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

Streamgage number and name:

05330150 Sand Creek tributary near Montogomery, Minn.

Peak-flow information:

Number of systematic peak flows in record	21
Systematic period begins	1961
Systematic period ends	1981
Length of systematic record	21
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.16
Standard error of generalized skew	0.4266
Low-outlier method	Single Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.3136	0.2332	0.539

Low-outlier information:

Number of low outliers	1
Low-outlier threshold	10

Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.3119	0.2366	0.079

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	5.25	1.70	7.79	−−	−−	−−
0.9900	5.96	2.29	8.53	−−	−−	−−
0.9500	8.48	4.74	11.30	−−	−−	−−
0.9000	10.20	6.60	13.40	−−	−−	−−
0.8000	12.90	9.28	16.60	−−	−−	−−
0.6667	16.10	12.20	20.60	−−	−−	−−
0.5000	20.40	15.80	26.40	20.2	16.0	25.5
0.4292	22.40	17.50	29.40	−−	−−	−−
0.2000	32.40	25.10	46.30	32.8	25.2	42.6
0.1000	41.40	31.40	66.90	42.9	31.7	58.0
0.0400	54.00	39.30	108.00	57.9	40.2	83.3
0.0200	64.20	45.10	153.00	70.6	46.6	107.0
0.0100	75.20	50.80	216.00	85.3	53.6	136.0
0.0050	86.90	56.30	303.00	−−	−−	−−
0.0020	104.00	63.40	456.00	125.0	69.4	225.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

−−	none
∗	Less than low-outlier threshold

Water year	Peak flow	Peak-flow code
1961	16.0	−−
1962	25.0	−−
1963	14.0	−−
1964	27.0	−−
1965	43.0	−−
1966	15.0	−−
1967	29.0	−−
1968	31.0	−−
1969	23.0	−−
1970	29.0	−−
1971	24.0	−−
1972	10.0	−−
1973	10.0	−−
1974	18.0	−−
1975	29.0	−−
1976	4.2	∗
1977	12.0	−−
1978	21.0	−−
1979	82.0	−−
1980	13.0	−−
1981	23.0	−−