

## Water-Data Report 2009

**01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD**

 Upper Chesapeake Basin  
 Pocomoke Subbasin

LOCATION.--Lat 38°12'50.0", long 75°40'17.0" referenced to North American Datum of 1983, Somerset County, MD, Hydrologic Unit 02060009, on right bank 45 ft downstream from farm bridge, 1.4 mi northeast of Princess Anne, and 1.6 mi upstream from confluence with Loretto Branch.

DRAINAGE AREA.--4.80 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--April 1951 to September 1971, October 1974 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: Drainage area. WDR MD-DE-85-1: 1983-84 (P). WDR-US-2009: 2006-2007 (P).

GAGE.--Water-stage recorder. Datum of gage is 7.03 ft above National Geodetic Vertical Datum of 1929. Artificial control since Apr. 30, 1975. Nov. 26, 1968 to Sept. 30, 1971, water-stage recorder above and nonrecording gage below gage height 1.4 ft. Prior to Nov. 26, 1968, recording gage at site 40 ft upstream at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges, records good except those above 230 ft<sup>3</sup>/s, which are poor. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality data for some prior periods have been collected at this location.

REVISIONS.--The peak discharges and annual maximums (\*) reported for water years 2006 - 2007, have been revised as shown in the following table. They supersede those published in corresponding annual reports.

EXTREMES FOR WATER YEARS 2006-2007.—Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and (or) maximum (\*):

Water Year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
2006	Jul 5, 2006	2345	*97	*3.22
	Sep 1, 2006	2330	65	2.84
2007	Nov 12, 2006	2300	131	3.61
	Nov 22, 2006	1915	48	2.61
	Jan 1, 2007	2030	58	2.75
	Jan 8, 2007	1415	64	2.82
	Mar 16, 2007	2045	138	3.68
	Apr 16, 2007	0315	*176	*4.17

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 12	0300	*73	*2.94
Apr 11	0930	55	2.70

Minimum discharge, 0.32 ft<sup>3</sup>/s, Oct. 12.

**01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**

<b>Day</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>1</b>	0.47	0.47	3.3	3.1	4.0	2.9	4.5	4.5	3.8	2.5	1.4	2.1
<b>2</b>	0.45	0.47	2.2	3.2	3.8	5.0	4.3	4.2	3.5	2.7	3.7	1.9
<b>3</b>	0.42	0.47	1.7	3.3	3.7	4.1	4.9	8.9	3.5	2.3	11	1.7
<b>4</b>	0.41	0.62	1.6	3.0	3.5	3.8	4.3	7.4	3.9	2.1	3.7	1.6
<b>5</b>	0.41	0.69	1.5	3.2	3.2	4.2	3.6	11	6.5	2.0	2.1	1.5
<b>6</b>	0.41	1.5	1.5	3.2	3.1	5.6	17	16	5.9	2.0	1.9	1.5
<b>7</b>	0.40	1.2	1.5	4.1	3.1	5.3	15	22	5.1	1.8	2.6	1.7
<b>8</b>	0.41	1.2	1.5	5.2	3.2	4.8	9.7	25	4.4	1.6	2.2	2.1
<b>9</b>	0.41	1.3	1.6	4.1	2.9	4.3	7.6	15	4.7	1.5	1.7	2.4
<b>10</b>	0.38	1.2	1.6	3.8	2.9	3.7	6.4	10	6.0	1.4	1.4	2.7
<b>11</b>	0.37	1.1	9.2	4.9	2.9	3.7	28	8.0	5.0	1.3	1.2	23
<b>12</b>	0.36	1.0	43	4.4	2.9	3.5	17	7.3	4.4	1.4	1.6	14
<b>13</b>	0.35	1.2	12	4.1	2.7	3.6	12	6.2	4.0	1.3	4.4	8.0
<b>14</b>	0.36	1.5	7.3	3.8	2.7	4.3	30	5.8	6.2	1.1	3.9	5.8
<b>15</b>	0.36	2.8	6.1	3.5	2.6	5.9	26	5.5	6.9	0.92	2.8	4.6
<b>16</b>	0.36	2.1	6.9	3.1	2.6	6.7	29	5.0	5.6	0.95	2.1	3.8
<b>17</b>	0.37	1.3	9.5	2.9	2.5	6.2	16	5.4	4.5	0.94	1.7	3.7
<b>18</b>	0.39	1.1	7.2	3.2	2.8	5.6	12	5.7	6.5	0.86	1.5	3.4
<b>19</b>	0.37	1.0	6.4	3.3	3.0	5.2	9.5	5.0	6.3	0.75	1.4	3.0
<b>20</b>	0.37	0.96	6.2	3.1	2.8	4.9	13	4.5	5.5	0.72	1.3	2.7
<b>21</b>	0.39	0.94	10	2.9	2.6	4.4	24	4.2	5.7	0.75	1.2	2.5
<b>22</b>	0.39	0.96	8.6	2.8	2.7	4.1	27	4.0	7.1	0.73	3.3	2.4
<b>23</b>	0.40	1.0	5.7	2.8	2.6	3.6	20	3.8	14	1.0	3.4	2.3
<b>24</b>	0.40	1.1	5.6	3.0	2.5	3.3	13	3.7	7.5	0.88	6.2	2.1
<b>25</b>	0.44	2.1	5.2	2.8	2.5	3.2	9.9	3.6	5.8	0.70	7.6	2.0
<b>26</b>	0.47	1.9	4.4	2.8	2.5	3.4	8.0	3.8	5.2	0.69	5.0	2.0
<b>27</b>	0.42	1.6	4.3	2.8	2.5	3.8	6.6	3.8	4.2	0.98	3.5	4.3
<b>28</b>	0.51	1.6	4.3	4.0	2.5	8.7	5.5	3.7	3.4	1.0	2.8	5.3
<b>29</b>	0.46	1.5	3.8	5.8	---	8.2	4.8	4.5	3.1	0.72	3.1	3.7
<b>30</b>	0.43	2.3	3.5	4.9	---	6.1	4.5	5.4	2.8	0.68	3.3	3.0
<b>31</b>	0.45	---	3.3	4.3	---	4.8	---	4.4	---	0.73	2.5	---
<b>Total</b>	12.59	38.18	190.5	111.4	81.3	146.9	393.1	227.3	161.0	39.00	95.5	120.8
<b>Mean</b>	0.41	1.27	6.15	3.59	2.90	4.74	13.1	7.33	5.37	1.26	3.08	4.03
<b>Max</b>	0.51	2.8	43	5.8	4.0	8.7	30	25	14	2.7	11	23
<b>Min</b>	0.35	0.47	1.5	2.8	2.5	2.9	3.6	3.6	2.8	0.68	1.2	1.5
<b>Cfsm</b>	0.08	0.27	1.28	0.75	0.60	0.99	2.73	1.53	1.12	0.26	0.64	0.84
<b>In.</b>	0.10	0.30	1.48	0.86	0.63	1.14	3.05	1.76	1.25	0.30	0.74	0.94

