

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05125550 Stony River near Babbitt, Minn.

Peak-flow information:

Number of systematic peak flows in record	31
Systematic period begins	1976
Systematic period ends	2011
Length of systematic record	36
Years without information	5
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.171
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
2.9692	0.2112	-0.510

Outlier criteria and number of peak flows exceeding:

Low	266.0	0
High	3262.3	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.9692	0.2112	-0.148

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	249	168	325	--	--	--
0.9900	285	199	365	--	--	--
0.9500	410	312	499	--	--	--
0.9000	496	393	590	--	--	--
0.8000	621	513	724	--	--	--
0.6667	763	648	881	--	--	--
0.5000	943	814	1,090	984	827	1,170
0.4292	1,030	890	1,200	--	--	--
0.2000	1,410	1,210	1,710	1,470	1,220	1,770
0.1000	1,720	1,450	2,170	1,820	1,470	2,250
0.0400	2,130	1,750	2,800	2,290	1,770	2,970
0.0200	2,430	1,960	3,300	2,680	1,990	3,600
0.0100	2,740	2,180	3,820	3,090	2,200	4,340
0.0050	3,050	2,380	4,360	--	--	--
0.0020	3,460	2,660	5,110	4,160	2,680	6,450

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water year	Peak flow	Peak-flow code
1976	2,490	--
1977	601	--
1978	1,130	--
1979	1,630	--
1980	700	--
Gap in systematic record		
1986	770	--
1987	1,210	--
1988	1,090	--
1989	1,450	--
1990	1,370	--
1991	457	--
1992	1,060	--
1993	945	--
1994	1,150	--
1995	780	--
1996	1,200	--
1997	930	--
1998	999	--
1999	1,400	--
2000	756	--
2001	2,000	--
2002	688	--
2003	326	--
2004	974	--
2005	695	--
2006	1,250	--
2007	603	--
2008	1,680	--
2009	877	--
2010	271	--
2011	645	--