

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

04024100 Rock Creek near Blackhoof, Minn.

Peak-flow information:

Number of systematic peak flows in record	27
Systematic period begins	1961
Systematic period ends	1987
Length of systematic record	27
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	-0.04
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:

	Standard	
Mean	deviation	Skewness
2.6166	0.4058	-1.276

Low-outlier information:

Number of low outliers	0
Low-outlier threshold	19

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.6167	0.4070	-0.471

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	24.5	1.89	56.6	--	--	--
0.9900	34.0	3.63	71.6	--	--	--
0.9500	79.0	22.40	136.0	--	--	--
0.9000	120.0	48.60	192.0	--	--	--
0.8000	194.0	103.00	292.0	--	--	--
0.6667	295.0	181.00	429.0	--	--	--
0.5000	445.0	296.00	639.0	393	282	547
0.4292	524.0	356.00	753.0	--	--	--
0.2000	923.0	645.00	1,390.0	812	584	1,130
0.1000	1,300.0	905.00	2,140.0	1,130	789	1,620
0.0400	1,820.0	1,230.00	3,530.0	1,540	1,020	2,340
0.0200	2,220.0	1,440.00	4,920.0	1,860	1,160	2,980
0.0100	2,640.0	1,620.00	6,670.0	2,190	1,300	3,700
0.0050	3,060.0	1,780.00	8,860.0	--	--	--
0.0020	3,630.0	1,940.00	12,600.0	3,070	1,600	5,910

Peak-flow data used in the analysis:

Explanation of symbols and codes

> Greater than

-- none

Water	Peak	Peak-flow
year	flow	code
1961	282	--
1962	404	--
1963	85	--
1964	698	--
1965	269	--
1966	>200	--
1967	678	--
1968	1,110	--
1969	360	--
1970	1,270	--
1971	233	--
1972	1,210	--
1973	318	--
1974	362	--
1975	130	--
1976	282	--
1977	375	--
1978	535	--
1979	420	--
1980	490	--
1981	485	--
1982	330	--
1983	940	--
1984	600	--
1985	2,350	--
1986	610	--
1987	19	--