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 – 1971, 1974 - 2009, BY WATER YEAR (WY)**

	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>Mean</b>	2.04	3.06	5.37	8.06	9.20	10.7	7.68	4.04	2.60	2.06	3.78	2.13
<b>Max</b>	10.5	17.5	22.5	24.9	29.1	30.3	17.3	12.2	12.7	13.5	27.8	18.7
(WY)	(1980)	(1980)	(1997)	(1998)	(1998)	(1994)	(1983)	(1978)	(1979)	(2005)	(1969)	(1979)
<b>Min</b>	0.03	0.05	0.13	0.51	1.53	2.64	1.64	0.62	0.39	0.16	0.00	0.02
(WY)	(1967)	(1967)	(1967)	(1966)	(2002)	(1981)	(1967)	(1957)	(1964)	(1953)	(1966)	(1966)

**01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD—Continued****SUMMARY STATISTICS**

	<b>Calendar Year 2008</b>	<b>Water Year 2009</b>	<b>Water Years</b>	
			<b>1951 – 1971, 1974 - 2009</b>	
<b>Annual total</b>	1,446.43	1,617.57		
<b>Annual mean</b>	3.95	4.43	5.05	
<b>Highest annual mean</b>			10.3	1979
<b>Lowest annual mean</b>			1.41	1981
<b>Highest daily mean</b>	63	Jun 5	255	Jan 28, 1998
<b>Lowest daily mean</b>	0.35	Oct 13	0.00	Aug 4, 1954 <sup>a</sup>
<b>Annual seven-day minimum</b>	0.36	Oct 11	0.00	Aug 23, 1963
<b>Maximum peak flow</b>		73	b547	Aug 20, 1969
<b>Maximum peak stage</b>		2.94	c7.08	Aug 19, 1985
<b>Instantaneous low flow</b>		0.32	0.00	Aug 4, 1954 <sup>a</sup>
<b>Annual runoff (cfsm)</b>	0.823	0.923	1.05	
<b>Annual runoff (inches)</b>	11.21	12.54	14.29	
<b>10 percent exceeds</b>	8.4	8.4	11	
<b>50 percent exceeds</b>	2.4	3.2	2.4	
<b>90 percent exceeds</b>	0.46	0.69	0.38	

<sup>a</sup> No flow during 1954, 1963, 1964, 1966.<sup>b</sup> From rating curve extended above 170 ft<sup>3</sup>/s on basis of channel-conveyance study.<sup>c</sup> Gage height of 5.44 ft occurred on Aug. 20, 1969 following ditching of the stream channel.