Water-Data Report 2012

# 01491000 CHOPTANK RIVER NEAR GREENSBORO, MD

Upper Chesapeake Basin
Choptank Subbasin

LOCATION.--Lat 38°59'49.9", long 75°47'08.9" referenced to North American Datum of 1983, Caroline County, MD, Hydrologic Unit 02060005, on right bank at highway bridge (removed), 0.1 mi upstream from Gravelly Branch, 2.0 mi northeast of Greensboro, and 60 mi upstream from mouth.

DRAINAGE AREA.--113 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1948 to current year.

REVISED RECORDS.--WSP 1622: 1948. WDR MD-DE-79-1: 1961(P).

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 3.51 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except those for estimated daily discharges (erroneous record), which are poor. Diversions for irrigation of about 500 acres upstream from station. U.S. Geological Survey satellite data-collection platform at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of Aug. 4, 1967, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 $ft^3/s$ and (or) maximum (*):

| Date | Time | Discharge ($ft^3/s$) | Gage height (ft) |
|---|---|---|---|
| Dec 8 | 1430 | *3,900 | *11.41 |
| No other peak greater than base discharge. | | | |

Minimum discharge, 0.30 $ft^3/s$, July 31, Aug. 1.



Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 01491000, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/01491000.2012.pdf

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**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 | 245 | 179 | 388 | 205 | 131 | 615 | 99 | 77 | 41 | 6.2 | 3.3 | 7.5 |
| 2 | 226 | 145 | 264 | 193 | 133 | 730 | 103 | 75 | 49 | 7.1 | 8.1 | 8.2 |
| 3 | 202 | 130 | 218 | 180 | 131 | 490 | 100 | 74 | 46 | 10 | 8.3 | 10 |
| 4 | 189 | 120 | 185 | 162 | 123 | e570 | 92 | 73 | 42 | 11 | 4.1 | 18 |
| 5 | 176 | 114 | 170 | 155 | 128 | e370 | 83 | 68 | 40 | 7.3 | 3.2 | 18 |
| 6 | 155 | 106 | 166 | 155 | 127 | 264 | 79 | 66 | 37 | 6.1 | 3.1 | 17 |
| 7 | 138 | 101 | 609 | 151 | 122 | 218 | 74 | 63 | 32 | 4.2 | 3.9 | 16 |
| 8 | 129 | 102 | 3,360 | 144 | 119 | 201 | 70 | 59 | 33 | 1.5 | 2.4 | 14 |
| 9 | 121 | 98 | 1,980 | 136 | 119 | 194 | 73 | 60 | 31 | 5.7 | 1.8 | 16 |
| 10 | 114 | 93 | 856 | 138 | 116 | 182 | 72 | 83 | 25 | 8.8 | 10 | 14 |
| 11 | 110 | 92 | 578 | 139 | 119 | 165 | 69 | 95 | 20 | 4.5 | 20 | 11 |
| 12 | 109 | 88 | 431 | 201 | 126 | 156 | 68 | 74 | 28 | 2.4 | 20 | 10 |
| 13 | 110 | 84 | 363 | 334 | 119 | 153 | 64 | 64 | 42 | 1.8 | 16 | 8.3 |
| 14 | 111 | 81 | 297 | 247 | 117 | 149 | 64 | 60 | 36 | 1.1 | 9.4 | 9.9 |
| 15 | 108 | 83 | 263 | 197 | 114 | 140 | 63 | 65 | 31 | 7.9 | 6.6 | 9.6 |
| 16 | 100 | 94 | 245 | 170 | 109 | 134 | 64 | 72 | 23 | 7.0 | 5.6 | 7.8 |
| 17 | 94 | 146 | 225 | 172 | 110 | 130 | 61 | 63 | 21 | 3.0 | 4.7 | 8.7 |
| 18 | 92 | 180 | 205 | 197 | 106 | 125 | 59 | 56 | 27 | 1.4 | 8.7 | 10 |
| 19 | 95 | 154 | 194 | 190 | 102 | 121 | 60 | 52 | 25 | 6.5 | 13 | 19 |
| 20 | 105 | 134 | 187 | 170 | 99 | 119 | 62 | 49 | 21 | 19 | 12 | 18 |
| 21 | 101 | 132 | 184 | 170 | 95 | 117 | 60 | 50 | 19 | 30 | 10 | 15 |
| 22 | 92 | 140 | 200 | 195 | 95 | 115 | 79 | 54 | 18 | 28 | 5.3 | 13 |
| 23 | 85 | 242 | 316 | 194 | 99 | 112 | 202 | 54 | 19 | 22 | 2.8 | 15 |
| 24 | 82 | 445 | 449 | 193 | 105 | 113 | 243 | 55 | 14 | 16 | 4.5 | 12 |
| 25 | 79 | 314 | 326 | 187 | 216 | 125 | 165 | 50 | 12 | 10 | 8.0 | 11 |
| 26 | 77 | 232 | 245 | 170 | 198 | 124 | 126 | 47 | 11 | 5.9 | 13 | 10 |
| 27 | 77 | 195 | 224 | 165 | 149 | 112 | 108 | 42 | 10 | 4.6 | 25 | 9.3 |
| 28 | 80 | 174 | 337 | 163 | e138 | 103 | 92 | 39 | 12 | 3.6 | 21 | 7.9 |
| 29 | 111 | 176 | 370 | 149 | e150 | 105 | 88 | 40 | 8.6 | 6.3 | 16 | 7.0 |
| 30 | 244 | 323 | 255 | 140 | --- | 102 | 84 | 43 | 7.1 | 5.2 | 13 | 8.8 |
| 31 | 262 | --- | 221 | 133 | --- | 99 | --- | 45 | --- | 0.91 | 12 | --- |
| Total | 4,019 | 4,697 | 14,311 | 5,495 | 3,615 | 6,453 | 2,726 | 1,867 | 780.7 | 255.01 | 294.8 | 360.0 |
| Mean | 130 | 157 | 462 | 177 | 125 | 208 | 90.9 | 60.2 | 26.0 | 8.23 | 9.51 | 12.0 |
| Max | 262 | 445 | 3,360 | 334 | 216 | 730 | 243 | 95 | 49 | 30 | 25 | 19 |
| Min | 77 | 81 | 166 | 133 | 95 | 99 | 59 | 39 | 7.1 | 0.91 | 1.8 | 7.0 |
| Cfsm | 1.15 | 1.39 | 4.09 | 1.57 | 1.10 | 1.84 | 0.80 | 0.53 | 0.23 | 0.07 | 0.08 | 0.11 |
| In. | 1.32 | 1.55 | 4.71 | 1.81 | 1.19 | 2.12 | 0.90 | 0.61 | 0.26 | 0.08 | 0.10 | 0.12 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2012, BY WATER YEAR (WY)**

