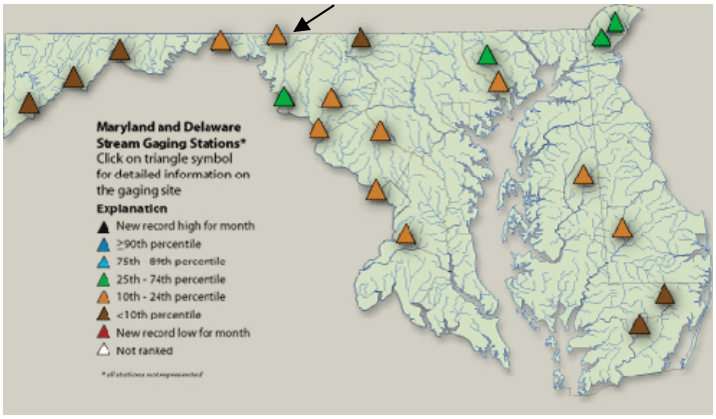
Data from National Weather Service:
http://www.weather.gov/climate/index.php?wfo=lwx

At BWI, rainfall was 2.20 inches, which is 1.23 below the long term average. In May at BWI was the 4th driest on record with only 0.94 inches.

In Sussex County, Delaware, the rainfall deficit since the year began is 3.4 inches. While New Castle County is up 1.3 inches. In April, both counties received nearly twice the normal rainfall for the month. In June, rainfall was near normal in all three Delaware counties and more than 2 inches below normal for each county in May.

