



**October 3, 2006**  
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*The 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 fall from the Washington metropolitan area’s back-up water supply reservoirs is below normal.** Above average rainfall in the month of September alleviated any potential drought conditions and reduced the likelihood of water supply releases this year. 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. Precipitation in September in the Potomac basin was above average, 12 month precipitation is slightly above average, and groundwater levels in the basin are normal to above normal. In the event that low-flow conditions re-establish this fall, the metro area is well-protected from a water supply shortage because of carefully laid drought-contingency plans and adequate storage in back-up water supply reservoirs.

**ICPRB outlook:**

There is a minimal 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 those 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, plus a 100 MGD minimum flow recommendation at Little Falls.

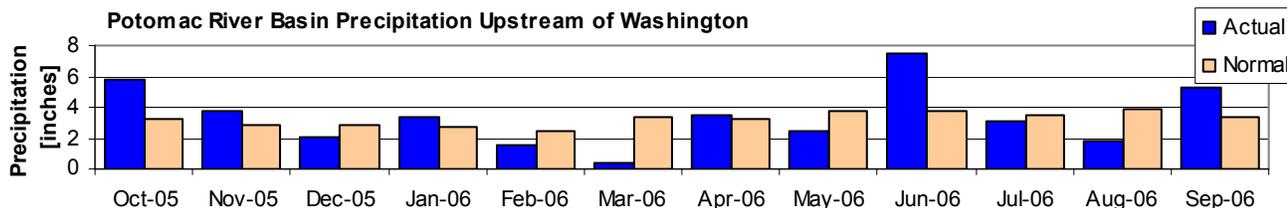
Past years in which watershed conditions most closely resemble current conditions are weighted more heavily in the determination of conditional probability. In contrast, the historical probability is based on an analysis of the historical stream flow record without weighting for current conditions. The minimal conditional probability (<<1 percent) compares to a historical probability of 1 to 4 percent and is considered the more reliable indicator. The conditional probability for this outlook was estimated by analyzing the historical stream flow records and giving consideration to the precipitation total for the prior 12-months, current Potomac flow levels, the current Palmer Drought Severity Index, and current groundwater levels.

**Outlook for Potomac River at Little Falls – Watershed conditions as of October 2, 2006**

Low flow threshold (MGD)	<i>Historical probability of lower flow October 3 through December 31</i>	<i>Conditional probability of lower flow October 3 through December 31</i>
1200	52%	33%
1000	30%	14%
800	12%	2%
700	4%	<<1%
600	1%	<<1%

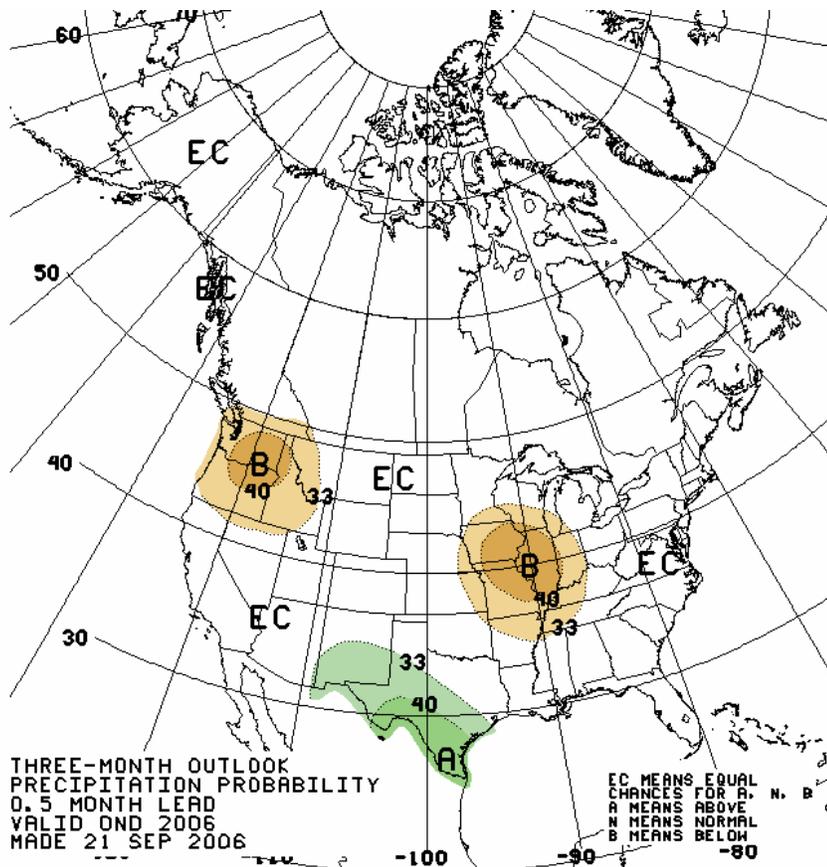
**Precipitation summary for the Potomac basin:**