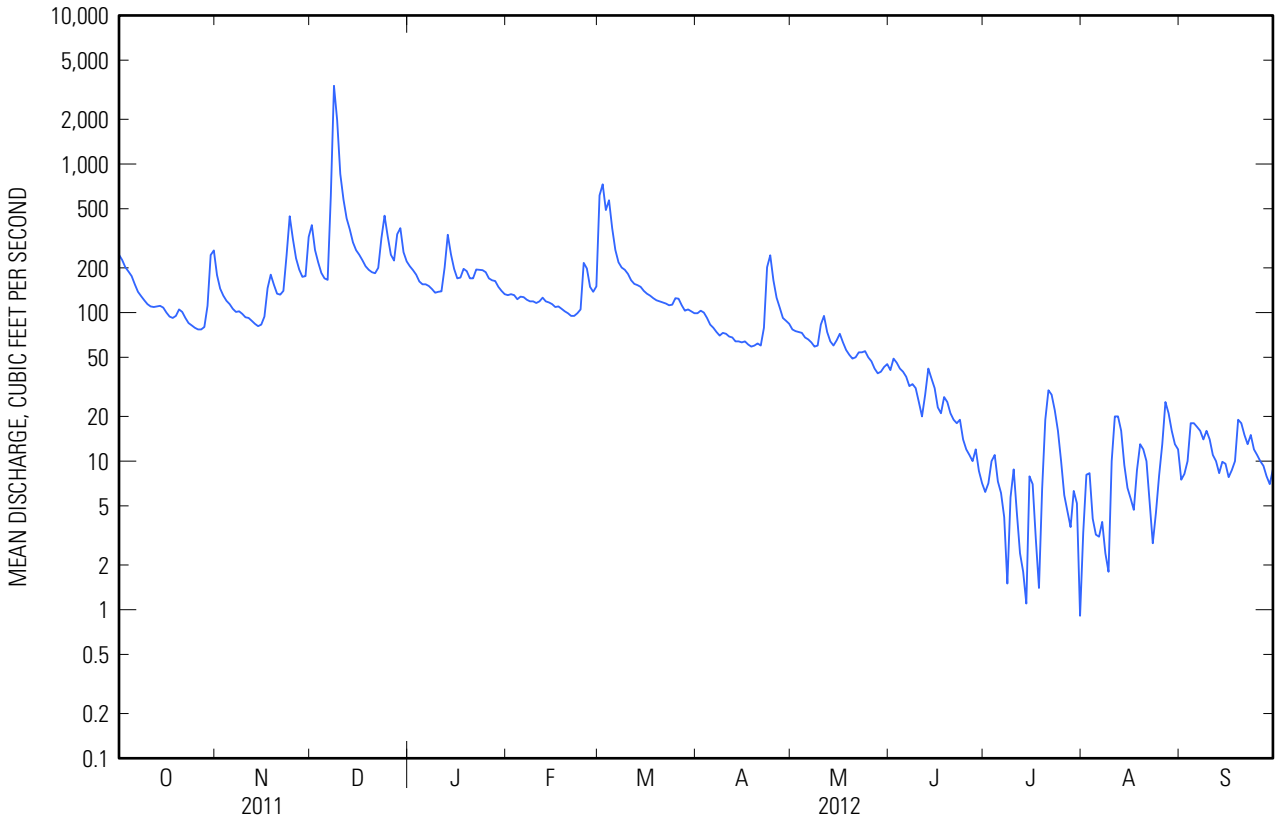
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 59.5 | 99.8 | 167 | 194 | 221 | 268 | 209 | 134 | 107 | 61.0 | 88.4 | 60.6 |
| Max | 402 | 476 | 736 | 559 | 646 | 826 | 649 | 457 | 509 | 421 | 829 | 425 |
| (WY) | (1972) | (1957) | (2010) | (1978) | (1979) | (1994) | (1983) | (1989) | (2003) | (1975) | (1967) | (1999) |
| Min | 9.85 | 10.9 | 13.3 | 17.9 | 31.2 | 43.7 | 47.2 | 30.3 | 19.5 | 8.23 | 5.31 | 9.38 |
| (WY) | (1966) | (1966) | (1966) | (1966) | (2002) | (1966) | (1966) | (1977) | (1986) | (2012) | (1966) | (1987) |

