

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

04013200 Caribou River near Little Marais, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	25	
Systematic period begins	1961	
Systematic period ends	1985	
Length of systematic record	25	
Years without information	0	
Number of historical peak flows in record	0	
Length of historical period	63	
Historical period begins	1930	
Historical period ends	1993	
Historical period based on		Correlation with streamgauge 04014500

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.5
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	
2.7663	0.2960	0.980	

**Outlier criteria and number of peak flows exceeding:**

Low	100.8	0
High	3179.0	1

**Bulletin 17B Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard		
Mean	deviation	Skewness	
2.7442	0.2595	0.570	

**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	164	105	220	--	--	--
0.9900	178	117	236	--	--	--
0.9500	231	162	296	--	--	--
0.9000	270	197	339	--	--	--
0.8000	332	254	410	--	--	--
0.6667	411	326	501	--	--	--
0.5000	524	427	640	544	433	685
0.4292	584	478	717	--	--	--
0.2000	896	729	1,170	948	705	1,270
0.1000	1,230	968	1,710	1,320	921	1,900
0.0400	1,760	1,320	2,680	1,960	1,240	3,100
0.0200	2,250	1,630	3,680	2,570	1,520	4,350
0.0100	2,840	1,980	4,960	3,300	1,830	5,980
0.0050	3,550	2,380	6,600	--	--	--
0.0020	4,690	3,000	9,470	5,590	2,670	11,700

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1961	1,130	--
1962	190	--
1963	307	--
1964	1,340	--
1965	443	--
1966	548	--
1967	1,080	--
1968	378	--
1969	608	--
1970	500	--
1971	1,320	--
1972	1,230	--
1973	463	--
1974	655	--
1975	422	--
1976	417	--
1977	4,430	--
1978	320	--
1979	610	--
1980	410	--
1981	310	--
1982	690	--
1983	730	--
1984	550	--
1985	205	--