

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05373700 Spring Creek near Wanamingo, Minn.

Peak-flow information:

Number of systematic peak flows in record	27
Systematic period begins	1960
Systematic period ends	1986
Length of systematic record	27
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.215
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	
2.6230	0.4185	-0.117	

Outlier criteria and number of peak flows exceeding:

Low	37.1	0
High	4754.8	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.6230	0.4185	-0.167

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	30.2	12.9	52.9	--	--	--
0.9900	39.7	18.2	66.7	--	--	--
0.9500	82.3	45.6	124.0	--	--	--
0.9000	120.0	72.7	173.0	--	--	--
0.8000	188.0	125.0	260.0	--	--	--
0.6667	284.0	200.0	385.0	--	--	--
0.5000	431.0	316.0	591.0	439	314	614
0.4292	512.0	377.0	710.0	--	--	--
0.2000	951.0	687.0	1,440.0	942	682	1,300
0.1000	1,420.0	986.0	2,320.0	1,360	977	1,900
0.0400	2,140.0	1,420.0	3,870.0	1,980	1,380	2,830
0.0200	2,780.0	1,780.0	5,360.0	2,500	1,700	3,680
0.0100	3,510.0	2,160.0	7,170.0	3,080	1,990	4,770
0.0050	4,320.0	2,580.0	9,330.0	--	--	--
0.0020	5,530.0	3,180.0	12,800.0	4,660	2,680	8,100

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1960	765	--
1961	331	--
1962	457	--
1963	271	--
1964	100	--
1965	870	--
1966	490	--
1967	1,120	--
1968	350	--
1969	620	--
1970	123	--
1971	450	--
1972	186	--
1973	1,820	--
1974	352	--
1975	705	--
1976	145	--
1977	50	--
1978	400	--
1979	2,850	--
1980	106	--
1981	930	--
1982	400	--
1983	760	--
1984	390	--
1985	222	--
1986	2,050	--