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2011 | | Water Year 2012 | | Water Years 1948 - 2012 | |
|---|---|---|---|---|---|---|
| **Annual total** | 81,827.7 | | 44,873.51 | | | |
| **Annual mean** | 224 | | 123 | | 138 | |
| **Highest annual mean** | | | | | 305 | 2003 |
| **Lowest annual mean** | | | | | 26.6 | 1966 |
| **Highest daily mean** | [e]8,700 | Aug 28 | 3,360 | Dec 8 | [e]8,700 | Aug 28, 2011 |
| **Lowest daily mean** | 2.3 | Aug 11[a] | 0.91 | Jul 31 | [e]0.35 | Aug 19, 2002 |
| **Annual seven-day minimum** | 6.1 | Aug 7 | 3.5 | Jul 12 | 0.64 | Aug 17, 2002 |
| **Maximum peak flow** | | | 3,900 | Dec 8 | 8,880 | Aug 28, 2011 |
| **Maximum peak stage** | | | 11.41 | Dec 8 | [b]17.96 | Aug 28, 2011 |
| **Instantaneous low flow** | | | 0.30 | Jul 31[c] | 0.26 | Aug 19, 2002[d] |
| **Annual runoff (cfsm)** | 1.98 | | 1.09 | | 1.22 | |
| **Annual runoff (inches)** | 26.94 | | 14.77 | | 16.60 | |
| **10 percent exceeds** | 345 | | 228 | | 289 | |
| **50 percent exceeds** | 131 | | 92 | | 76 | |
| **90 percent exceeds** | 20 | | 7.4 | | 15 | |

[e] Estimated.
[a] Aug. 11, 12.
[b] From floodmarks.
[c] July 31, Aug 1.
[d] Aug. 19, 20, 2002.



**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--Daily, measured once per day:
WATER TEMPERATURE: October 1974 to September 1991.
SPECIFIC CONDUCTANCE: October 1974 to September 1981, October 1984 to September 1991.
SUSPENDED SEDIMENT: October 1980 to September 1991.

Continuous, measured every 15 minutes:
WATER TEMPERATURE: October 2010 to May 2012 (discontinued).
SPECIFIC CONDUCTANCE: October 2010 to May 2012 (discontinued.

INSTRUMENTATION.--Two-parameter water-quality monitor, October 2010 to May 2012 (discontinued).

REMARKS.--Missing record due to periodic instrument malfunction.The accuracy of the two-parameter water-quality monitor used at this site has not been verified but the water temperature is likely accurate to within +/- 1 degree C.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE (water years 1975-81, 1985, 1988-91, 2011, 2012): Maximum, 30.2°C, July 23, 2011; minimum, -0.5°C, December 16, 2010.
SPECIFIC CONDUCTANCE (water years 1975-81, 1988, 1990-91, 2011, 20012): Maximum, 433 microsiemens/cm, March. 2, 2011; minimum, 33 microsiemens/cm, August 28, 2011.
SEDIMENT CONCENTRATION: Maximum daily mean, 107 mg/L, December 26, 1986; minimum daily mean, 1 mg/L, on many days during water years 1982-91.
SEDIMENT LOAD: Maximum daily, 448 tons, December 26, 1986; minimum daily, 0.02 tons, August 30, September 7, 1982, July 25, 1986, October 16, 23, 26, 27, 1987, September 23, 1988

EXTREMES FOR THE PERIOD OCTOBER 2011 TO MAY 2012.--Continuous, measured every 15 minutes:
SPECIFIC CONDUCTANCE: Maximum, 159 microsiemens/cm, May 5; minimum, 40 microsiemens/cm, Dec. 8.
WATER TEMPERATURE: Maximum, 21.5°C, April 17; minimum, 1.0°C, Jan. 16.

