

Water Supply Outlook

http://www.potomacriver.org/water_supply/status.htm

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ICPRB, through its Section for Cooperative Water Supply Operations (CO-OP), coordinates water supply operations during times of drought and recommends releases of stored water. These operations ensure adequate water supplies for the major Washington metropolitan area water users and for environmental flow levels.

Summary/conclusions:

The probability of releases this summer and fall from the Washington metropolitan area's back-up water supply reservoirs is slightly higher than normal. Generally, the use of Jennings Randolph and Little Seneca reservoirs is triggered by low flows brought about by a combination of low summer rainfall, low precipitation in the prior 12-months, and low groundwater levels. At present, groundwater levels in the basin are at normal to below normal levels. Precipitation in the prior year has been below average in the Potomac basin, although recent Potomac basin rainfall and flow levels have been well below average. In the event that low-flow conditions continue through the summer, the metro area is well-protected from a water supply shortage because of carefully laid drought-contingency plans.

ICPRB outlook:

There is an eleven to twenty percent conditional probability that Potomac flow will drop below 600- to 700-million gallons per day (MGD) at Little Falls through December 31 of this year: at these flow levels, water supply releases from Jennings Randolph and Little Seneca Reservoirs become more likely. Releases occur when predicted flow is less than demand: demand is equal to 400 to 500 MGD withdrawn during the summer months, plus a 100 MGD minimum flow recommendation at Little Falls.

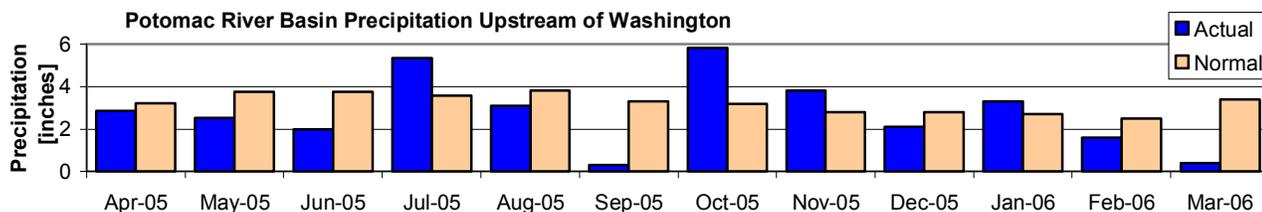
The conditional probability is estimated by analyzing the historical stream flow records and giving consideration to recent stream flow values, precipitation totals for the prior 12-months, current groundwater levels, and the current Palmer Drought Index. Past years in which watershed conditions most closely resemble current conditions are weighted more heavily in the determination of conditional probability. The historical probability is based on an analysis of the historical stream flow record without weighting for current conditions. The conditional probability of eleven to twenty percent compares to a historical probability of ten to sixteen percent and is considered the more reliable indicator.

Outlook for Potomac River at Little Falls – Watershed conditions as of April 1, 2006

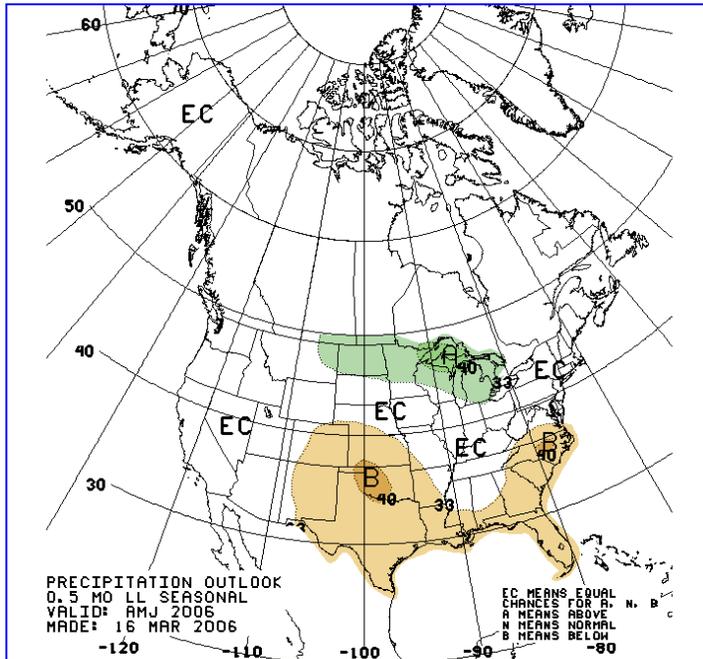
Low flow threshold (MGD)	Historical probability of lower flow April 1 through December 31	Conditional probability of lower flow April 1 through December 31
1200	67%	72%
1000	52%	61%
800	27%	34%
700	16%	20%
600	10%	11%

