

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05276200 North Fork Crow River at Paynesville, Minn.

Peak-flow information:

Number of systematic peak flows in record	28
Systematic period begins	1973
Systematic period ends	2000
Length of systematic record	28
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.142
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
2.8825	0.3042	-0.039

Outlier criteria and number of peak flows exceeding:

Low	129.3	0
High	4500.8	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.8825	0.3042	-0.090

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	118	65.5	176	--	--	--
0.9900	143	83.0	206	--	--	--
0.9500	237	156.0	318	--	--	--
0.9000	309	216.0	401	--	--	--
0.8000	424	316.0	535	--	--	--
0.6667	569	444.0	708	--	--	--
0.5000	771	617.0	965	767	592	993
0.4292	873	702.0	1,100	--	--	--
0.2000	1,380	1,090.0	1,850	1,400	1,060	1,850
0.1000	1,860	1,430.0	2,650	1,930	1,420	2,640
0.0400	2,540	1,890.0	3,890	2,740	1,890	3,980
0.0200	3,110	2,240.0	4,990	3,440	2,250	5,260
0.0100	3,710	2,610.0	6,240	4,260	2,650	6,840
0.0050	4,370	3,000.0	7,650	--	--	--
0.0020	5,300	3,530.0	9,780	6,480	3,550	11,800

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1973	765	--
1974	300	--
1975	1,320	--
1976	535	--
1977	374	--
1978	890	--
1979	1,640	--
1980	345	--
1981	570	--
1982	1,170	--
1983	2,300	--
1984	2,300	--
1985	1,600	--
1986	1,370	--
1987	250	--
1988	250	--
1989	565	--
1990	495	--
1991	620	--
1992	990	--
1993	980	--
1994	780	--
1995	1,680	--
1996	860	--
1997	2,460	--
1998	488	--
1999	663	--
2000	230	--