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | October | | | November | | | December | | | January | |
| 1 | 124 | 119 | 121 | 134 | 129 | 130 | 110 | 105 | 106 | 123 | 120 | 122 |
| 2 | 127 | 124 | 126 | 136 | 132 | 134 | 111 | 106 | 108 | 126 | 123 | 125 |
| 3 | 131 | 127 | 129 | 138 | 135 | 136 | 116 | 111 | 114 | 128 | 126 | 127 |
| 4 | 132 | 130 | 131 | 138 | 137 | 138 | 121 | 116 | 119 | 131 | 127 | 129 |
| 5 | 133 | 132 | 132 | 140 | 138 | 139 | 125 | 121 | 123 | 132 | 131 | 132 |
| 6 | 135 | 132 | 134 | 141 | 140 | 140 | 126 | 124 | 125 | 134 | 132 | 133 |
| 7 | 136 | 134 | 135 | 142 | 140 | 141 | 126 | 72 | 102 | 134 | 133 | 134 |
| 8 | 139 | 135 | 136 | 143 | 142 | 142 | 72 | 40 | 47 | 135 | 134 | 134 |
| 9 | 140 | 137 | 138 | 142 | 141 | 142 | 56 | 41 | 47 | 135 | 132 | 133 |
| 10 | 141 | 139 | 140 | 142 | 141 | 142 | 74 | 56 | 66 | 133 | 132 | 132 |
| 11 | 141 | 140 | 141 | 143 | 141 | 142 | 87 | 74 | 81 | 133 | 130 | 132 |
| 12 | 142 | 140 | 141 | 144 | 142 | 142 | 97 | 87 | 92 | 132 | 128 | 130 |
| 13 | 142 | 139 | 141 | 144 | 141 | 142 | 105 | 97 | 101 | 128 | 116 | 121 |
| 14 | 144 | 142 | 142 | 143 | 142 | 143 | 110 | 105 | 108 | 116 | 113 | 115 |
| 15 | 143 | 142 | 142 | 144 | 142 | 142 | 114 | 110 | 112 | 118 | 114 | 116 |
| 16 | 143 | 142 | 143 | 143 | 138 | 141 | 117 | 114 | 116 | 123 | 118 | 121 |
| 17 | 144 | 143 | 144 | 141 | 137 | 139 | 120 | 117 | 119 | 126 | 123 | 124 |
| 18 | 146 | 144 | 145 | 138 | 134 | 136 | 123 | 120 | 122 | 126 | 125 | 126 |
| 19 | 146 | 144 | 145 | 142 | 134 | 138 | 125 | 123 | 124 | 126 | 125 | 125 |
| 20 | 144 | 142 | 144 | 142 | 136 | 139 | 127 | 125 | 126 | 127 | 125 | 126 |
| 21 | 147 | 144 | 145 | 146 | 136 | 139 | 128 | 127 | 127 | 129 | 127 | 127 |
| 22 | 146 | 144 | 145 | 145 | 135 | 137 | 127 | 125 | 127 | 134 | 127 | 131 |
| 23 | 147 | 145 | 146 | 138 | 125 | 132 | 125 | 119 | 123 | 140 | 134 | 137 |
| 24 | 150 | 146 | 147 | 130 | 116 | 121 | 120 | 108 | 112 | 138 | 136 | 137 |
| 25 | 148 | 146 | 147 | 123 | 116 | 118 | 118 | 108 | 110 | 136 | 132 | 134 |
| 26 | 148 | 147 | 147 | 123 | 119 | 121 | 128 | 112 | 118 | 133 | 131 | 132 |
| 27 | 149 | 145 | 147 | 127 | 122 | 125 | 132 | 116 | 123 | 133 | 132 | 132 |
| 28 | 147 | 146 | 146 | 129 | 122 | 125 | 121 | 115 | 119 | 134 | 132 | 133 |
| 29 | 152 | 139 | 144 | 125 | 121 | 123 | 115 | 112 | 113 | 134 | 132 | 134 |
| 30 | 145 | 132 | 137 | 124 | 110 | 118 | 115 | 112 | 114 | 136 | 134 | 135 |
| 31 | 132 | 129 | 130 | --- | --- | --- | 120 | 115 | 117 | 138 | 136 | 136 |
| Month | 152 | 119 | 140 | 146 | 110 | 135 | 132 | 40 | 108 | 140 | 113 | 129 |

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | February | | | March | | | April | | | May | |
| 1 | 138 | 137 | 137 | 129 | 88 | 109 | 142 | 140 | 141 | 147 | 143 | 144 |
| 2 | 138 | 137 | 137 | 91 | 87 | 89 | 141 | 138 | 139 | 151 | 145 | 146 |
| 3 | 138 | 137 | 137 | 98 | 90 | 94 | 142 | 138 | 140 | 155 | 147 | 150 |
| 4 | 138 | 137 | 138 | 99 | 93 | 95 | 140 | 138 | 139 | 155 | 149 | 151 |
| 5 | 138 | 136 | 137 | 102 | 94 | 97 | 142 | 140 | 141 | 159 | 149 | 151 |
| 6 | 138 | 136 | 136 | 109 | 102 | 106 | 142 | 140 | 141 | 158 | 150 | 151 |
| 7 | 138 | 136 | 137 | 117 | 109 | 113 | 144 | 140 | 141 | 152 | 150 | 151 |
| 8 | 138 | 137 | 137 | 124 | 116 | 120 | 144 | 141 | 142 | 155 | 152 | 153 |
| 9 | 138 | 137 | 137 | 126 | 122 | 124 | 143 | 140 | 142 | 156 | 152 | 154 |
| 10 | 138 | 137 | 138 | 134 | 125 | 127 | 144 | 141 | 143 | --- | --- | --- |
| 11 | 138 | 137 | 138 | 132 | 127 | 129 | 145 | 142 | 143 | --- | --- | --- |
| 12 | 139 | 137 | 138 | 133 | 130 | 132 | 146 | 142 | 144 | --- | --- | --- |
| 13 | 139 | 138 | 138 | 134 | 133 | 134 | 147 | 143 | 145 | --- | --- | --- |
| 14 | 141 | 138 | 139 | 136 | 134 | 134 | 147 | 144 | 145 | --- | --- | --- |
| 15 | 140 | 139 | 139 | 136 | 134 | 136 | 146 | 143 | 145 | --- | --- | --- |
| 16 | 140 | 139 | 140 | 144 | 135 | 137 | 148 | 143 | 144 | --- | --- | --- |
| 17 | 140 | 139 | 139 | 142 | 136 | 137 | 146 | 144 | 145 | --- | --- | --- |
| 18 | 141 | 139 | 140 | 138 | 136 | 137 | 147 | 144 | 145 | --- | --- | --- |
| 19 | 141 | 139 | 140 | 140 | 137 | 138 | 147 | 145 | 146 | --- | --- | --- |
| 20 | 141 | 140 | 140 | 142 | 137 | 139 | 148 | 143 | 145 | --- | --- | --- |
| 21 | 143 | 140 | 142 | 140 | 139 | 140 | 148 | 142 | 145 | --- | --- | --- |
| 22 | 142 | 140 | 141 | 142 | 139 | 141 | 146 | 133 | 141 | --- | --- | --- |
| 23 | --- | --- | --- | 142 | 140 | 141 | 142 | 133 | 138 | --- | --- | --- |
| 24 | 144 | 140 | 143 | 143 | 140 | 141 | 139 | 133 | 135 | --- | --- | --- |
| 25 | 144 | 123 | 135 | 144 | 139 | 141 | 136 | 134 | 135 | --- | --- | --- |
| 26 | 128 | 123 | 126 | 142 | 139 | 140 | 138 | 134 | 137 | --- | --- | --- |
| 27 | 131 | 126 | 129 | 141 | 138 | 140 | 141 | 137 | 139 | --- | --- | --- |
| 28 | 133 | 131 | 132 | 142 | 139 | 140 | 144 | 139 | 142 | --- | --- | --- |
| 29 | 134 | 128 | 131 | 141 | 139 | 140 | 145 | 142 | 143 | --- | --- | --- |
| 30 | --- | --- | --- | 141 | 139 | 140 | 150 | 142 | 146 | --- | --- | --- |
| 31 | --- | --- | --- | 142 | 140 | 141 | --- | --- | --- | --- | --- | --- |
| Month | 144 | 123 | 137 | 144 | 87 | 128 | 150 | 133 | 142 | 159 | 143 | 150 |

