February 2011 USGS Maryland-Delaware-District of Columbia Water Conditions Summary

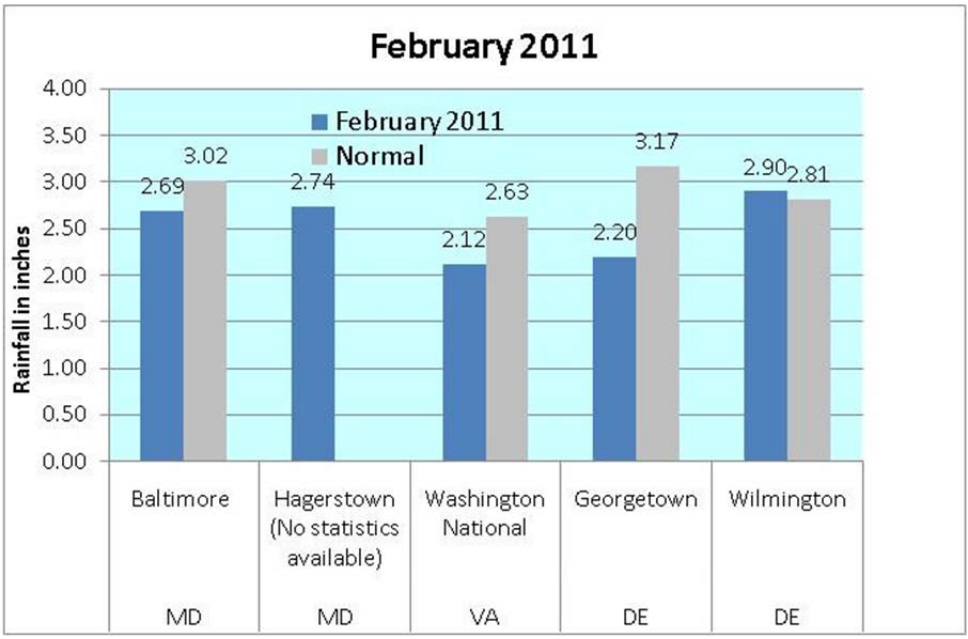
Above normal temperatures allowed the snow and ice to melt and bring streamflow and groundwater levels up to normal in 22 of the 33 streams and 14 of the 26 wells monitored by the U.S. Geological Survey (USGS) to assess the response to climatic conditions in Maryland, Delaware, and the District of Columbia region. Some of the low streamflow levels in January may have been caused by the abnormally cold weather during that period.

Although the number of sites with above normal water levels rose in February, there are still nine wells and seven streams with below normal levels. The region with the lowest water levels is on the southern Delmarva Peninsula.

Note: Below normal precipitation and temperatures across Maryland, Delaware, and the District of Columbia may be affecting groundwater and streamflow levels. Due to ice effects in many streams, it is likely that a number of stations in the network will have significant adjustments made to the daily values for most of December, January, and February. Data are provisional until the records are thoroughly reviewed and approved.

Precipitation

February precipitation was below normal for the third consecutive month at National Weather Service stations in Maryland and the District of Columbia. Precipitation was only 0.09 inches above normal at the weather station in Wilmington, Delaware. Temperatures were more than 3 degrees above normal across the region in February, which allowed the snow and ice to melt, leading to increased runoff to streams and recharge to groundwater.

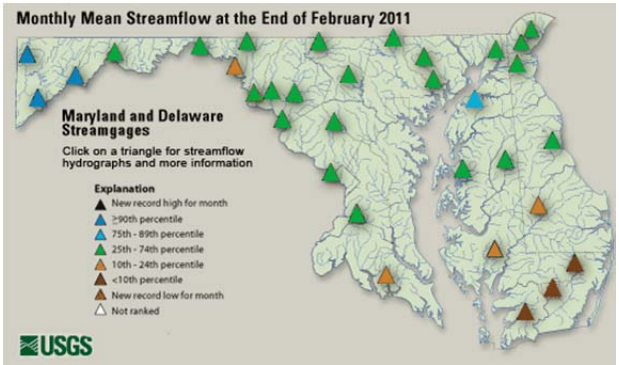


The Middle Atlantic River Forecast Center's 365-day and "year-to-date" departure from the average precipitation maps show most of the region within the normal range, but Garrett County, Maryland was more than 12 inches below normal and many of the counties adjacent to the Chesapeake Bay were 1 inch above normal.

