

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

Potomac Basin
Middle Potomac-Catoctin Subbasin

LOCATION.--Lat 39°16'24.9", long 77°32'35.2" referenced to North American Datum of 1983, Frederick County, MD, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 199.92 ft above North American Vertical Datum of 1988. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--Records good except those for estimated daily discharges (backwater), which are poor. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir; since December 1950 by Savage River Reservoir (see station 01597500); and since July 1981 by Jennings Randolph Lake. Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage-height telemeter at station. U.S. Geological Survey satellite data-collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft³/s from rating curve extended as explained in footnotes.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft³/s and (or) maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|--------------------------------|------------------|
| Nov 24 | 1030 | 56,500 | 11.81 |
| Dec 9 | 1100 | *74,800 | *14.32 |
| Mar 2 | 0845 | 49,300 | 10.75 |

Minimum discharge, 1,500 ft³/s, Sept. 17.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|---------|
| 1 | 9,610 | 10,400 | 22,100 | 13,500 | 13,200 | 15,700 | 9,900 | 5,620 | 9,700 | 2,360 | 2,630 | 2,410 |
| 2 | 8,290 | 11,000 | 25,200 | 12,400 | 12,300 | 46,100 | 9,640 | 5,640 | 10,900 | 2,630 | 2,670 | 2,140 |
| 3 | 10,700 | 10,700 | 19,900 | 11,500 | 11,400 | 41,000 | 9,130 | 5,710 | 12,500 | 2,480 | 2,640 | 3,580 |
| 4 | 14,600 | 10,000 | 16,100 | 10,500 | 10,500 | 36,100 | 8,770 | 5,850 | 9,640 | 2,450 | 2,500 | 2,900 |
| 5 | 12,700 | 9,570 | 13,800 | 9,690 | 10,300 | 34,300 | 8,130 | 6,070 | 7,890 | 2,470 | 2,590 | 2,610 |
| 6 | 10,500 | 8,880 | 12,300 | 9,190 | 10,100 | 28,000 | 7,520 | 5,940 | 6,960 | 2,310 | 2,850 | 5,550 |
| 7 | 8,560 | 8,110 | 12,300 | 8,880 | 10,000 | 23,800 | 7,030 | 5,720 | 6,050 | 2,200 | 2,640 | 3,830 |
| 8 | 7,220 | 7,600 | 30,000 | 8,500 | 9,610 | 20,000 | 6,610 | 5,890 | 5,510 | 2,140 | 2,520 | 2,800 |
| 9 | 6,240 | 7,120 | 69,900 | 8,100 | 9,220 | 17,200 | 6,220 | 7,060 | 5,040 | 2,340 | 2,550 | 2,830 |
| 10 | 5,530 | 6,730 | 47,900 | 7,750 | 8,850 | 15,200 | 6,100 | 6,640 | 4,700 | 2,310 | 2,520 | 2,580 |
| 11 | 5,010 | 6,290 | 32,800 | 7,580 | 8,710 | 13,400 | 5,680 | 6,460 | 4,370 | 2,220 | 3,130 | 2,460 |
| 12 | 4,760 | 5,880 | 25,500 | 8,700 | 8,420 | 11,800 | 5,540 | 6,400 | 4,270 | 1,990 | 4,670 | 2,170 |
| 13 | 4,960 | 5,500 | 21,200 | 19,900 | 8,120 | 10,800 | 5,350 | 6,030 | 4,540 | 2,020 | 3,920 | 2,060 |
| 14 | 5,700 | 5,200 | 18,100 | 33,000 | 7,640 | 10,200 | 5,150 | 5,650 | 4,980 | 2,130 | 3,240 | 1,900 |
| 15 | 8,570 | 4,920 | 16,100 | 28,900 | 7,290 | 9,490 | 5,000 | 6,120 | 4,740 | 2,040 | 2,870 | 1,760 |
| 16 | 13,800 | 5,100 | 14,600 | 23,100 | 7,160 | 8,910 | 4,880 | 14,000 | 4,270 | 2,040 | 2,490 | 1,630 |
| 17 | 13,700 | 5,630 | 13,000 | 19,000 | 7,170 | 8,450 | 4,680 | 19,300 | 3,900 | 2,160 | 2,520 | 1,520 |
| 18 | 11,300 | 9,220 | 11,500 | 16,800 | 7,250 | 7,940 | 4,640 | 17,300 | 3,570 | 2,270 | 3,730 | 4,070 |
| 19 | 10,000 | 10,500 | 10,600 | 16,000 | 7,400 | 7,550 | 4,560 | 12,700 | 3,380 | 2,550 | 4,740 | 6,070 |
| 20 | 10,700 | 9,850 | 9,820 | 15,500 | 7,510 | 7,480 | 4,480 | 9,950 | 3,350 | 3,100 | 4,550 | 10,300 |
| 21 | 9,280 | 8,940 | 9,260 | 14,300 | 7,400 | 7,750 | 4,330 | 8,400 | 3,370 | 3,910 | 3,950 | e8,500 |
| 22 | 8,400 | 9,180 | 8,880 | 13,000 | 7,290 | 8,170 | 4,860 | 9,310 | 3,840 | 4,240 | 3,650 | e7,490 |
| 23 | 7,480 | 22,000 | 9,710 | 12,200 | 7,160 | 8,150 | 5,650 | 8,960 | 3,930 | 4,620 | 3,710 | e6,590 |
| 24 | 6,810 | 50,900 | 10,600 | 11,800 | 7,210 | 8,030 | 6,770 | 11,800 | 3,420 | 4,940 | 3,430 | 5,790 |
| 25 | 6,220 | 36,200 | 13,200 | 12,300 | 7,310 | 8,160 | 7,710 | 11,200 | 3,030 | 4,580 | 2,940 | 4,510 |
| 26 | 5,900 | 26,600 | 14,700 | 13,300 | 7,610 | 10,900 | 7,760 | 9,370 | 2,710 | 3,660 | 2,880 | 3,910 |
| 27 | 5,580 | 21,500 | 13,600 | 13,700 | 7,840 | 16,300 | 6,980 | 7,960 | 2,680 | 3,160 | 3,610 | 3,180 |
| 28 | 5,220 | 18,000 | 14,100 | 17,000 | 7,650 | 16,000 | 6,410 | 7,500 | 2,580 | 4,900 | 4,590 | 3,160 |
| 29 | 5,610 | 15,900 | 16,700 | 17,800 | 8,090 | 13,700 | 6,170 | 8,040 | 2,440 | 4,550 | 3,970 | 4,710 |
| 30 | 6,390 | 16,200 | 16,300 | 16,000 | --- | 11,900 | 5,920 | 11,700 | 2,630 | 3,620 | 3,340 | 4,970 |
| 31 | 8,350 | --- | 14,800 | 14,500 | --- | 10,800 | --- | 11,500 | --- | 2,960 | 3,050 | --- |
| Total | 257,690 | 383,620 | 584,570 | 444,390 | 249,710 | 493,280 | 191,570 | 269,790 | 150,890 | 91,350 | 101,090 | 117,980 |
| Mean | 8,313 | 12,790 | 18,860 | 14,340 | 8,611 | 15,910 | 6,386 | 8,703 | 5,030 | 2,947 | 3,261 | 3,933 |
| Max | 14,600 | 50,900 | 69,900 | 33,000 | 13,200 | 46,100 | 9,900 | 19,300 | 12,500 | 4,940 | 4,740 | 10,300 |
| Min | 4,760 | 4,920 | 8,880 | 7,580 | 7,160 | 7,480 | 4,330 | 5,620 | 2,440 | 1,990 | 2,490 | 1,520 |
| Cfsm | 0.86 | 1.32 | 1.95 | 1.49 | 0.89 | 1.65 | 0.66 | 0.90 | 0.52 | 0.31 | 0.34 | 0.41 |
| In. | 0.99 | 1.48 | 2.25 | 1.71 | 0.96 | 1.90 | 0.74 | 1.04 | 0.58 | 0.35 | 0.39 | 0.45 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2012, BY WATER YEAR (WY)