The National Weather Service’s Middle Atlantic River Forecast Center reports that precipitation in the Potomac basin upstream of Washington, D.C. was 5.30 inches for the month of September, 2.0 inches above normal. Precipitation was 2.0 inches above average for the prior 12 months (October 1, 2005 through September 30, 2006), for a total of 40.6 inches.



Data source: Middle Atlantic River Forecast Center, NWS

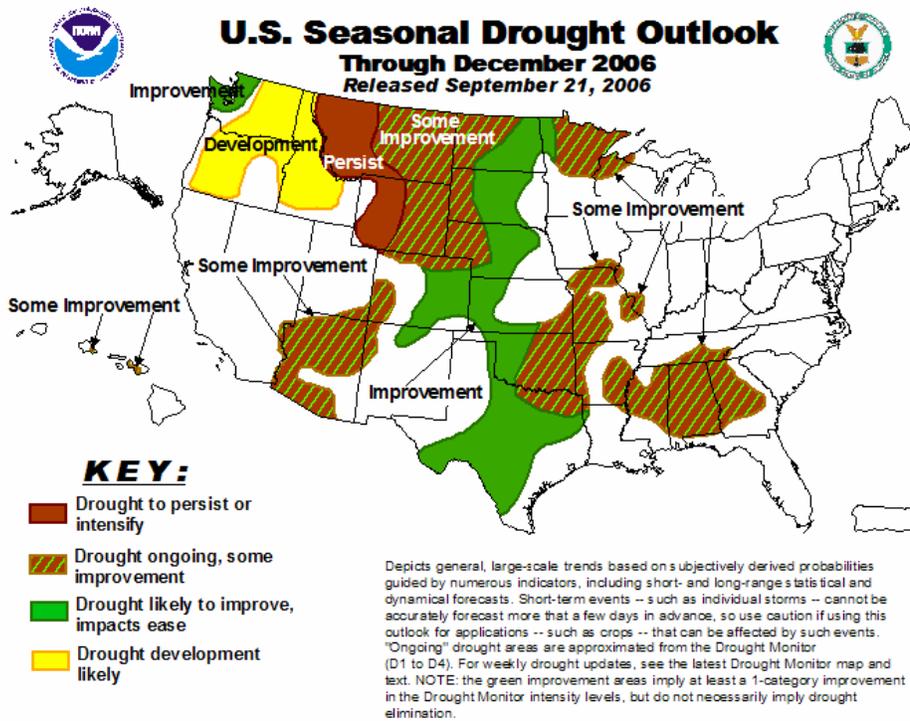
**Precipitation and temperature outlook for October, November and December:**

