Annual Peak-Flow Frequency Analysis
For more information on the contents of this documentation, see Kessler and others (2013).

Streamgage number and name:

05387030 Crooked Creek at Freeburg, Minn.

Peak-flow information:

Number of systematic peak flows in record	33
Systematic period begins	1979
Systematic period ends	2011
Length of systematic record	33
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	-0.15
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:

Mean	Standard deviation	Skewness
2.6103	0.5508	-0.798

Low-outlier information:

Number of low outliers	1
Low-outlier threshold	35

Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.6138	0.5413	-0.418

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	10.2	0.48	27.9	––	––	––
0.9900	15.5	1.07	37.8	––	––	––
0.9500	46.1	10.40	88.4	––	––	––
0.9000	79.5	27.40	140.0	––	––	––
0.8000	149.0	71.70	244.0	––	––	––
0.6667	259.0	147.00	408.0	––	––	––
0.5000	448.0	277.00	695.0	582	399	850
0.4292	557.0	351.00	865.0	––	––	––
0.2000	1,190.0	773.00	1,960.0	1,640	1,170	2,310
0.1000	1,900.0	1,220.00	3,480.0	2,740	1,950	3,860
0.0400	3,020.0	1,850.00	6,750.0	4,580	3,180	6,580
0.0200	3,990.0	2,320.00	10,600.0	6,170	4,170	9,140
0.0100	5,070.0	2,770.00	16,000.0	7,870	5,050	12,300
0.0050	6,250.0	3,160.00	23,500.0	––	––	––
0.0020	7,970.0	3,620.00	38,000.0	12,600	7,210	22,200

Peak-flow data used in the analysis:

Explanation of symbols and codes

<	Less than
−−	none
∗	Less than low-outlier threshold

Water year	Peak flow	Peak-flow code
1979	330	−−
1980	790	−−
1981	1,270	−−
1982	55	−−
1983	160	−−
1984	1,430	−−
1985	430	−−
1986	150	−−
1987	1,400	−−
1988	10	∗
1989	440	−−
1990	955	−−
1991	100	−−
1992	2,200	−−
1993	720	−−
1994	370	−−
1995	276	−−
1996	185	−−
1997	85	−−
1998	759	−−
1999	247	−−
2000	1,540	−−
2001	833	−−
2002	310	−−
2003	<275	−−
2004	797	−−
2005	361	−−
2006	35	−−
2007	1,510	−−
2008	2,590	−−
2009	500	−−
2010	2,230	−−
2011	697	−−