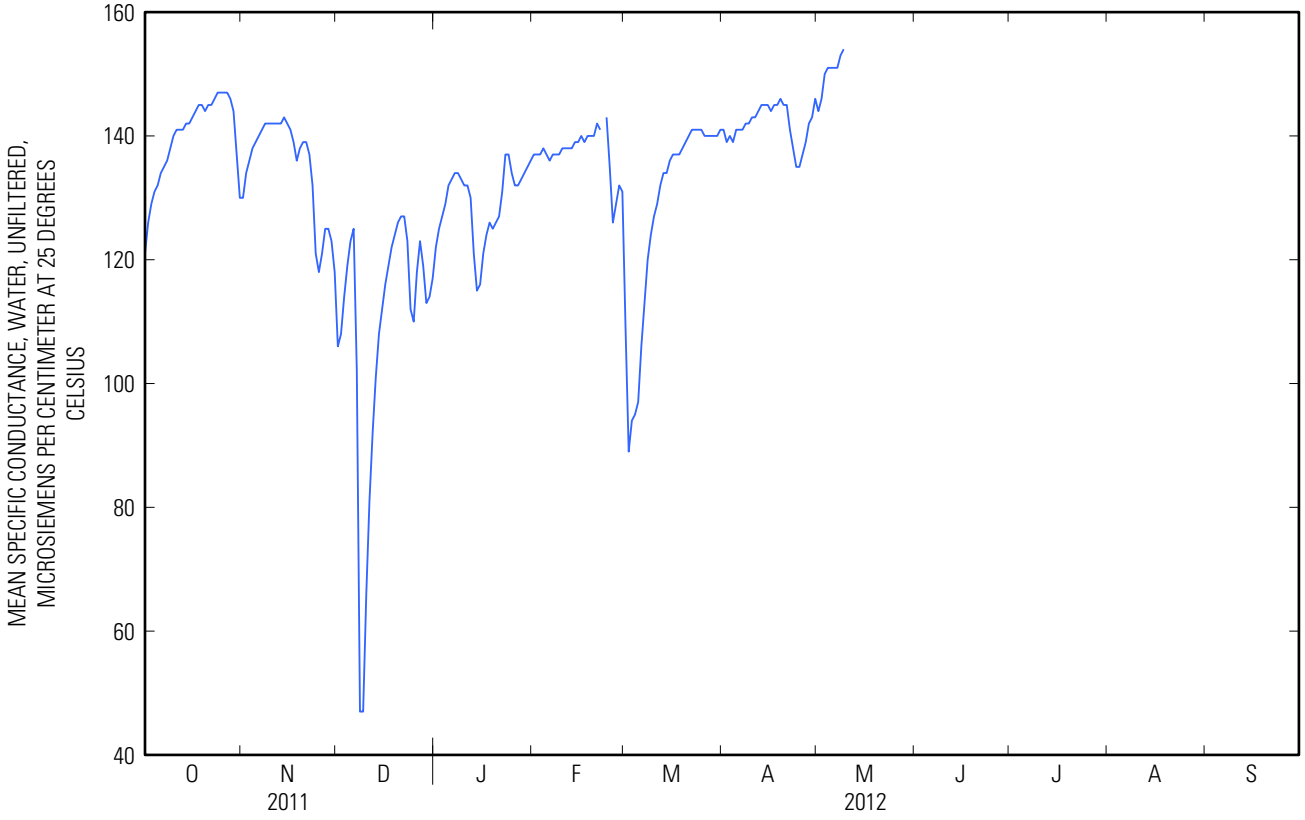
**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | June | | | July | | | August | | | September | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Month | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| | Max | Min | Mean |
|---|---|---|---|
| Year | 159 | 40 | 132 |

