

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05079901 Burnham Creek near Crookston, Minn.

Peak-flow information:

Number of systematic peak flows in record	27
Systematic period begins	1986
Systematic period ends	2011
Length of systematic record	26
Years without information	-1
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.45
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
2.8854	0.5202	-0.996

Outlier criteria and number of peak flows exceeding:

Low	37.6	0
High	15694.2	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.8854	0.5202	-0.653

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	17.0	5.1	37.4	--	--	--
0.9900	27.1	9.2	55.2	--	--	--
0.9500	88.0	40.8	150.0	--	--	--
0.9000	156.0	82.7	247.0	--	--	--
0.8000	296.0	179.0	442.0	--	--	--
0.6667	515.0	337.0	752.0	--	--	--
0.5000	874.0	596.0	1,300.0	772	536	1,110
0.4292	1,070.0	734.0	1,630.0	--	--	--
0.2000	2,140.0	1,430.0	3,600.0	1,910	1,340	2,710
0.1000	3,200.0	2,060.0	5,820.0	2,870	1,970	4,180
0.0400	4,670.0	2,880.0	9,240.0	4,230	2,740	6,540
0.0200	5,810.0	3,480.0	12,100.0	5,320	3,260	8,680
0.0100	6,960.0	4,070.0	15,200.0	6,490	3,760	11,200
0.0050	8,110.0	4,640.0	18,400.0	--	--	--
0.0020	9,600.0	5,360.0	22,700.0	9,430	4,810	18,500

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1986	450	--
1987	310	--
1988	190	--
1989	1,900	--
1990	55	--
1991	96	--
1992	205	--
1993	880	--
1994	1,340	--
1995	1,260	--
1996	1,950	--
1997	3,000	--
1998	1,600	--
1999	2,200	--
2000	700	--
2001	2,500	--
2002	2,900	--
2003	900	--
2004	1,600	--
2005	1,260	--
2006	2,200	--
2007	730	--
2008	170	--
2009	1,200	--
2010	1,900	--
2011	1,450	--