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

Streamgage number and name:
    05316580 Minnesota River at Morton, Minn.

Peak-flow information:

Number of systematic peak flows in record	11
Systematic period begins	2001
Systematic period ends	2011
Length of systematic record	11
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	STATION SKEW
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
4.1102	0.3251	0.526

Outlier criteria and number of peak flows exceeding:

Low	2700.1	0
High	61506.3	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
4.1102	0.3251	0.526

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	2,710	978	4,600
0.9900	3,030	1,160	5,030
0.9500	4,250	1,920	6,630
0.9000	5,200	2,590	7,860
0.8000	6,790	3,780	9,960
0.6667	8,890	5,460	12,900
0.5000	12,100	8,010	17,800
0.4292	13,800	9,350	20,800
0.2000	23,600	16,100	41,600
0.1000	34,700	22,700	72,500
0.0400	54,200	32,700	141,000
0.0200	73,400	41,600	223,000
0.0100	97,600	51,800	346,000
0.0050	128,000	63,800	526,000
0.0020	180,000	82,500	891,000

Peak-flow data used in the analysis:

Explanation of symbols and codes

  −−   none

Water year	Peak flow	Peak-flow code
2001	45,400	−−
2002	6,740	−−
2003	4,400	−−
2004	10,000	−−
2005	7,730	−−
2006	10,700	−−
2007	9,820	−−
2008	8,110	−−
2009	17,500	−−
2010	31,500	−−
2011	33,300	−−