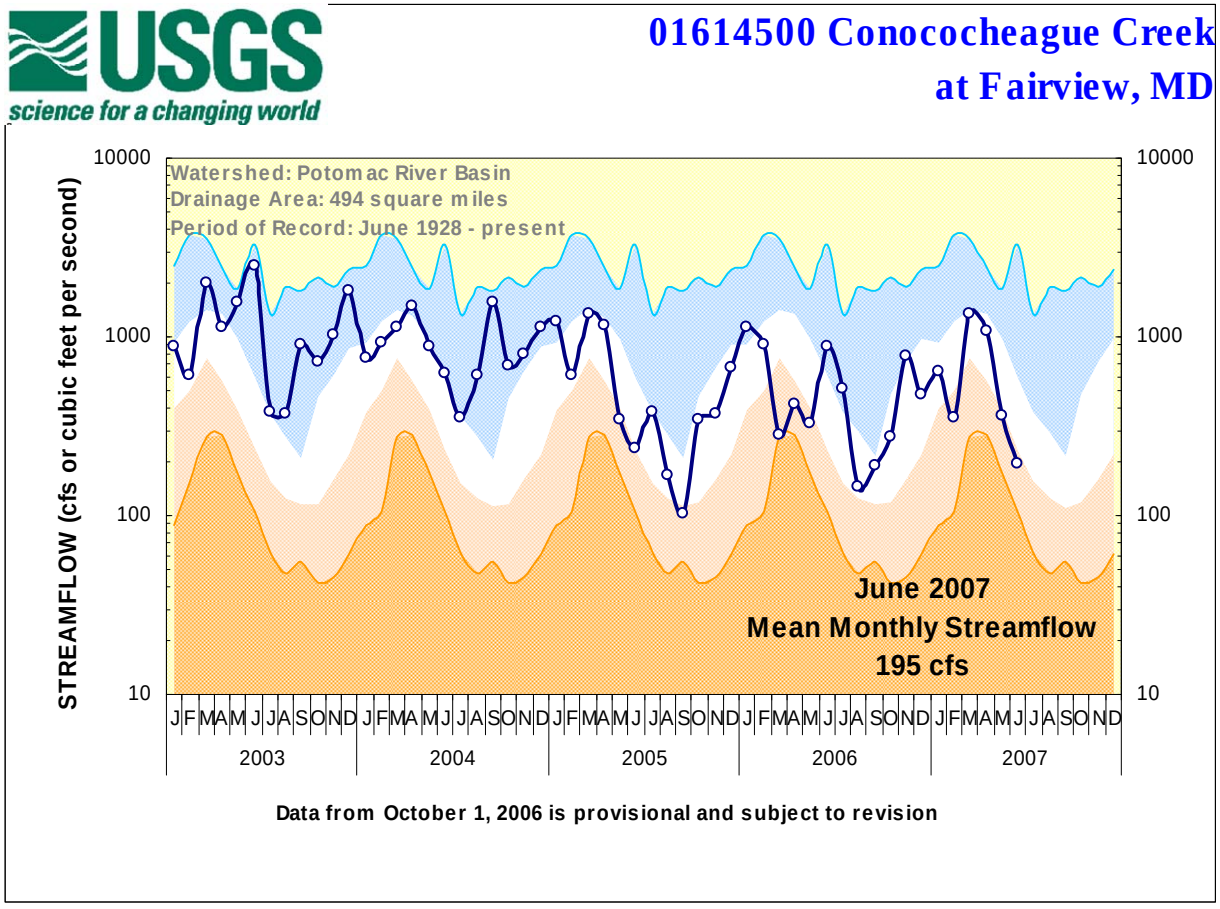
Streamflow

Conococheague Creek



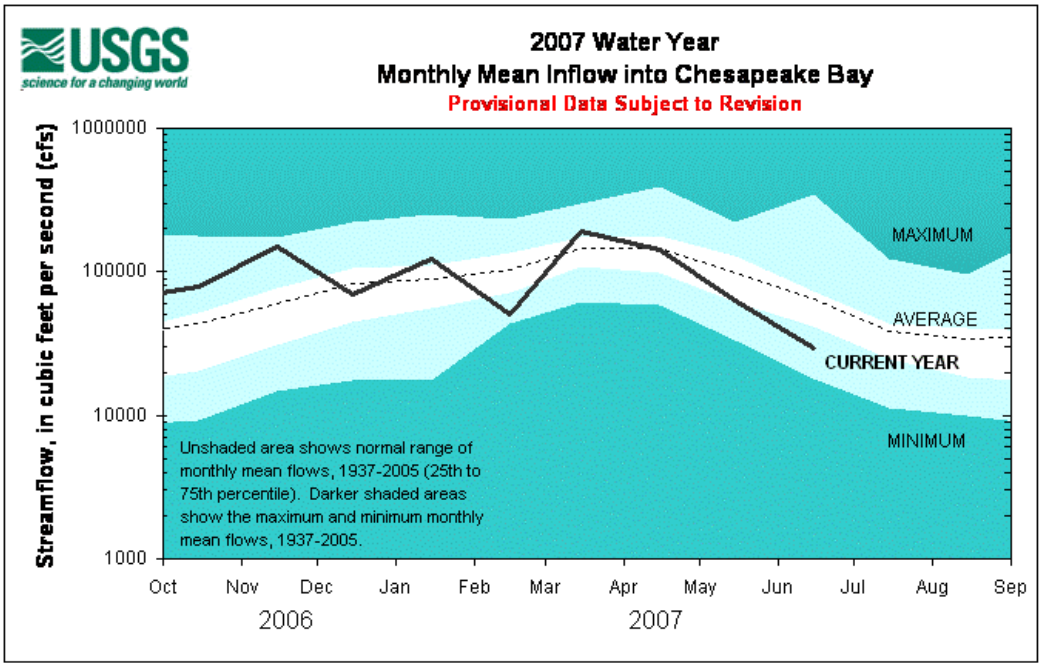
In Maryland and Delaware, 20 streams are used to monitor streamflow conditions. At the end of June, the monthly mean streamflow was below normal in 16 streams, with the Monocacy River at Bridgeport, Nassawango Creek, Pocomoke River, Savage River, Wills Creek, and Youghiogheny Rivers below the 10th percentile. Antietam Creek and Deer Creek were the only two streams in Maryland in the normal range. Brandywine Creek and White Clay Creek in Delaware were normal at the end of June.

The Conococheague Creek is an example of how the stream responded to the lack of rainfall in May and June with a steeper decline in streamflow than normal based on 79 years of data collected.



Chesapeake Bay Freshwater flow

The estimated mean monthly flow to the Chesapeake Bay for June was 29,400 cfs (cubic feet per second) or about 45 percent of the long-term mean for June. Average June flow is 64,900 cfs. The freshwater flow has been decreasing at more than the normal rate since April 2007.



