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

Streamgage number and name:

05376500 South Fork Whitewater River near Altura, Minn.

Peak-flow information:

Number of systematic peak flows in record	48
Systematic period begins	1940
Systematic period ends	1987
Length of systematic record	48
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.222
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
3.1742	0.4058	-0.689

Outlier criteria and number of peak flows exceeding:

Low	114.0	0
High	19562.5	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
3.1742	0.4058	-0.470

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	89.4	47.9	141	−−	−−	−−
0.9900	124.0	70.5	188	−−	−−	−−
0.9500	286.0	189.0	393	−−	−−	−−
0.9000	434.0	307.0	572	−−	−−	−−
0.8000	700.0	527.0	889	−−	−−	−−
0.6667	1,060.0	834.0	1,330	−−	−−	−−
0.5000	1,610.0	1,280.0	2,020	1,620	1,250	2,090
0.4292	1,890.0	1,510.0	2,390	−−	−−	−−
0.2000	3,320.0	2,610.0	4,440	3,320	2,610	4,230
0.1000	4,670.0	3,580.0	6,530	4,670	3,640	6,010
0.0400	6,530.0	4,850.0	9,610	6,580	4,960	8,740
0.0200	7,990.0	5,800.0	12,200	8,120	5,920	11,200
0.0100	9,480.0	6,750.0	14,800	9,770	6,800	14,100
0.0050	11,000.0	7,700.0	17,700	−−	−−	−−
0.0020	13,000.0	8,950.0	21,600	14,000	8,700	22,400

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
1940	4,240	−−	1964	136	−−
1941	1,080	−−	1965	2,360	−−
1942	3,080	−−	1966	3,880	−−
1943	1,800	−−	1967	3,050	−−
1944	738	−−	1968	391	−−
1945	2,910	−−	1969	971	−−
1946	976	−−	1970	1,920	−−
1947	5,460	−−	1971	1,060	−−
1948	1,160	−−	1972	1,010	−−
1949	2,060	−−	1973	1,640	−−
1950	4,710	−−	1974	5,620	−−
1951	4,250	−−	1975	1,090	−−
1952	3,520	−−	1976	2,760	−−
1953	1,480	−−	1977	1,660	−−
1954	544	−−	1978	5,610	−−
1955	2,180	−−	1979	1,320	−−
1956	2,250	−−	1980	1,180	−−
1957	1,440	−−	1981	350	−−
1958	576	−−	1982	197	−−
1959	1,140	−−	1983	515	−−
1960	1,400	−−	1984	157	−−
1961	4,530	−−	1985	700	−−
1962	4,870	−−	1986	4,380	−−
1963	954	−−	1987	2,090	−−