

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05274200 Stony Brook tributary near Foley, Minn.

Peak-flow information:

Number of systematic peak flows in record	30
Systematic period begins	1960
Systematic period ends	1989
Length of systematic record	30
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.218
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
	1.6316	0.4153	-0.266

Outlier criteria and number of peak flows exceeding:

Low	3.7	0
High	496.7	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
1.6316	0.4153	-0.242	

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	2.9	1.3	5.1	--	--	--
0.9900	3.9	1.9	6.4	--	--	--
0.9500	8.3	4.8	12.4	--	--	--
0.9000	12.3	7.7	17.4	--	--	--
0.8000	19.4	13.2	26.3	--	--	--
0.6667	29.3	21.2	39.1	--	--	--
0.5000	44.5	33.2	59.8	44.2	32.5	60.3
0.4292	52.7	39.5	71.7	--	--	--
0.2000	96.6	71.1	142.0	95.6	68.8	133.0
0.1000	142.0	101.0	224.0	140.0	97.4	202.0
0.0400	210.0	143.0	362.0	208.0	136.0	320.0
0.0200	269.0	177.0	490.0	267.0	165.0	431.0
0.0100	334.0	213.0	640.0	332.0	194.0	569.0
0.0050	405.0	251.0	813.0	--	--	--
0.0020	508.0	304.0	1,080.0	513.0	264.0	997.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1960	9.8	--
1961	29.0	--
1962	132.0	--
1963	25.0	--
1964	59.0	--
1965	83.0	--
1966	51.0	--
1967	55.0	--
1968	9.5	--
1969	78.0	--
1970	35.0	--
1971	41.0	--
1972	204.0	--
1973	21.0	--
1974	13.0	--
1975	52.0	--
1976	33.0	--
1977	30.0	--
1978	98.0	--
1979	115.0	--
1980	22.0	--
1981	13.0	--
1982	50.0	--
1983	150.0	--
1984	159.0	--
1985	93.0	--
1986	180.0	--
1987	5.0	--
1988	20.0	--
1989	35.0	--