

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05060800 Buffalo River near Callaway, Minn.

Peak-flow information:

Number of systematic peak flows in record	52
Systematic period begins	1960
Systematic period ends	2011
Length of systematic record	52
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.297
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
2.4169	0.3325	-0.569

Outlier criteria and number of peak flows exceeding:

Low	31.0	0
High	2198.7	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.4169	0.3325	-0.450

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	26.4	16.2	37.8	--	--	--
0.9900	34.3	22.1	47.6	--	--	--
0.9500	67.7	49.0	87.0	--	--	--
0.9000	95.1	72.4	118.0	--	--	--
0.8000	140.0	112.0	169.0	--	--	--
0.6667	197.0	163.0	235.0	--	--	--
0.5000	276.0	232.0	331.0	269	219	330
0.4292	316.0	265.0	380.0	--	--	--
0.2000	503.0	416.0	630.0	482	395	589
0.1000	666.0	540.0	866.0	634	509	789
0.0400	880.0	694.0	1,190.0	825	634	1,070
0.0200	1,040.0	807.0	1,440.0	961	707	1,310
0.0100	1,200.0	917.0	1,710.0	1,090	768	1,560
0.0050	1,360.0	1,020.0	1,970.0	--	--	--
0.0020	1,570.0	1,160.0	2,330.0	1,380	866	2,200

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1960	246	--	1986	220	--
1961	127	--	1987	71	--
1962	370	--	1988	124	--
1963	43	--	1989	290	--
1964	237	--	1990	255	--
1965	245	--	1991	69	--
1966	238	--	1992	215	--
1967	324	--	1993	1,630	--
1968	81	--	1994	270	--
1969	446	--	1995	382	--
1970	250	--	1996	570	--
1971	323	--	1997	560	--
1972	251	--	1998	484	--
1973	251	--	1999	367	--
1974	400	--	2000	1,260	--
1975	620	--	2001	430	--
1976	160	--	2002	265	--
1977	40	--	2003	153	--
1978	310	--	2004	161	--
1979	340	--	2005	237	--
1980	305	--	2006	467	--
1981	38	--	2007	388	--
1982	204	--	2008	200	--
1983	600	--	2009	400	--
1984	176	--	2010	596	--
1985	635	--	2011	299	--