

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05457778 Little Cedar River near Johnsburg, Minn.

Peak-flow information:

Number of systematic peak flows in record	26
Systematic period begins	1986
Systematic period ends	2011
Length of systematic record	26
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.29
Standard error of generalized skew	0.4266
Low-outlier method	Multiple Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
3.1977	0.4343	0.383

Low-outlier information:

Number of low outliers	0
Low-outlier threshold	Not determined

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
3.1953	0.4276	-0.034

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	120	18.7	245	--	--	--
0.9900	155	31.8	294	--	--	--
0.9500	307	118.0	507	--	--	--
0.9000	442	214.0	694	--	--	--
0.8000	686	396.0	1,040	--	--	--
0.6667	1,030	651.0	1,540	--	--	--
0.5000	1,580	1,040.0	2,380	1,380	959	1,980
0.4292	1,880	1,250.0	2,870	--	--	--
0.2000	3,600	2,380.0	6,130	2,840	1,930	4,170
0.1000	5,520	3,550.0	11,100	3,970	2,590	6,080
0.0400	8,690	5,250.0	23,300	5,490	3,340	9,010
0.0200	11,600	6,660.0	39,800	6,790	3,890	11,800
0.0100	15,100	8,120.0	66,700	8,080	4,380	14,900
0.0050	19,200	9,640.0	110,000	--	--	--
0.0020	25,600	11,700.0	207,000	11,600	5,470	24,800

Peak-flow data used in the analysis:

Explanation of symbols and codes

> Greater than

-- none

Water year	Peak flow	Peak-flow code
1986	2,850	--
1987	2,360	--
1988	1,080	--
1989	545	--
1990	1,970	--
1991	2,250	--
1992	1,480	--
1993	9,280	--
1994	1,350	--
1995	430	--
1996	645	--
1997	1,400	--
1998	337	--
1999	5,580	--
2000	5,010	--
2001	3,220	--
2002	362	--
2003	348	--
2004	>10,000	--
2005	1,650	--
2006	1,680	--
2007	751	--
2008	3,710	--
2009	1,220	--
2010	1,680	--
2011	1,080	--