

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05242300 Mississippi River at Brainerd, Minn.

Peak-flow information:

Number of systematic peak flows in record	24
Systematic period begins	1988
Systematic period ends	2011
Length of systematic record	24
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:

	Standard		
Mean	deviation	Skewness	
3.9663	0.1447	-0.199	

Outlier criteria and number of peak flows exceeding:

Low	4067.9	0
High	21048.8	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
3.9663	0.1447	-0.199

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	3,690	2,670	4,530
0.9900	4,060	3,030	4,910
0.9500	5,250	4,210	6,110
0.9000	6,000	4,970	6,860
0.8000	7,020	6,020	7,900
0.6667	8,090	7,110	9,050
0.5000	9,360	8,340	10,500
0.4292	9,920	8,870	11,200
0.2000	12,300	10,900	14,300
0.1000	14,100	12,300	16,900
0.0400	16,200	13,900	20,200
0.0200	17,700	15,000	22,600
0.0100	19,100	16,100	24,900
0.0050	20,500	17,000	27,300
0.0020	22,300	18,300	30,400

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1988	6,220	--
1989	10,800	--
1990	9,250	--
1991	9,710	--
1992	7,530	--
1993	12,200	--
1994	10,300	--
1995	8,880	--
1996	14,000	--
1997	15,400	--
1998	8,380	--
1999	13,000	--
2000	7,330	--
2001	17,500	--
2002	10,100	--
2003	5,300	--
2004	6,020	--
2005	10,100	--
2006	9,390	--
2007	5,180	--
2008	10,900	--
2009	11,400	--
2010	5,350	--
2011	9,660	--