

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05316700 Spring Creek near Sleepy Eye, Minn.

Peak-flow information:

Number of systematic peak flows in record	42
Systematic period begins	1959
Systematic period ends	2000
Length of systematic record	42
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.141
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
2.3037	0.3817	-0.217

Outlier criteria and number of peak flows exceeding:

Low	18.8	0
High	2159.5	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.3037	0.3817	-0.184

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	18.0	10.0	27.5	--	--	--
0.9900	23.1	13.5	34.2	--	--	--
0.9500	45.3	30.1	61.8	--	--	--
0.9000	64.2	45.2	84.4	--	--	--
0.8000	96.9	72.5	123.0	--	--	--
0.6667	141.0	110.0	176.0	--	--	--
0.5000	207.0	165.0	260.0	202	155	264
0.4292	242.0	193.0	306.0	--	--	--
0.2000	424.0	334.0	569.0	414	314	546
0.1000	609.0	465.0	861.0	593	436	807
0.0400	885.0	650.0	1,330.0	860	596	1,240
0.0200	1,120.0	801.0	1,760.0	1,090	716	1,660
0.0100	1,380.0	961.0	2,260.0	1,350	839	2,170
0.0050	1,660.0	1,130.0	2,820.0	--	--	--
0.0020	2,080.0	1,370.0	3,680.0	2,050	1,120	3,770

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1959	149	--	1980	345	--
1960	416	--	1981	98	--
1961	139	--	1982	245	--
1962	680	--	1983	410	--
1963	161	--	1984	250	--
1964	66	--	1985	430	--
1965	930	--	1986	428	--
1966	170	--	1987	54	--
1967	203	--	1988	30	--
1968	241	--	1989	170	--
1969	683	--	1990	352	--
1970	83	--	1991	510	--
1971	212	--	1992	210	--
1972	116	--	1993	960	--
1973	45	--	1994	610	--
1974	39	--	1995	155	--
1975	200	--	1996	405	--
1976	61	--	1997	700	--
1977	234	--	1998	211	--
1978	132	--	1999	108	--
1979	211	--	2000	64	--