

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05125500 Stony River near Isabella, Minn.

Peak-flow information:

Number of systematic peak flows in record	12
Systematic period begins	1953
Systematic period ends	1964
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	0.18
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
2.9135	0.2465	0.114

Outlier criteria and number of peak flows exceeding:

Low	244.1	0
High	2751.3	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.9135	0.2465	0.160

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	207	91.6	317	--	--	--
0.9900	234	110.0	350	--	--	--
0.9500	331	183.0	463	--	--	--
0.9000	400	241.0	543	--	--	--
0.8000	506	335.0	669	--	--	--
0.6667	634	451.0	830	--	--	--
0.5000	807	604.0	1,070	911	673	1,230
0.4292	894	677.0	1,210	--	--	--
0.2000	1,320	996.0	1,980	1,500	1,050	2,140
0.1000	1,710	1,260.0	2,860	2,000	1,320	3,010
0.0400	2,280	1,600.0	4,350	2,760	1,700	4,480
0.0200	2,760	1,860.0	5,750	3,420	1,980	5,880
0.0100	3,280	2,130.0	7,440	4,150	2,280	7,540
0.0050	3,850	2,420.0	9,460	--	--	--
0.0020	4,690	2,820.0	12,700	6,130	2,970	12,600

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1953	786	--
1954	1,750	--
1955	553	--
1956	1,410	--
1957	2,040	--
1958	449	--
1959	472	--
1960	980	--
1961	665	--
1962	800	--
1963	330	--
1964	1,150	--