

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05130300 Boriin Creek near Chisholm, Minn.

Peak-flow information:

Number of systematic peak flows in record	34
Systematic period begins	1959
Systematic period ends	1992
Length of systematic record	34
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.005
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:

	Standard		
Mean	deviation	Skewness	
2.2404	0.2787	0.053	

Outlier criteria and number of peak flows exceeding:

Low	32.5	0
High	932.0	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.2404	0.2787	0.031	

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	33.9	21.4	46.8	--	--	--
0.9900	39.7	25.9	53.5	--	--	--
0.9500	60.9	43.6	77.7	--	--	--
0.9000	76.6	57.4	95.3	--	--	--
0.8000	101.0	79.6	123.0	--	--	--
0.6667	132.0	107.0	158.0	--	--	--
0.5000	173.0	144.0	208.0	171	138	211
0.4292	194.0	162.0	235.0	--	--	--
0.2000	298.0	246.0	379.0	293	231	372
0.1000	397.0	319.0	530.0	389	295	512
0.0400	539.0	418.0	764.0	523	373	733
0.0200	657.0	497.0	973.0	630	428	929
0.0100	785.0	580.0	1,210.0	748	481	1,160
0.0050	926.0	667.0	1,480.0	--	--	--
0.0020	1,130.0	791.0	1,890.0	1,050	597	1,830

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1959	305	--
1960	206	--
1961	485	--
1962	124	--
1963	83	--
1964	202	--
1965	191	--
1966	211	--
1967	182	--
1968	159	--
1969	700	--
1970	318	--
1971	410	--
1972	165	--
1973	48	--
1974	335	--
1975	284	--
1976	125	--
1977	216	--
1978	120	--
1979	560	--
1980	86	--
1981	155	--
1982	260	--
1983	126	--
1984	135	--
1985	250	--
1986	110	--
1987	46	--
1988	110	--
1989	140	--
1990	215	--
1991	79	--
1992	83	--