

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05474750 Beaver Creek tributary number 2 near Slayton, Minn.

Peak-flow information:

Number of systematic peak flows in record	25
Systematic period begins	1961
Systematic period ends	1985
Length of systematic record	25
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.23
Standard error of generalized skew	0.4266
Low-outlier method	Single Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.8922	0.2798	0.197

Low-outlier information:

Number of low outliers	1
Low-outlier threshold	34

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.8914	0.2817	-0.051

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	14.2	3.75	22.9	--	--	--
0.9900	16.8	5.43	25.8	--	--	--
0.9500	26.6	13.50	37.1	--	--	--
0.9000	33.8	20.30	45.7	--	--	--
0.8000	45.2	31.00	59.7	--	--	--
0.6667	59.2	43.30	77.4	--	--	--
0.5000	78.3	59.20	103.0	76.7	59.6	98.8
0.4292	87.9	66.90	117.0	--	--	--
0.2000	135.0	102.00	192.0	134.0	101.0	176.0
0.1000	178.0	133.00	284.0	179.0	131.0	244.0
0.0400	240.0	171.00	462.0	246.0	170.0	357.0
0.0200	290.0	200.00	658.0	303.0	199.0	463.0
0.0100	344.0	228.00	924.0	368.0	230.0	591.0
0.0050	401.0	255.00	1,280.0	--	--	--
0.0020	484.0	288.00	1,960.0	544.0	299.0	989.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

* Less than low-outlier threshold

Water	Peak	Peak-flow
year	flow	code
1961	51	--
1962	211	--
1963	61	--
1964	53	--
1965	128	--
1966	87	--
1967	50	--
1968	40	--
1969	182	--
1970	47	--
1971	39	--
1972	44	--
1973	34	--
1974	10	*
1975	154	--
1976	78	--
1977	107	--
1978	46	--
1979	228	--
1980	140	--
1981	48	--
1982	135	--
1983	64	--
1984	135	--
1985	190	--