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**



**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**TEMPERATURE, WATER, DEGREES CELSIUS**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | October | | | November | | | December | | | January | |
| 1 | 20.5 | 18.0 | 19.3 | 10.5 | 9.1 | 9.9 | 10.8 | 8.5 | 9.4 | 8.4 | 7.0 | 7.7 |
| 2 | 18.0 | 15.2 | 16.5 | 10.2 | 9.1 | 9.8 | 8.5 | 7.1 | 7.7 | 8.5 | 6.0 | 7.3 |
| 3 | 15.2 | 14.1 | 14.4 | 10.7 | 9.7 | 10.2 | 7.6 | 6.5 | 7.1 | 6.0 | 3.0 | 4.6 |
| 4 | 14.7 | 13.4 | 14.1 | 10.8 | 10.2 | 10.5 | 7.6 | 6.2 | 7.0 | 3.0 | 1.3 | 1.8 |
| 5 | 16.0 | 14.5 | 15.2 | 10.2 | 8.9 | 9.5 | 9.9 | 7.6 | 8.5 | 2.9 | 1.7 | 2.3 |
| 6 | 15.9 | 14.9 | 15.5 | 9.5 | 8.6 | 9.0 | 12.4 | 9.9 | 11.1 | 4.7 | 2.6 | 3.5 |
| 7 | 15.4 | 14.2 | 15.0 | 9.9 | 8.8 | 9.3 | 14.1 | 12.4 | 13.3 | 5.9 | 4.4 | 5.1 |
| 8 | 15.7 | 14.4 | 15.2 | 10.5 | 9.2 | 9.9 | 13.2 | 9.4 | 11.1 | 6.3 | 5.6 | 6.0 |
| 9 | 16.4 | 14.9 | 15.8 | 10.9 | 9.8 | 10.4 | 9.4 | 8.1 | 8.4 | 5.9 | 4.7 | 5.2 |
| 10 | 17.5 | 15.9 | 16.8 | 12.3 | 10.9 | 11.8 | 8.4 | 7.6 | 8.2 | 5.5 | 4.6 | 5.1 |
| 11 | 18.0 | 17.3 | 17.7 | 11.7 | 9.5 | 10.7 | 7.6 | 5.7 | 6.5 | 6.0 | 4.5 | 5.1 |
| 12 | 18.0 | 17.8 | 18.0 | 9.5 | 8.5 | 9.1 | 5.7 | 4.6 | 5.2 | 8.7 | 6.0 | 7.5 |
| 13 | 18.7 | 18.0 | 18.3 | 10.0 | 9.0 | 9.5 | 5.4 | 4.7 | 5.2 | 8.7 | 6.3 | 7.9 |
| 14 | 19.3 | 18.4 | 18.9 | 12.0 | 9.9 | 10.9 | 6.9 | 5.0 | 5.8 | 6.3 | 4.0 | 4.8 |
| 15 | 18.4 | 16.8 | 17.5 | 13.5 | 12.0 | 12.9 | 9.6 | 6.9 | 8.1 | 4.0 | 2.2 | 3.0 |
| 16 | 16.8 | 15.9 | 16.4 | 14.1 | 13.5 | 13.8 | 10.1 | 9.4 | 9.8 | 2.6 | 1.0 | 1.8 |
| 17 | 17.0 | 16.2 | 16.6 | 13.9 | 10.9 | 12.9 | 9.4 | 7.4 | 8.2 | 5.5 | 2.6 | 3.9 |
| 18 | 16.6 | 15.8 | 16.3 | 10.9 | 8.0 | 9.2 | 7.4 | 5.7 | 6.6 | 6.3 | 5.3 | 5.9 |
| 19 | 17.6 | 16.5 | 16.9 | 8.0 | 6.9 | 7.5 | 6.1 | 4.5 | 5.2 | 5.3 | 3.5 | 4.1 |
| 20 | 17.6 | 16.2 | 17.2 | 10.5 | 7.8 | 9.1 | 7.6 | 6.1 | 7.0 | 4.3 | 3.8 | 4.0 |
| 21 | 16.2 | 14.8 | 15.4 | 11.9 | 10.5 | 11.4 | 10.1 | 7.6 | 8.6 | 3.8 | 3.0 | 3.1 |
| 22 | 14.8 | 13.7 | 14.2 | 12.4 | 11.9 | 12.1 | 11.0 | 10.1 | 10.6 | 3.0 | 2.5 | 2.8 |
| 23 | 14.0 | 12.9 | 13.6 | 13.8 | 12.4 | 13.2 | 11.4 | 10.3 | 11.1 | 5.4 | 2.9 | 3.8 |
| 24 | 14.1 | 12.8 | 13.5 | 12.8 | 10.6 | 11.3 | 10.3 | 7.7 | 9.1 | 7.8 | 5.4 | 6.9 |
| 25 | 14.2 | 13.3 | 13.8 | 10.6 | 9.6 | 10.1 | 7.7 | 6.1 | 6.6 | 7.6 | 6.4 | 6.9 |
| 26 | 14.2 | 13.3 | 13.8 | 10.0 | 9.1 | 9.6 | 6.4 | 5.7 | 6.1 | 8.3 | 6.5 | 7.3 |
| 27 | 15.3 | 14.1 | 14.7 | 11.1 | 9.3 | 10.1 | 7.1 | 5.3 | 6.0 | 10.1 | 8.3 | 9.4 |
| 28 | 14.5 | 12.2 | 13.2 | 13.1 | 11.1 | 11.9 | 7.4 | 6.4 | 7.1 | 9.6 | 7.7 | 8.4 |
| 29 | 12.2 | 9.7 | 11.0 | 14.0 | 13.1 | 13.6 | 6.4 | 4.9 | 5.3 | 8.0 | 6.3 | 6.9 |
| 30 | 9.7 | 8.2 | 8.8 | 13.3 | 10.8 | 11.9 | 5.8 | 4.3 | 5.0 | 6.3 | 5.2 | 5.7 |
| 31 | 9.1 | 7.4 | 8.2 | --- | --- | --- | 7.9 | 5.8 | 6.9 | 6.6 | 4.8 | 5.7 |
| Month | 20.5 | 7.4 | 15.2 | 14.1 | 6.9 | 10.7 | 14.1 | 4.3 | 7.8 | 10.1 | 1.0 | 5.3 |