Precipitation summary for the Potomac basin:

The National Weather Service's Middle Atlantic River Forecast Center reports that precipitation in the Potomac basin upstream of Washington, D.C. has been 5.3 inches below average for the prior 12 months (since April 1, 2005), for a total of 33.2 inches. In the first three months of 2006, precipitation in the basin has been 3.3 inches below average for a total of 5.3 inches.

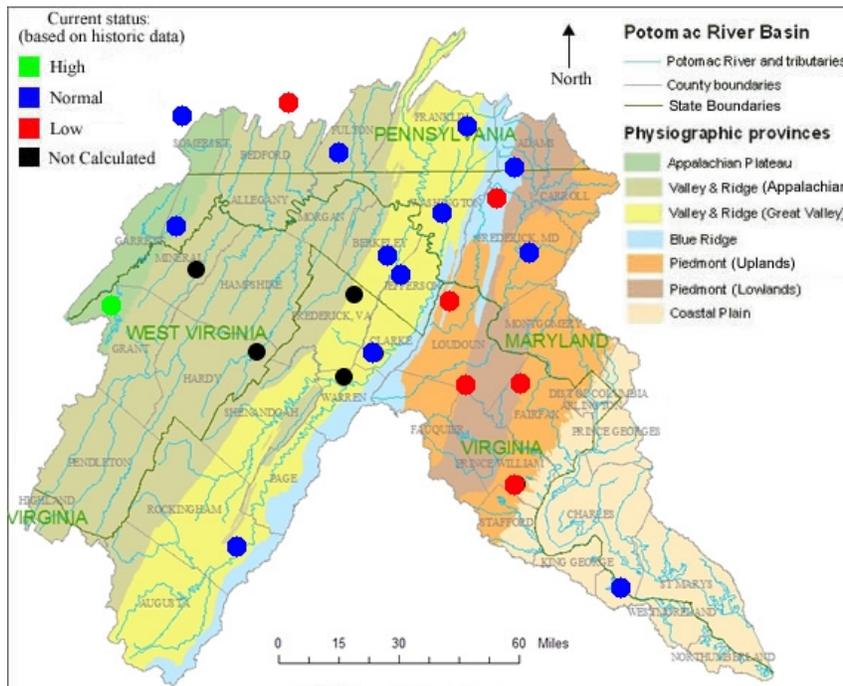


Data source: Middle Atlantic River Forecast Center, NWS



Precipitation outlook for April, May, and June:

The Climate Prediction Center (CPC) of the National Oceanic and Atmospheric Administration predicts approximately equal chances of Potomac basin precipitation and temperature being either above or below normal for April, May, and June. (Image source: CPC).



Groundwater:

Monitoring wells show that groundwater levels are at “normal” to “low” levels throughout the basin (Image source: United States Geological Survey, created 3/16/2006). The Great Valley has the best (highest) baseflow characteristics during droughts, and groundwater is “normal” in this physiographic province. In this graphic, USGS defines “high” as greater than 75th percentile, “normal” as between the 25th and 75th percentiles, and “low” as less than the 25th percentile.

