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

Streamgage number and name:

05313780 Hawk Creek near Maynard, Minn.

Peak-flow information:

Number of systematic peak flows in record	25	
Systematic period begins	1950	
Systematic period ends	2000	
Length of systematic record	51	
Years without information	26	
Peak flows not used in analysis	1	
Number of historical peak flows in record	1	1957

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.192
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:

Mean	Standard deviation	Skewness
3.1236	0.3814	-1.355

Outlier criteria and number of peak flows exceeding:

Low	149.8	1
High	8160.7	0

Expected moments algorithm (EMA) Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
3.1339	0.3506	-0.501

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	NA	NA	NA
0.9900	NA	NA	NA
0.9500	325	88.5	527
0.9000	468	189.0	712
0.8000	709	389.0	1,020
0.6667	1,020	652.0	1,420
0.5000	1,460	1,010.0	2,010
0.4292	1,680	1,180.0	2,310
0.2000	2,720	1,980.0	3,920
0.1000	3,630	2,640.0	5,680
0.0400	4,820	3,420.0	8,730
0.0200	5,710	3,920.0	11,600
0.0100	6,590	4,340.0	15,200
0.0050	7,460	4,690.0	19,500
0.0020	8,590	5,060.0	26,500

Peak-flow data used in the analysis:

Explanation of symbols and codes

−−	none
H	Historic, outside of systematic record
∗	Less than low-outlier threshold

Water year	Peak flow	Peak-flow code
1950	1,060	−−
1951	2,380	−−
1952	3,130	−−
1953	2,260	−−
1954	404	−−
1957	6,970	H
1981	1,370	−−
1982	1,290	−−
1983	830	−−
1984	2,500	−−
1985	1,430	−−
1986	2,070	−−
1987	870	−−
1988	90	∗
1989	825	−−
1990	3,700	−−
1991	1,540	−−
1992	2,000	−−
1993	2,400	−−
1994	1,450	−−
1995	1,100	−−
1996	1,570	−−
1997	5,500	−−
1998	2,860	−−
1999	250	−−
2000	905	−−