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

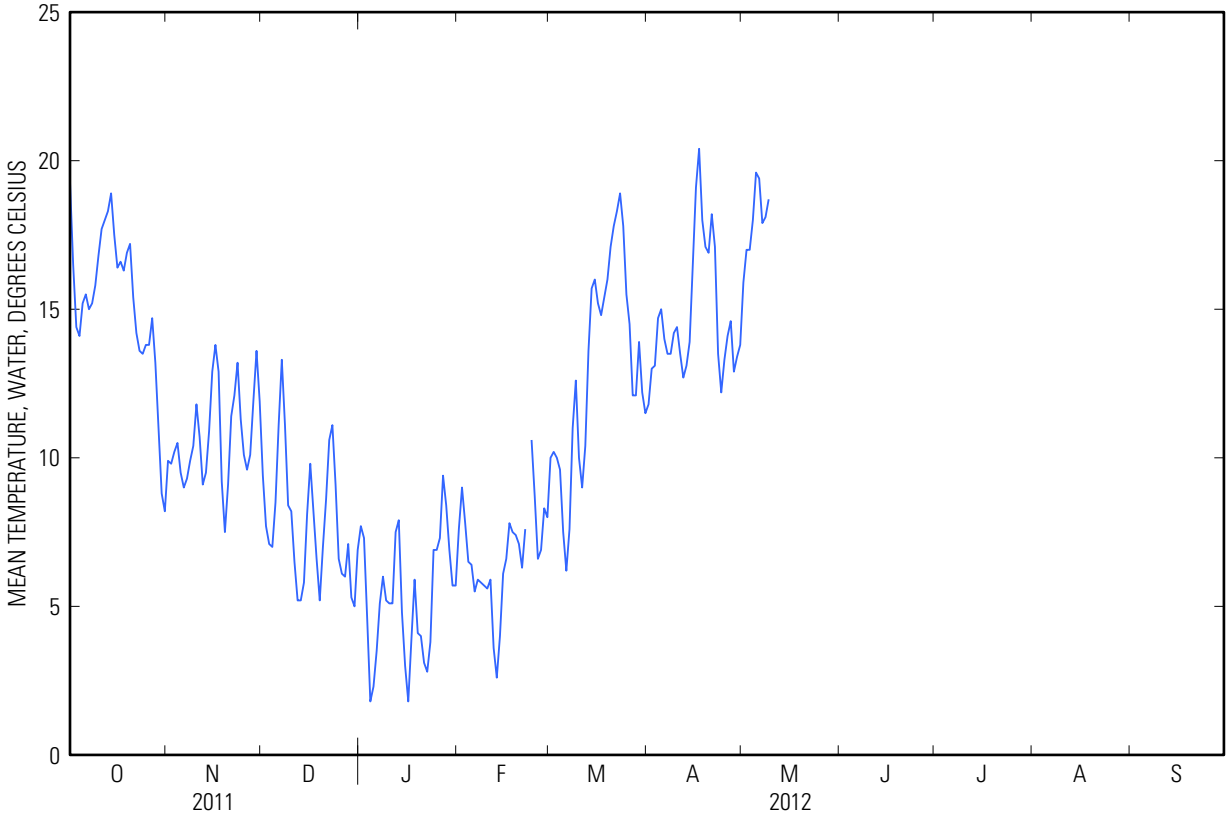
**TEMPERATURE, WATER, DEGREES CELSIUS**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | February | | | March | | | April | | | May | |
| 1 | 8.6 | 6.6 | 7.6 | 11.1 | 8.5 | 10.0 | 12.8 | 10.8 | 11.8 | 17.4 | 14.4 | 15.9 |
| 2 | 9.3 | 8.6 | 9.0 | 11.0 | 9.8 | 10.2 | 14.2 | 12.0 | 13.0 | 17.3 | 16.7 | 17.0 |
| 3 | 8.9 | 7.1 | 7.8 | 10.4 | 9.7 | 10.0 | 14.2 | 11.6 | 13.1 | 17.8 | 16.2 | 17.0 |
| 4 | 7.1 | 6.1 | 6.5 | 10.1 | 8.8 | 9.6 | 16.2 | 13.4 | 14.7 | 19.0 | 17.0 | 18.0 |
| 5 | 6.7 | 5.9 | 6.4 | 8.8 | 6.7 | 7.5 | 15.8 | 14.1 | 15.0 | 20.2 | 18.8 | 19.6 |
| 6 | 5.9 | 4.7 | 5.5 | 6.9 | 5.0 | 6.2 | 15.1 | 12.9 | 14.0 | 19.8 | 18.6 | 19.4 |
| 7 | 6.5 | 5.1 | 5.9 | 9.7 | 5.9 | 7.6 | 14.7 | 12.2 | 13.5 | 18.6 | 17.4 | 17.9 |
| 8 | 6.2 | 5.6 | 5.8 | 13.1 | 9.5 | 11.0 | 15.0 | 11.9 | 13.5 | 18.8 | 17.3 | 18.1 |
| 9 | 6.1 | 5.2 | 5.7 | 13.3 | 11.6 | 12.6 | 15.5 | 13.1 | 14.2 | 18.9 | 18.5 | 18.7 |
| 10 | 6.1 | 4.9 | 5.6 | 11.6 | 9.1 | 10 | 15.4 | 13.5 | 14.4 | --- | --- | --- |
| 11 | 6.4 | 5.1 | 5.9 | 10.0 | 7.4 | 9.0 | 14.2 | 12.7 | 13.5 | --- | --- | --- |
| 12 | 5.1 | 2.6 | 3.6 | 12.1 | 9.0 | 10.4 | 13.8 | 11.6 | 12.7 | --- | --- | --- |
| 13 | 3.1 | 1.7 | 2.6 | 15.4 | 12.1 | 13.6 | 14.7 | 11.6 | 13.1 | --- | --- | --- |
| 14 | 5.2 | 3.0 | 4.0 | 16.6 | 14.6 | 15.7 | 15.5 | 12.2 | 13.9 | --- | --- | --- |
| 15 | 7.0 | 5.2 | 6.1 | 16.7 | 15.0 | 16.0 | 18.4 | 14.7 | 16.5 | --- | --- | --- |
| 16 | 7.0 | 6.4 | 6.6 | 16.1 | 14.6 | 15.2 | 20.9 | 17.3 | 19.1 | --- | --- | --- |
| 17 | 8.6 | 7.0 | 7.8 | 15.8 | 13.8 | 14.8 | 21.5 | 19.4 | 20.4 | --- | --- | --- |
| 18 | 8.0 | 6.7 | 7.5 | 16.2 | 14.4 | 15.4 | 19.5 | 16.7 | 18.0 | --- | --- | --- |
