

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05289500 Minnehaha Creek at Minnetonka Mills, Minn.

Peak-flow information:

Number of systematic peak flows in record	12
Systematic period begins	1954
Systematic period ends	1965
Length of systematic record	12
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.185
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
1.7895	0.5281	-0.668

Outlier criteria and number of peak flows exceeding:

Low	4.6	0
High	825.2	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.7895	0.5281	-0.322

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	1.9	0.2	5.3	--	--	--
0.9900	2.7	0.4	7.1	--	--	--
0.9500	7.5	2.0	15.9	--	--	--
0.9000	12.5	4.1	24.3	--	--	--
0.8000	22.7	9.4	41.1	--	--	--
0.6667	38.6	19.0	68.8	--	--	--
0.5000	65.7	35.8	123.0	82.5	47.2	144
0.4292	81.4	45.2	158.0	--	--	--
0.2000	174.0	95.6	423.0	188.0	110.0	324
0.1000	279.0	145.0	818.0	279.0	158.0	492
0.0400	450.0	217.0	1,630.0	410.0	221.0	762
0.0200	604.0	276.0	2,500.0	521.0	265.0	1,020
0.0100	780.0	340.0	3,660.0	641.0	312.0	1,320
0.0050	978.0	406.0	5,120.0	--	--	--
0.0020	1,280.0	501.0	7,600.0	962.0	410.0	2,260

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1954	172	--
1955	39	--
1956	46	--
1957	198	--
1958	76	--
1959	5	--
1960	31	--
1961	15	--
1962	235	--
1963	141	--
1964	34	--
1965	245	--