Reservoirs

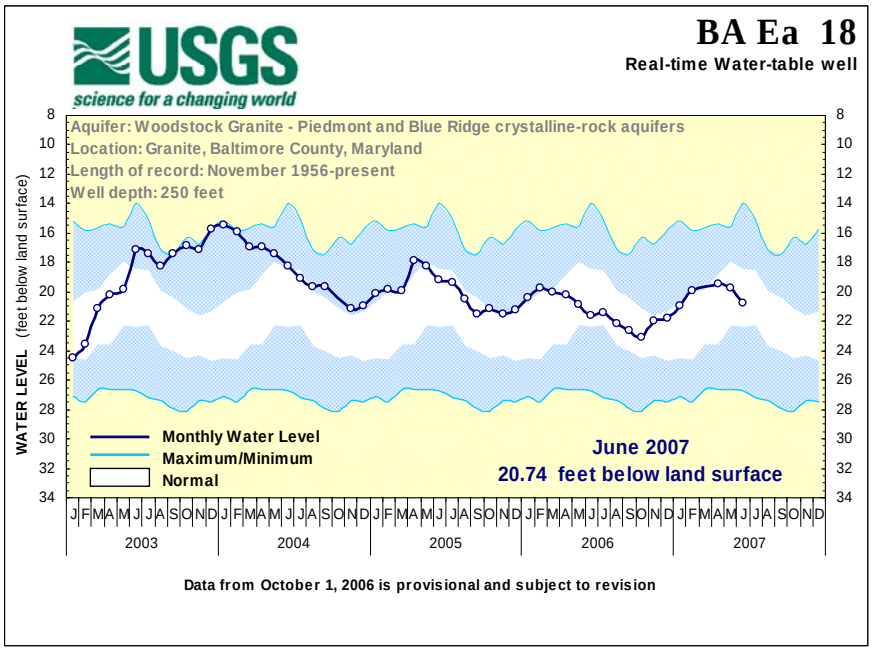
Contents of the Baltimore reservoir system were above 97% capacity at the end of June. The Baltimore reservoirs (Lock Raven, Liberty, and Prettyboy) have been nearly full since May 2003 and have only recently dropped below 100%.

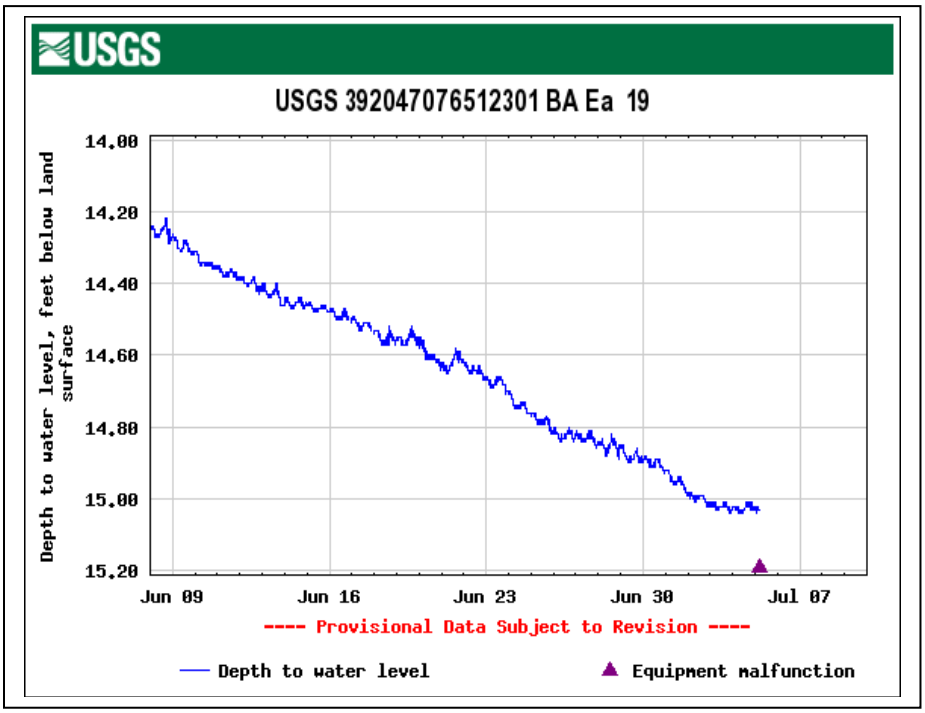
Storage in the Triadelphia and Duckett Reservoirs on the Patuxent River, which serves Montgomery and Prince Georges Counties, is above 85%.

Groundwater

Groundwater responds more slowly to the lack of rainfall than streams. Twenty two wells were used to assess the water conditions in Maryland for June. Twelve of the wells were in the normal range, however the rate of drop is steeper than normal and without normal rainfall, many of the wells will be below normal in the coming months. Six wells are below normal. Wells in Charles and Frederick Counties are below the 10th percentile.

The water level is shown in depth below land surface for this deep Baltimore County well. The normal band in shown in white. Notice that the May and June water levels are declining faster than the normal rate based on 41 years of data.





The water level in an adjacent shallow well shows a drop of about a foot in the last month.

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