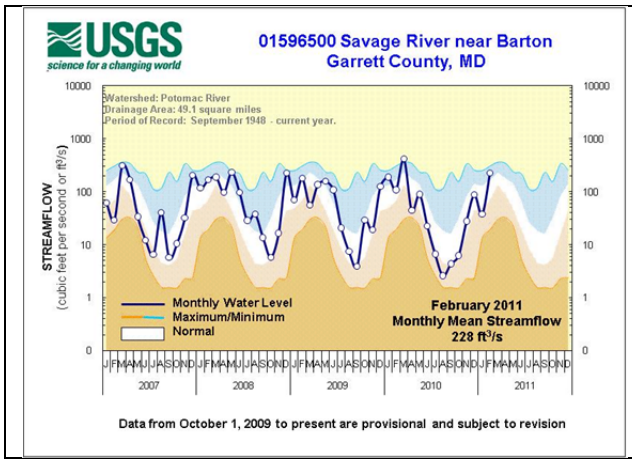
Sources:
National Weather Service
MD and DC: http://www.weather.gov/climate/index.php?wfo=lwx
DE: http://www.erh.noaa.gov/phi/
Middle Atlantic River Forecast Center (MARFC): http://www.erh.noaa.gov/marfc/Maps/precip.shtml

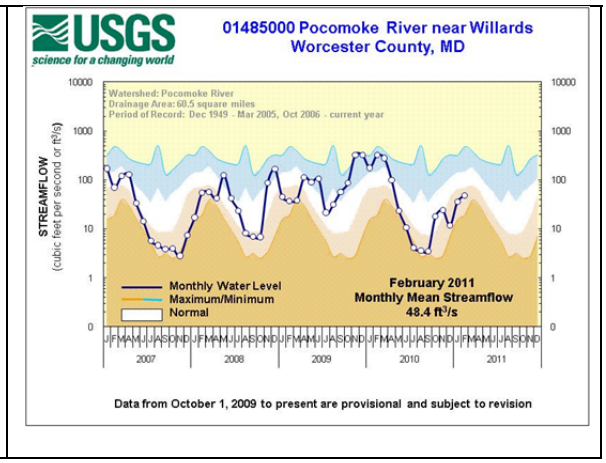
Streamflow

February monthly mean streamflow was normal at 22 of the 33 USGS streamgages used to assess climatic conditions in Maryland, Delaware, and the District of Columbia. Three streams in western Maryland were above the 90th percentile, including Bear Creek, and the Youghiogheny and Savage Rivers. In contrast, three streams were in the lowest 10th percentile--Manokin Branch, Nassawango Creek, and the Pocomoke River.



Monthly mean streamflow on the Savage River in Garrett County, Maryland rose from below normal levels in January to above normal in February 2011. Streamflow on the Pocomoke River in Worcester County, Maryland rose in February, but remains at below normal levels. 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.

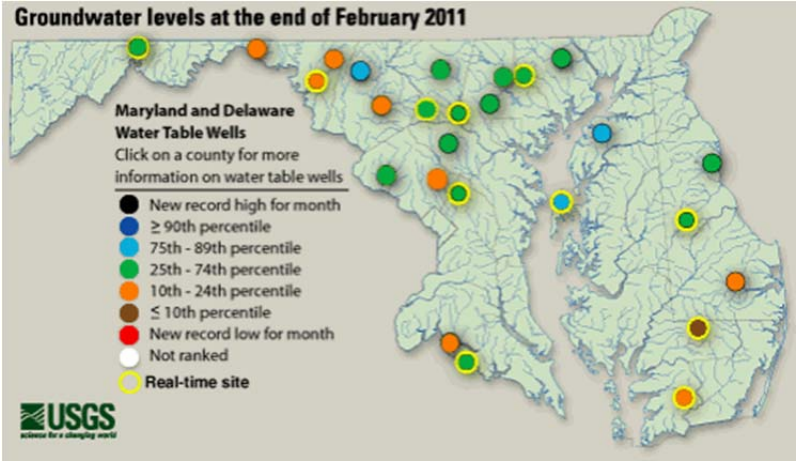




Five-year hydrographs can be viewed at: http://md.water.usgs.gov/surfacewater/streamflow/

