

Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

Streamgauge number and name:

05049200 Eighteen Mile Creek near Wheaton, Minn.

Peak-flow information:

Number of systematic peak flows in record	32
Systematic period begins	1965
Systematic period ends	1996
Length of systematic record	32
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.276
Standard error of generalized skew	0.426
Low-outlier method	Bulletin 17B Grubbs-Beck test

Bulletin 17B systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.2348	0.6797	-0.296

Outlier criteria and number of peak flows exceeding:

Low	3.0	0
High	9905.6	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.2348	0.6797	-0.286	

Annual frequency curve at selected exceedance probabilities:

[WIE, Weighted independent estimate; --, not computed]

Exceedance probability	Peak estimate	Lower-95 level	Upper 95 level	WIE estimate	Lower-95 WIE level	Upper 95 WIE level
0.9950	2.0	0.6	4.8	--	--	--
0.9900	3.3	1.0	7.3	--	--	--
0.9500	11.6	4.8	21.7	--	--	--
0.9000	22.2	10.6	38.5	--	--	--
0.8000	47.2	25.8	76.7	--	--	--
0.6667	93.2	55.9	147.0	--	--	--
0.5000	185.0	116.0	296.0	174	107	281
0.4292	244.0	155.0	397.0	--	--	--
0.2000	652.0	400.0	1,200.0	544	339	873
0.1000	1,210.0	703.0	2,480.0	924	558	1,530
0.0400	2,270.0	1,230.0	5,290.0	1,530	871	2,700
0.0200	3,340.0	1,720.0	8,510.0	2,090	1,120	3,920
0.0100	4,700.0	2,310.0	12,900.0	2,710	1,370	5,360
0.0050	6,350.0	3,000.0	18,700.0	--	--	--
0.0020	9,060.0	4,060.0	29,000.0	4,450	1,940	10,200

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1965	701.0	--
1966	246.0	--
1967	730.0	--
1968	70.0	--
1969	2,400.0	--
1970	37.0	--
1971	58.0	--
1972	188.0	--
1973	188.0	--
1974	8.1	--
1975	320.0	--
1976	157.0	--
1977	47.0	--
1978	750.0	--
1979	1,460.0	--
1980	207.0	--
1981	26.0	--
1982	320.0	--
1983	15.0	--
1984	40.0	--
1985	510.0	--
1986	510.0	--
1987	26.0	--
1988	15.0	--
1989	740.0	--
1990	23.0	--
1991	370.0	--
1992	42.0	--
1993	960.0	--
1994	995.0	--
1995	920.0	--
1996	400.0	--