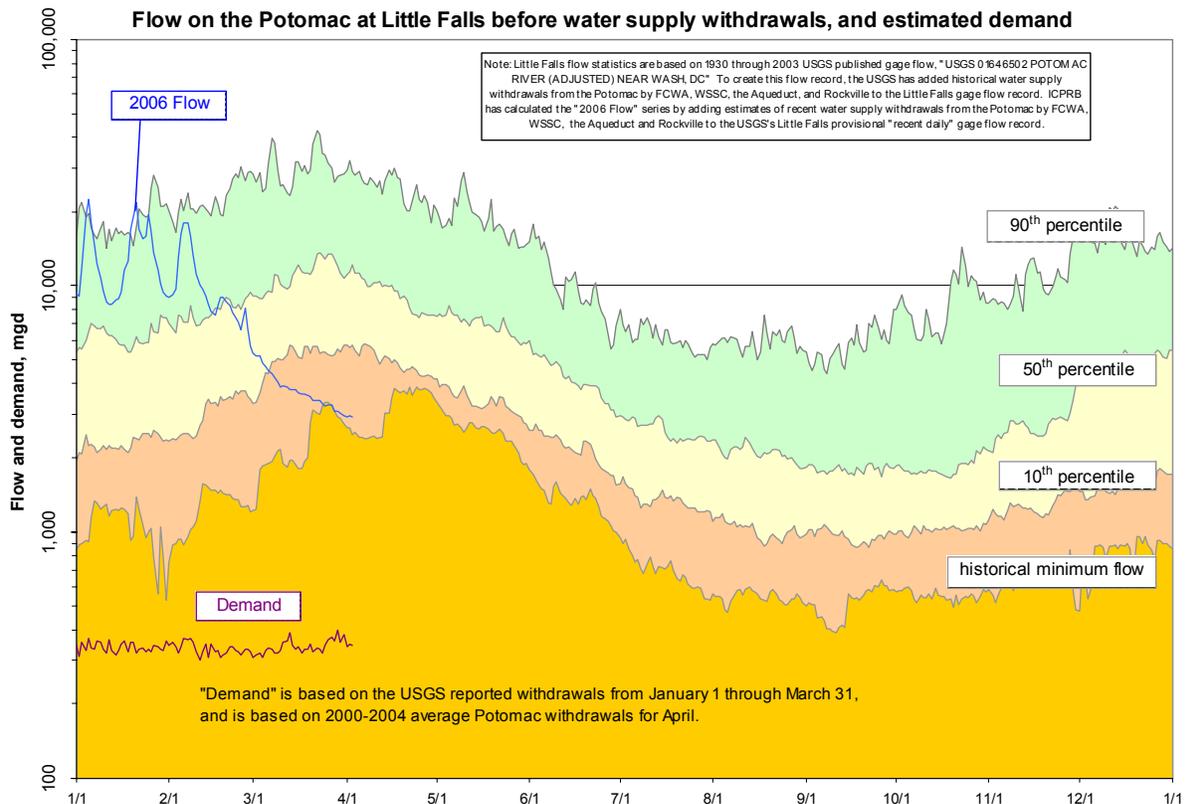
Reservoir Storage:

Facility	Percent Full	Current usable storage, bg	Total usable capacity, bg
WSSC's Patuxent reservoirs	67	6.9	10.2
FCWA's Occoquan Reservoir	100	8.0	8.0
Little Seneca Reservoir	100	3.8	3.8
Jennings Randolph water supply	100	13.3	13.3
Jennings Randolph water quality	68	11.3	16.5
Savage Reservoir	69	4.3	6.2

Note: Patuxent reservoirs are drawn down for maintenance.

Potomac River flow

The Potomac flow at Little Falls averaged 3.8 billion gallons per day in March, about 25 percent of normal, and was the lowest average monthly flow on record since 1930 (Source: USGS). Washington area water suppliers withdrew an average of about 342 MGD from the Potomac in March, 3 percent less than last year. Estimated daily Potomac flow dropped below historical daily low flow levels on March 25 and 26 (see image below). Estimated flow is the flow that would have occurred before water supply withdrawals, and is based on estimated withdrawal data and on provisional Little Falls gage data.



Drought Monitor and Soil moisture

The current Drought Monitor from the NOAA Climate Prediction Center (CPC) shows that the Potomac basin upstream of Little Falls is abnormally dry ("D0" status). The Potomac watershed downstream of Little Falls is in moderate drought status ("D1"). ("D2" corresponds to severe drought status, "D3" to extreme drought status, and "D4" to exceptional drought status.) The Palmer Drought Severity Index shows near normal conditions in the basin.

Drought Status:

The Metropolitan Washington Council of Government's Drought Awareness Response Plan status is "Normal." The drought status would change to "Watch" if the CPC's drought monitor shows the entire Potomac basin in D-1 status.

Environmental Flow-by

Average Potomac flow at Little Falls in March was approximately 38 times the minimum flow recommendation of 100 MGD.

Information provided by the USGS, the Middle Atlantic River Forecast Center, and the National Weather Service.