| 19 | 7.7 | 7.1 | 7.4 | 16.9 | 14.8 | 16.0 | 18.2 | 15.9 | 17.1 | --- | --- | --- |
| 20 | 7.7 | 6.6 | 7.1 | 17.9 | 16.4 | 17.1 | 17.9 | 15.7 | 16.9 | --- | --- | --- |
| 21 | 6.7 | 5.5 | 6.3 | 18.4 | 17.3 | 17.8 | 19.8 | 16.7 | 18.2 | --- | --- | --- |
| 22 | 8.5 | 6.5 | 7.6 | 19.2 | 17.7 | 18.3 | 18.9 | 14.9 | 17.1 | --- | --- | --- |
| 23 | --- | --- | --- | 19.9 | 17.8 | 18.9 | 14.9 | 12.1 | 13.5 | --- | --- | --- |
| 24 | 10.8 | 10.2 | 10.6 | 19.2 | 16.4 | 17.8 | 13.1 | 11.0 | 12.2 | --- | --- | --- |
| 25 | 10.3 | 7.3 | 8.7 | 16.4 | 14.6 | 15.5 | 14.6 | 11.9 | 13.3 | --- | --- | --- |
| 26 | 7.3 | 5.5 | 6.6 | 15.5 | 13.4 | 14.5 | 14.6 | 13.6 | 14.1 | --- | --- | --- |
| 27 | 8.2 | 5.6 | 6.9 | 13.4 | 11.1 | 12.1 | 15.2 | 14.0 | 14.6 | --- | --- | --- |
| 28 | 8.8 | 7.6 | 8.3 | 13.2 | 10.8 | 12.1 | 14.2 | 12.5 | 12.9 | --- | --- | --- |
| 29 | 8.5 | 7.5 | 8.0 | 14.7 | 13.2 | 13.9 | 14.6 | 12.1 | 13.4 | --- | --- | --- |
| 30 | --- | --- | --- | 13.6 | 11.3 | 12.2 | 14.4 | 13.2 | 13.8 | --- | --- | --- |
| 31 | --- | --- | --- | 11.8 | 11.2 | 11.5 | --- | --- | --- | --- | --- | --- |
| Month | 10.8 | 1.7 | 6.7 | 19.9 | 5.0 | 13.0 | 21.5 | 10.8 | 14.7 | 20.2 | 14.4 | 18.0 |

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**

**TEMPERATURE, WATER, DEGREES CELSIUS**
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean | Max | Min | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | June | | | July | | | August | | | September | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Month | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| | Max | Min | Mean |
|---|---|---|---|
| Year | 21.5 | 1.0 | 10.8 |

**01491000 CHOPTANK RIVER NEAR GREENSBORO, MD—Continued**