

## Annual Peak-Flow Frequency Analysis

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

### Streamgauge number and name:

05336550 Wolf Creek tributary near Sandstone, Minn.

### Peak-flow information:

Number of systematic peak flows in record	30
Systematic period begins	1960
Systematic period ends	1989
Length of systematic record	30
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	-0.24
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
1.6815	0.4955	-0.723

#### Low-outlier information:

Number of low outliers	1
Low-outlier threshold	5.8

**Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
1.6831	0.4908	-0.440

**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	1.65	0.09	4.26	--	--	--
0.9900	2.43	0.19	5.64	--	--	--
0.9500	6.60	1.47	12.20	--	--	--
0.9000	10.80	3.77	18.50	--	--	--
0.8000	19.20	9.38	30.70	--	--	--
0.6667	31.80	18.40	49.00	--	--	--
0.5000	52.40	33.00	79.40	66	46.6	93.5
0.4292	63.80	41.00	96.80	--	--	--
0.2000	127.00	84.00	203.00	143	100.0	205.0
0.1000	192.00	126.00	342.00	213	145.0	314.0
0.0400	291.00	184.00	626.00	319	203.0	499.0
0.0200	373.00	226.00	941.00	407	246.0	673.0
0.0100	462.00	263.00	1,370.00	503	287.0	881.0
0.0050	556.00	296.00	1,950.00	--	--	--
0.0020	688.00	333.00	3,020.00	751	377.0	1,500.0

**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
1960	15.0	--
1961	22.0	--
1962	121.0	--
1963	7.1	--
1964	51.0	--
1965	200.0	--
1966	86.0	--
1967	104.0	--
1968	33.0	--
1969	125.0	--
1970	28.0	--
1971	79.0	--
1972	224.0	--
1973	33.0	--
1974	84.0	--
1975	115.0	--
1976	44.0	--
1977	14.0	--
1978	47.0	--
1979	240.0	--
1980	5.8	--
1981	63.0	--
1982	58.0	--
1983	118.0	--
1984	48.0	--
1985	160.0	--
1986	170.0	--
1987	2.1	*
1988	16.0	--
1989	16.0	--