

Water Supply Outlook

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

June 1, 2007

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Interstate Commission on the Potomac River Basin (ICPRB)

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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 approximately normal. In a normal year, there is about a 10 to 16 percent chance that releases would occur. 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, most groundwater levels used for monitoring by ICPRB are near average. Precipitation in the prior year has been slightly above average in the Potomac basin but was well below normal in May. Flow levels have recently fallen to below normal. In the event that low-flow conditions develop this summer, the metro area is well-protected from a water supply shortage because of carefully designed drought-contingency plans.

ICPRB outlook:

There is an 11 to 17 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 may occur. Releases occur when predicted flow is less than demand: typical summer demand during droughts is equal to 500 to over 700 MGD (plus a 100 MGD minimum flow recommendation at Little Falls) and most of the demand is met with water withdrawn from the Potomac.

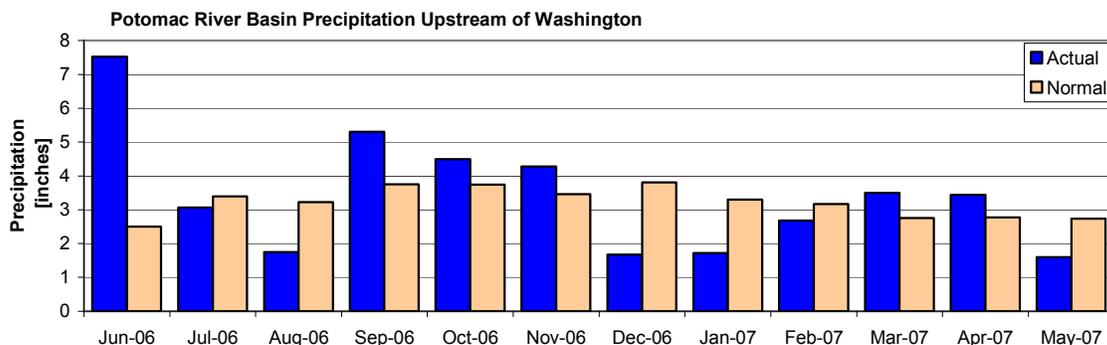
The conditional probability is estimated by analyzing the historical stream flow records and giving consideration to recent stream flow values, precipitation totals for the prior 9 to 12 months, current groundwater levels, and the current Palmer Drought Index. Past years in which watershed conditions 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 11 to 17 percent compares to a historical probability of 10 to 16 percent and is considered the more reliable indicator.

Outlook for Potomac River at Little Falls – Watershed conditions as of June 1, 2007

Low flow threshold (MGD)	Historical probability of lower flow June 1 through December 31	Conditional probability of lower flow June 1 through December 31
1200	67%	77%
1000	52%	60%
800	27%	31%
700	16%	17%
600	10%	11%

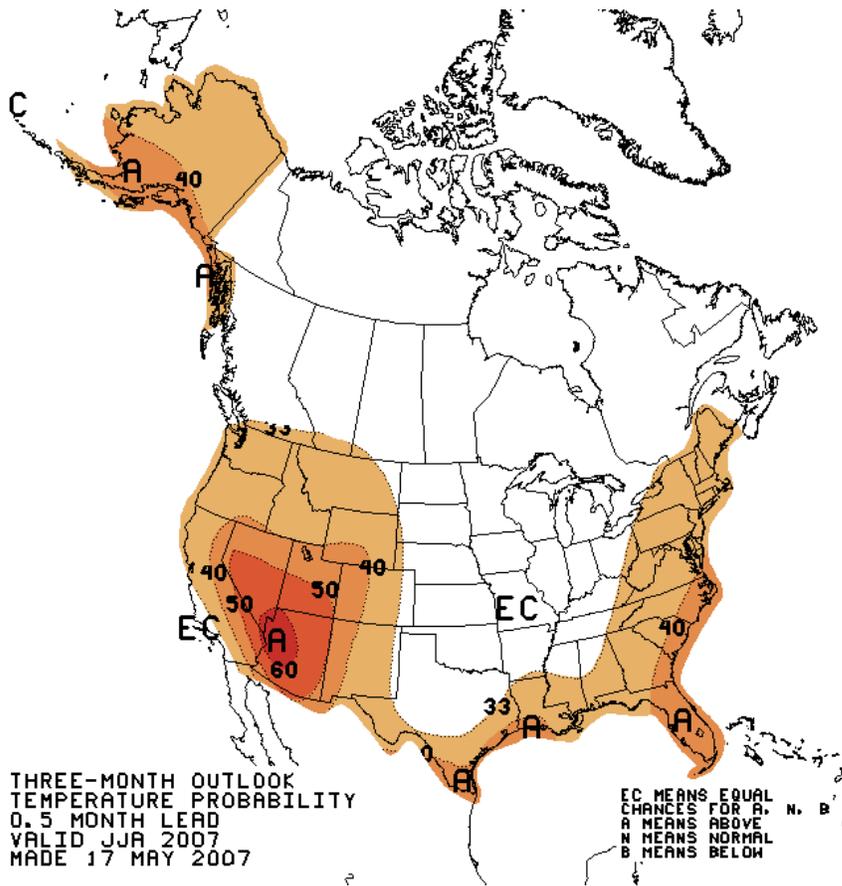
Precipitation summary for the Potomac basin:

The National Weather Service's Middle Atlantic River Forecast Center reports that precipitation in the Potomac basin upstream of Washington, D.C., has been 0.7 inches above average for the prior 9 months (since September 1, 2006), for a total of 28.0 inches. In the first five months of 2007, precipitation in the basin has been 2.6 inches below average for a total of 15.5 inches. May precipitation was 1.6 inches, 2.1 inches below average.



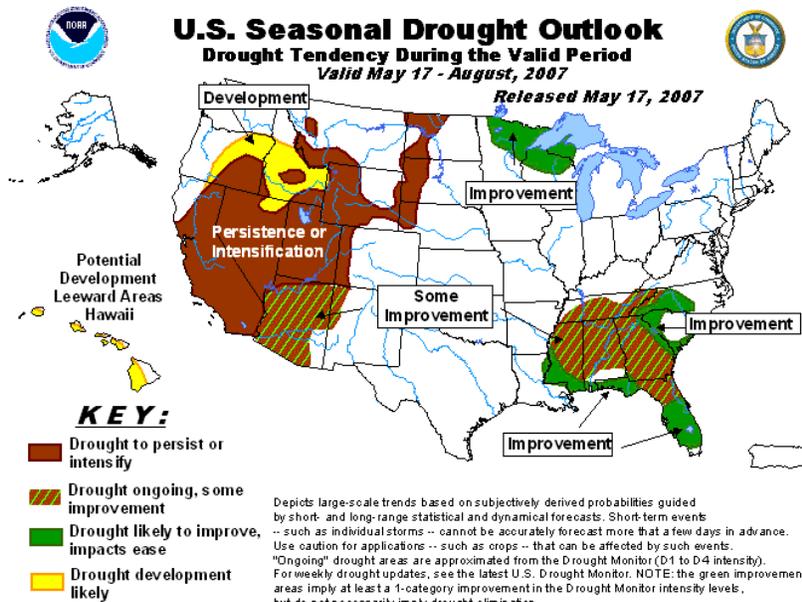
Data source: Middle Atlantic River Forecast Center, NWS

Precipitation, temperature, and drought outlook for June, July, and August:

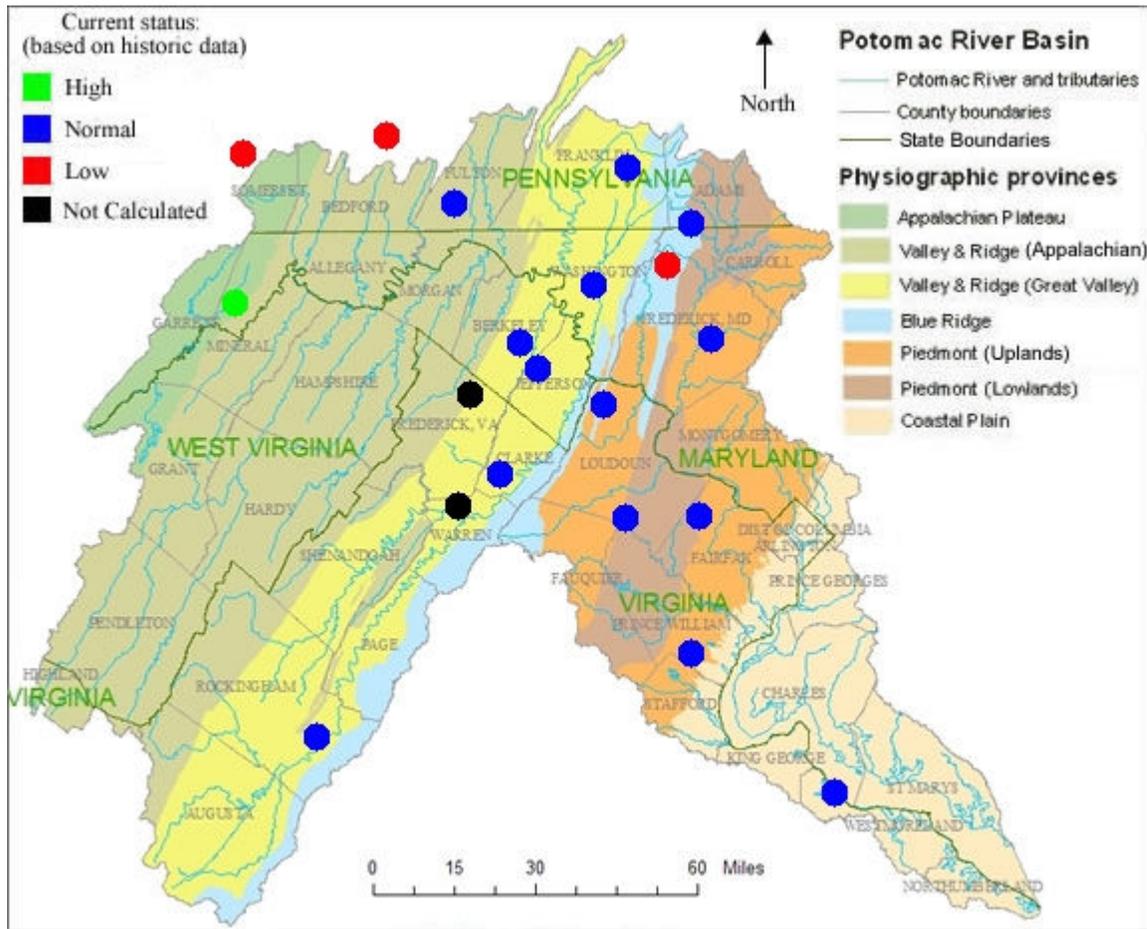


The Climate Prediction Center (CPC) of the National Oceanic and Atmospheric Administration predicts above normal chances of higher than normal temperatures in the Potomac basin and approximately equal chances of precipitation being either above or below normal for May, June, and July. (Image source: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

As of May 17, the CPC's Seasonal Drought Outlook does not forecast drought conditions for the Potomac basin.



Groundwater:



Monitoring wells show that most groundwater levels are “normal” throughout most of the basin (Image source: United States Geological Survey, created 5/18/2007). 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.

Most wells tracked by ICPRB for drought forecasting were near average levels at the end of May.

Reservoir Storage:

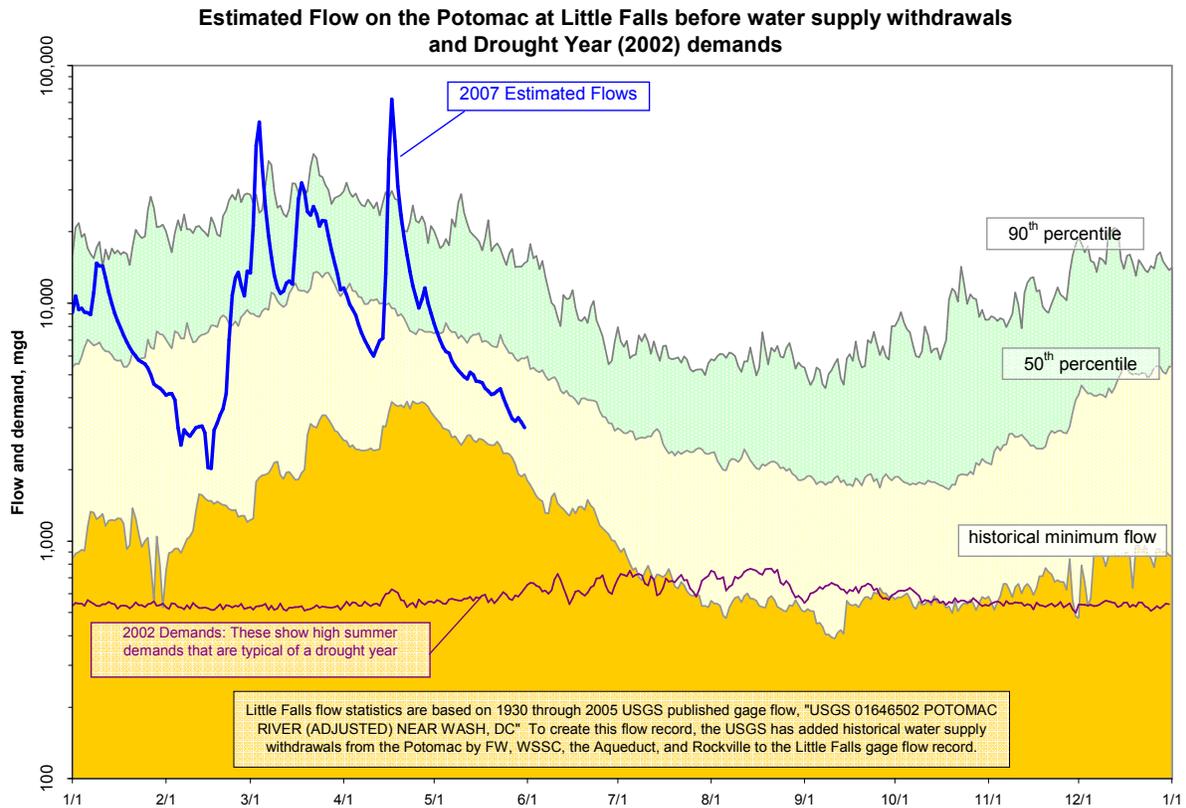
Facility	Percent Full	Current usable storage, bg	Total usable capacity, bg
WSSC’s Patuxent reservoirs	100	10.2	10.2
FW’s Occoquan Reservoir	99	7.9	8.0
Little Seneca Reservoir	100	3.8	3.8
Jennings Randolph water supply	100	13.3	13.3
Jennings Randolph water quality	84	13.9	16.5
Savage Reservoir	95	5.9	6.2

Estimated Potomac River flow:

The estimated Potomac flow at Little Falls averaged 6.9 billion gallons per day in May, about 85 percent of normal flow for May. 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.

Environmental Flow-by:

Average Potomac flow at Little Falls in March was well above the minimum flow recommendation of 100 MGD.



Drought Status:

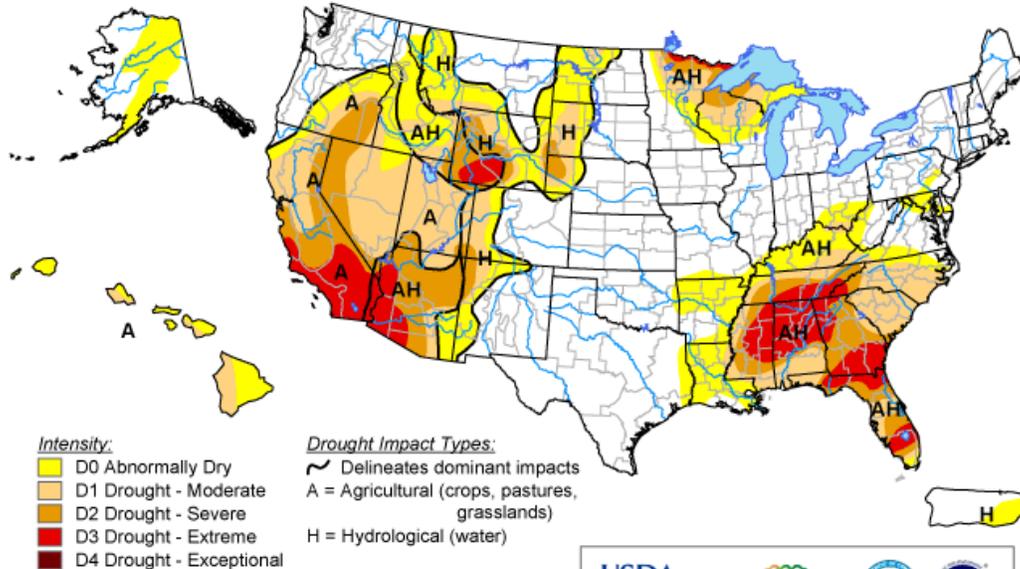
The Metropolitan Washington Council of Government's Drought Awareness Response Plan status is "Normal." The drought status would change to "Watch" if the CPC's drought monitor showed the entire Potomac basin in D-1 status (see below).

Drought Monitor and Soil moisture:

The latest Drought Monitor (see next page) from the NOAA Climate Prediction Center (CPC) indicates "abnormally dry" conditions for the Potomac Basin. The Palmer Drought Severity Index shows near-normal soil moisture conditions for most of the basin (see bottom graphic on the next page).

U.S. Drought Monitor

May 29, 2007
Valid 8 a.m. EDT



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



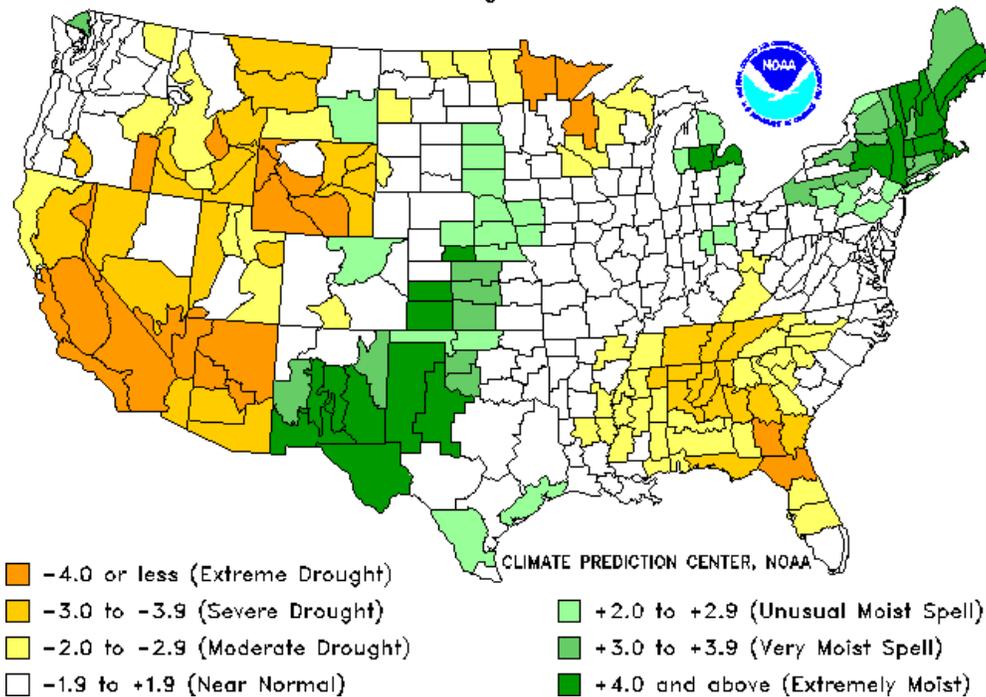
Released Thursday, May 31, 2007
Author: Ned Guttman, NOAA/NESDIS/NCDC

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

Drought Severity Index by Division

Weekly Value for Period Ending 26 MAY 2007

Long Term Palmer



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