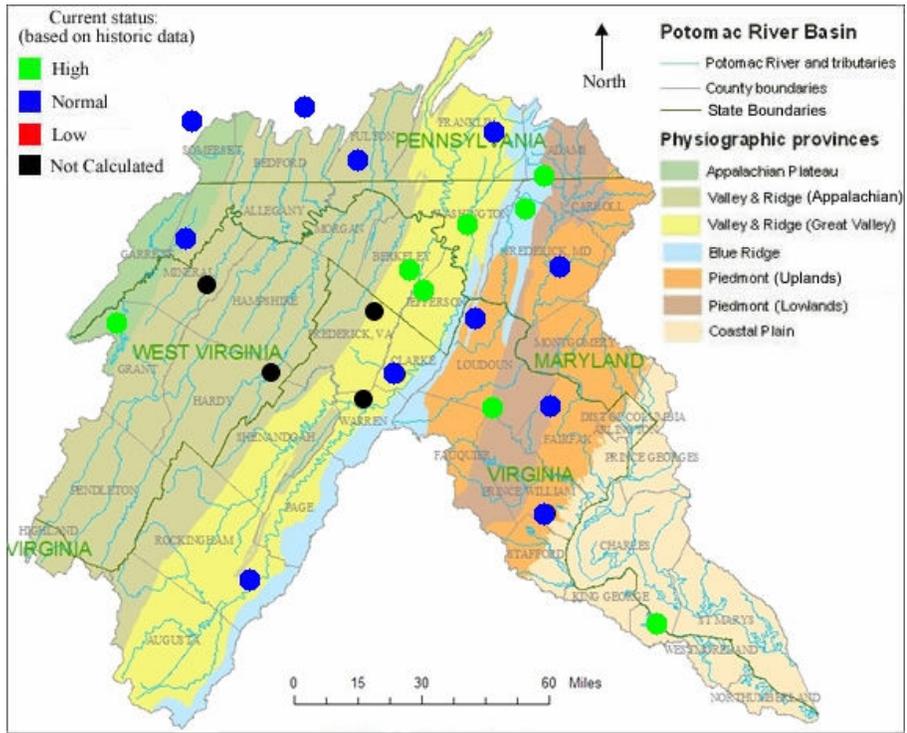


The Climate Prediction Center (CPC) of the National Oceanic and Atmospheric Administration predicts approximately equal chances of both Potomac basin precipitation and temperature being either above or below normal for October, November and December (see precipitation map to left).

*(Image source: CPC. "EC" means equal likelihood or chance, the green area corresponds to above normal likelihood, and "B" corresponds to below normal likelihood.*

As of September 21, the CPC's drought outlook does not forecast drought conditions for the Potomac basin, per the image below.





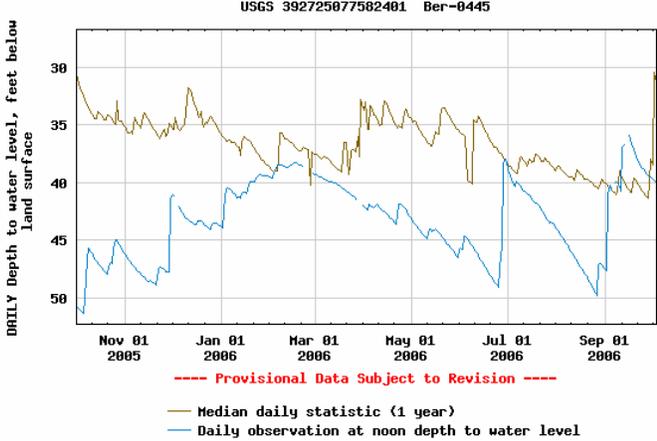
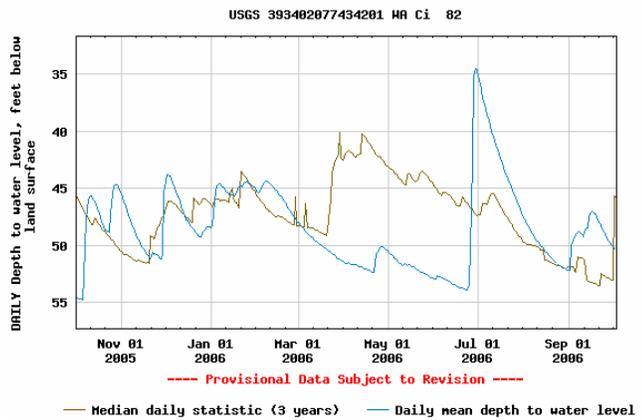
**Groundwater:**

Most basin groundwater levels were at “high” or “normal” levels as of September 20<sup>th</sup> (see image to left). Well levels from two wells are shown in the graphics below.

Image sources: United States Geological Survey. USGS defines “high” as greater than 75<sup>th</sup> percentile, “normal” as between the 25<sup>th</sup> and 75<sup>th</sup> percentiles, and “low” as less than the 25<sup>th</sup> percentile.)