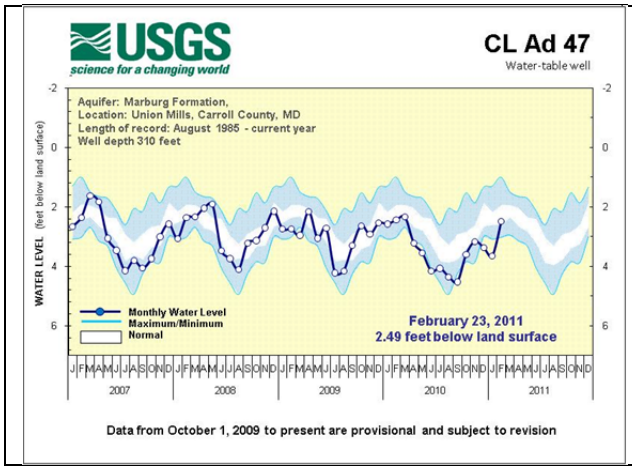
Groundwater

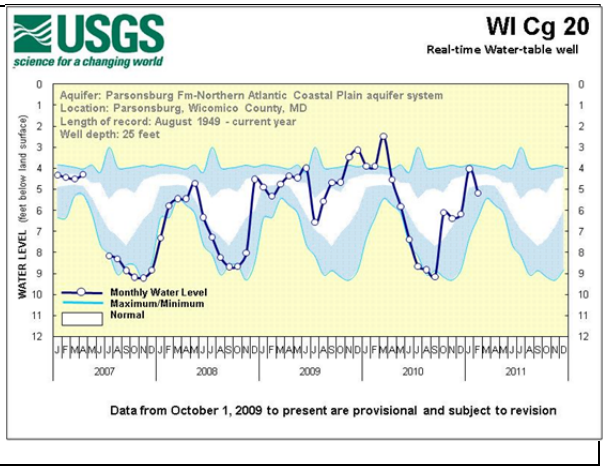
Groundwater levels were normal in 14 of the 26 wells used by the USGS to assess climatic conditions in the region in February. Three wells, located in Kent, Frederick, and Queen Anne's Counties, had above normal groundwater levels, whereas eight wells in Maryland and one in Delaware had below normal groundwater levels.



A well in Kent County, Maryland had above normal groundwater levels for the fifth consecutive month.

The groundwater level in well CL Ad 47 in Carroll County, Maryland recovered to normal levels in February after setting record lows in December 2010 and January 2011. In contrast, the groundwater level in the well monitored by the USGS in Wicomico County (well WI Cg 20) dropped to below normal levels in February. 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.





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

Reservoir Levels

Snowmelt and heavy rains in February allowed storage in the Baltimore reservoirs (Loch Raven, Liberty, and Prettyboy) to increase by 8 percent to 93 percent of available storage capacity, with 70.83 billion gallons in available storage.

Storage in the Triadelphia and Duckett Reservoirs, which serve Howard, Montgomery, and Prince George's Counties, also increased to an average of 83 percent of normal storage capacity, with 8.86 billion gallons at the end of February 2011.

February 2011	Percent available/ normal storage	Volume (billion gallons)	Source
Baltimore Reservoirs			**Baltimore City – Environmental Services Division**
Liberty	90.79%	33.41	
Loch Raven	97.74%	20.72	
Prettyboy	93.56%	16.70	
Total	93.38%	70.83	

Patuxent Reservoirs			**Washington Suburban Sanitary Commission (WSSC)**
Triadelphia	96.59%	5.41	
Duckett	68.85%	3.45	
Total	82.72%	8.86	