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

Streamgage number and name:

05372950 Silver Creek at Minnesota Department of Natural Resources gage in Rochester, Minn.

Peak-flow information:

Number of systematic peak flows in record	15	
Systematic period begins	1969	
Systematic period ends	1983	
Length of systematic record	15	
Years without information	0	
Number of historical peak flows in record	0	
Length of historical period	61	
Historical period begins	1951	
Historical period ends	2011	
Historical period based on		Correlation with streamgage 05372995

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.243
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
2.8178	0.5069	1.275

Outlier criteria and number of peak flows exceeding:

Low	35.3	0
High	9052.6	1

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.7558	0.4250	0.407

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	66.6	22.4	125	−−	−−	−−
0.9900	78.6	28.3	143	−−	−−	−−
0.9500	129.0	55.9	215	−−	−−	−−
0.9000	171.0	82.3	275	−−	−−	−−
0.8000	247.0	134.0	381	−−	−−	−−
0.6667	356.0	212.0	539	−−	−−	−−
0.5000	533.0	342.0	821	575	379	872
0.4292	636.0	415.0	998	−−	−−	−−
0.2000	1,270.0	823.0	2,310	1,350	892	2,040
0.1000	2,070.0	1,270.0	4,430	2,050	1,360	3,090
0.0400	3,600.0	2,030.0	9,460	3,100	2,030	4,730
0.0200	5,230.0	2,750.0	16,000	4,000	2,560	6,260
0.0100	7,400.0	3,640.0	26,100	5,050	3,060	8,340
0.0050	10,300.0	4,720.0	41,500	−−	−−	−−
0.0020	15,500.0	6,520.0	74,400	7,990	4,270	14,900

Peak-flow data used in the analysis:

Explanation of symbols and codes

−− none

Water year	Peak flow	Peak-flow code
1969	428	−−
1970	510	−−
1971	1,210	−−
1972	150	−−
1973	1,290	−−
1974	6,580	−−
1975	259	−−
1976	670	−−
1977	360	−−
1978	9,290	−−
1979	645	−−
1980	400	−−
1981	186	−−
1982	350	−−
1983	564	−−