USGS gage MD Wa Ci 82, Washington County, MD

USGS gage BER 0445, Berkeley County



**Reservoir Storage:**

Facility	Percent Full	Current usable storage, bg	Total usable capacity, bg
WSSC's Patuxent reservoirs	47	4.8	10.2
FCWA's Occoquan Reservoir	100	8.0	8.0
Little Seneca Reservoir	96	3.65	3.8
Jennings Randolph water supply	100	13.3	13.3
Jennings Randolph water quality	61	10.0	16.5
Savage Reservoir	50	3.1	6.2

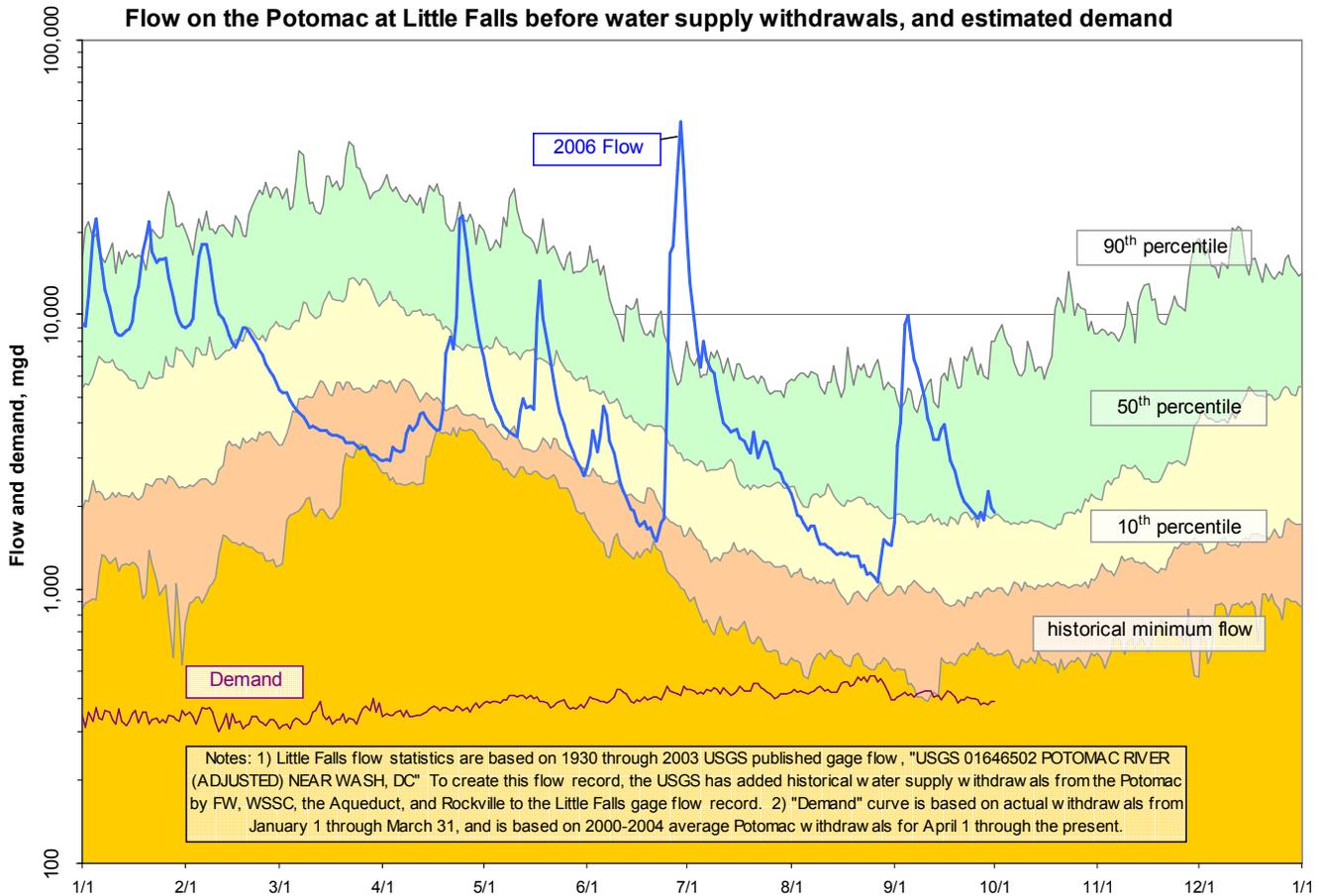
Note: Patuxent reservoirs are drawn down for maintenance.