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mean | 4,999 | 5,846 | 8,908 | 11,430 | 14,000 | 19,700 | 16,550 | 12,490 | 8,019 | 4,430 | 4,145 | 4,034 |
| Max | 37,030 | 39,000 | 32,610 | 42,160 | 47,870 | 68,360 | 43,840 | 41,970 | 40,400 | 16,000 | 23,580 | 38,300 |
| (WY) | (1943) | (1986) | (1973) | (1996) | (1998) | (1936) | (1993) | (1924) | (1972) | (1949) | (1955) | (1996) |
| Min | 706 | 840 | 1,253 | 1,703 | 1,982 | 4,407 | 4,368 | 3,276 | 1,932 | 1,056 | 771 | 834 |
| (WY) | (1931) | (1931) | (1966) | (1981) | (2002) | (2009) | (1915) | (1930) | (1969) | (1966) | (1930) | (1930) |

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SUMMARY STATISTICS

| | Calendar Year 2011 | | Water Year 2012 | | Water Years 1895 - 2012 | |
|---------------------------------|--------------------|--------|-----------------|--------|-------------------------|---------------------------|
| Annual total | 4,954,540 | | 3,335,930 | | | |
| Annual mean | 13,570 | | 9,115 | | 9,532 | |
| Highest annual mean | | | | | 18,750 | 1996 |
| Lowest annual mean | | | | | 4,015 | 2002 |
| Highest daily mean | 131,000 | Apr 18 | 69,900 | Dec 9 | 434,000 | Mar 19, 1936 |
| Lowest daily mean | 1,720 | Aug 4 | 1,520 | Sep 17 | 540 | Sep 10, 1914 |
| Annual seven-day minimum | 1,790 | Aug 1 | 1,930 | Sep 11 | 593 | Sep 6, 1966 |
| Maximum peak flow | | | 74,800 | Dec 9 | ^a 480,000 | Mar 19, 1936 |
| Maximum peak stage | | | 14.32 | Dec 9 | 41.03 | Mar 19, 1936 |
| Instantaneous low flow | | | 1,500 | Sep 17 | 530 | Sep 11, 1966 ^b |
| Annual runoff (cfsm) | 1.41 | | 0.944 | | 0.988 | |
| Annual runoff (inches) | 19.10 | | 12.86 | | 13.42 | |
| 10 percent exceeds | 29,200 | | 16,300 | | 20,800 | |
| 50 percent exceeds | 8,350 | | 7,400 | | 5,450 | |
| 90 percent exceeds | 2,200 | | 2,590 | | 1,700 | |

^a From rating curve extended above 300,000 ft³/s, on basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow.

^b Sept. 11, 12, 1966.

