Annual Peak-Flow Frequency Analysis
For more information on the contents of this documentation, see Kessler and others (2013).

Streamgage number and name:

05130500 Sturgeon River near Chisholm, Minn.

Peak-flow information:

Number of systematic peak flows in record	67
Systematic period begins	1943
Systematic period ends	2009
Length of systematic record	67
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.006
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:

Mean	Standard deviation	Skewness
2.9944	0.2408	-0.138

Outlier criteria and number of peak flows exceeding:

Low	200.3	0
High	4866.6	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.9944	0.2408	-0.092

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	226	172	279	−−	−−	−−
0.9900	262	204	319	−−	−−	−−
0.9500	391	322	457	−−	−−	−−
0.9000	483	408	554	−−	−−	−−
0.8000	621	539	701	−−	−−	−−
0.6667	783	693	876	−−	−−	−−
0.5000	996	890	1,120	977	853	1,120
0.4292	1,100	983	1,230	−−	−−	−−
0.2000	1,580	1,400	1,820	1,540	1,330	1,790
0.1000	2,000	1,740	2,360	1,950	1,640	2,310
0.0400	2,560	2,180	3,120	2,470	2,000	3,050
0.0200	3,000	2,520	3,740	2,850	2,230	3,650
0.0100	3,450	2,860	4,400	3,250	2,440	4,330
0.0050	3,930	3,210	5,090	−−	−−	−−
0.0020	4,580	3,680	6,080	4,160	2,830	6,100

Peak-flow data used in the analysis:

Explanation of symbols and codes

−− none

Water year	Peak flow	Peak-flow code	Water year	Peak flow	Peak-flow code
1943	975	−−	1977	835	−−
1944	1,230	−−	1978	758	−−
1945	997	−−	1979	2,460	−−
1946	829	−−	1980	397	−−
1947	1,090	−−	1981	852	−−
1948	2,120	−−	1982	1,220	−−
1949	577	−−	1983	698	−−
1950	3,630	−−	1984	793	−−
1951	1,420	−−	1985	1,480	−−
1952	928	−−	1986	863	−−
1953	750	−−	1987	836	−−
1954	2,360	−−	1988	841	−−
1955	826	−−	1989	1,110	−−
1956	972	−−	1990	1,010	−−
1957	1,840	−−	1991	522	−−
1958	459	−−	1992	432	−−
1959	646	−−	1993	1,800	−−
1960	740	−−	1994	1,390	−−
1961	1,380	−−	1995	407	−−
1962	809	−−	1996	1,960	−−
1963	668	−−	1997	1,520	−−
1964	1,230	−−	1998	246	−−
1965	1,110	−−	1999	2,400	−−
1966	1,460	−−	2000	403	−−
1967	1,040	−−	2001	1,700	−−
1968	599	−−	2002	1,730	−−
1969	2,200	−−	2003	301	−−
1970	1,500	−−	2004	695	−−
1971	2,140	−−	2005	810	−−
1972	1,220	−−	2006	940	−−
1973	390	−−	2007	667	−−
1974	1,460	−−	2008	2,120	−−
1975	1,460	−−	2009	648	−−
1976	703	−−			