### Environmental Flow-by

Average Potomac flow at Little Falls in September was approximately 5,266 cubic feet per second (3,403 MGD), approximately 34 times the minimum flow recommendation of 100 MGD.

### Potomac River flow

Estimated daily Potomac flow at Little Falls fell from above the 90<sup>th</sup> percentile in the early part of September to near median levels on October 1. (See graphic, 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.



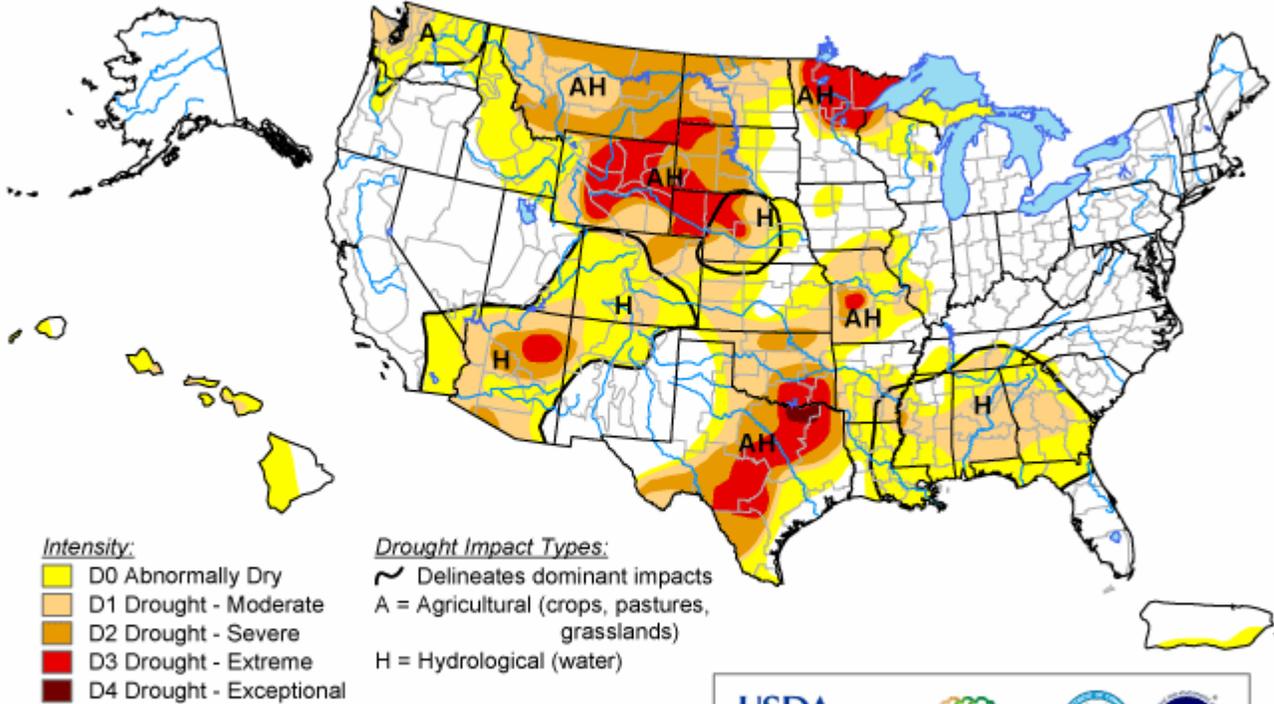
**Drought Status:**

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

**Drought Monitor**

The current U.S. Drought Monitor indicates no drought conditions in the Potomac.

# U.S. Drought Monitor September 26, 2006 Valid 8 a.m. EDT



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:

- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*



<http://drought.unl.edu/dm>

**Released Thursday, September 28, 2006**  
**Author: Ned Guttman/Liz Love-Brotak, NOAA/NESDIS/NCDC**

Soil moisture

The Palmer Drought Severity Index map shows that most of the basin is in “near normal” status. (See image below.)

### Drought Severity Index by Division

Weekly Value for Period Ending 23 SEP 2006

Long Term Palmer

