

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05278850 Buffalo Creek tributary near Brownton, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	27
Systematic period begins	1961
Systematic period ends	1991
Length of systematic record	31
Years without information	4
Number of historical peak flows in record	1 1991

**Frequency analysis options:**

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.13
Standard error of generalized skew	0.4266
Low-outlier method	Multiple Grubbs-Beck test

**EMA systematic record analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
1.5327	0.3328	-0.193

**Low-outlier information:**

Number of low outliers	0
Low-outlier threshold	Not determined

**Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
1.5326	0.3328	-0.162

**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	4.22	0.84	7.57	--	--	--
0.9900	5.24	1.35	8.86	--	--	--
0.9500	9.34	4.18	14.00	--	--	--
0.9000	12.60	6.91	18.00	--	--	--
0.8000	18.00	11.60	24.90	--	--	--
0.6667	24.90	17.40	33.90	--	--	--
0.5000	34.80	25.30	47.20	35.8	27.1	47.4
0.4292	39.90	29.20	54.40	--	--	--
0.2000	65.30	48.00	94.00	68.1	50.7	91.4
0.1000	89.70	64.70	141.00	95.0	68.4	132.0
0.0400	125.00	86.60	231.00	135.0	91.9	199.0
0.0200	154.00	103.00	327.00	169.0	109.0	263.0
0.0100	185.00	118.00	455.00	208.0	128.0	340.0
0.0050	218.00	133.00	624.00	--	--	--
0.0020	266.00	151.00	931.00	313.0	168.0	581.0

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

-- none

H Historic, outside of systematic record

Water	Peak	Peak-flow
year	flow	code
1961	9	--
1962	70	--
1963	35	--
1964	12	--
1965	124	--
1966	36	--
1967	39	--
1968	20	--
1969	64	--
1970	17	--
1971	43	--
1972	53	--
1973	25	--
1974	23	--
1975	55	--
1976	19	--
1977	7	--
1978	37	--
1979	87	--
1980	17	--
1981	42	--
1982	56	--
1983	41	--
1984	53	--
1985	39	--
1986	48	--
1987	10	--
1991	175	H