

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05316550 West Fork Beaver Creek near Olivia, Minn.

Peak-flow information:

Number of systematic peak flows in record	23
Systematic period begins	1959
Systematic period ends	1981
Length of systematic record	23
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.157
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
1.8549	0.3732	-0.270

Outlier criteria and number of peak flows exceeding:

Low	8.7	0
High	586.7	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.8549	0.3732	-0.206

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	6.6	2.8	11.4	--	--	--
0.9900	8.5	3.9	14.1	--	--	--
0.9500	16.6	9.2	24.7	--	--	--
0.9000	23.4	14.2	33.2	--	--	--
0.8000	35.1	23.4	47.9	--	--	--
0.6667	50.7	36.1	68.1	--	--	--
0.5000	73.7	54.5	100.0	71	50.7	99.5
0.4292	85.8	63.8	118.0	--	--	--
0.2000	149.0	109.0	224.0	143	101.0	203.0
0.1000	211.0	149.0	344.0	204	139.0	300.0
0.0400	303.0	204.0	542.0	296	190.0	461.0
0.0200	380.0	248.0	724.0	376	228.0	618.0
0.0100	464.0	294.0	936.0	466	269.0	807.0
0.0050	555.0	341.0	1,180.0	--	--	--
0.0020	686.0	407.0	1,560.0	713	360.0	1,410.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1959	14	--
1960	70	--
1961	13	--
1962	98	--
1963	110	--
1964	61	--
1965	91	--
1966	32	--
1967	352	--
1968	20	--
1969	269	--
1970	243	--
1971	148	--
1972	87	--
1973	30	--
1974	61	--
1975	74	--
1976	50	--
1977	68	--
1978	156	--
1979	94	--
1980	56	--
1981	84	--