

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05318100 East Branch Blue Earth River tributary near Blue Earth, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	26
Systematic period begins	1960
Systematic period ends	1985
Length of systematic record	26
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	-0.17
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
2.1560	0.3638	-0.396

**Low-outlier information:**

Number of low outliers	1
Low-outlier threshold	35

**Final analysis results:**

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

	Standard		
Mean	deviation	Skewness	
2.1566	0.3620	-0.255	

**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	13.7	1.78	26.8	--	--	--
0.9900	17.7	2.93	32.1	--	--	--
0.9500	34.4	12.10	54.0	--	--	--
0.9000	48.3	22.70	72.2	--	--	--
0.8000	72.0	42.40	103.0	--	--	--
0.6667	103.0	68.00	145.0	--	--	--
0.5000	149.0	104.00	208.0	148	108	202
0.4292	172.0	122.00	243.0	--	--	--
0.2000	292.0	208.00	439.0	291	212	400
0.1000	407.0	287.00	681.0	408	287	579
0.0400	572.0	388.00	1,160.0	578	384	869
0.0200	708.0	462.00	1,670.0	721	455	1,140
0.0100	852.0	531.00	2,360.0	880	527	1,470
0.0050	1,010.0	595.00	3,290.0	--	--	--
0.0020	1,220.0	672.00	4,980.0	1,300	684	2,480

**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
1960	233	--
1961	222	--
1962	119	--
1963	406	--
1964	58	--
1965	187	--
1966	217	--
1967	130	--
1968	468	--
1969	203	--
1970	35	--
1971	107	--
1972	218	--
1973	73	--
1974	52	--
1975	138	--
1976	73	--
1977	16	*
1978	355	--
1979	126	--
1980	205	--
1981	610	--
1982	345	--
1983	90	--
1984	275	--
1985	47	--