

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

06483000 Rock River at Luverne, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	42
Systematic period begins	1912
Systematic period ends	2011
Length of systematic record	100
Years without information	58
Peak flows not used in analysis	1
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.242
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
	3.3824	0.4487	0.385

**Outlier criteria and number of peak flows exceeding:**

Low	148.2	0
High	39260.3	0

**Bulletin 17B Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
3.3824	0.4487	0.101

**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	186	98.2	295	--	--	--
0.9900	236	130.0	363	--	--	--
0.9500	454	284.0	648	--	--	--
0.9000	649	432.0	893	--	--	--
0.8000	1,010	714.0	1,340	--	--	--
0.6667	1,520	1,130.0	1,990	--	--	--
0.5000	2,370	1,820.0	3,090	2,080	1,610	2,700
0.4292	2,850	2,190.0	3,750	--	--	--
0.2000	5,720	4,310.0	8,060	5,050	3,800	6,710
0.1000	9,160	6,650.0	13,800	7,950	5,710	11,100
0.0400	15,200	10,500.0	25,200	12,100	8,080	18,000
0.0200	21,300	14,100.0	37,400	17,600	11,000	28,400
0.0100	28,800	18,300.0	53,600	21,900	12,600	38,100
0.0050	38,100	23,400.0	75,000	--	--	--
0.0020	53,600	31,400.0	113,000	41,300	20,100	85,000

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

-- none

H Historic, outside of systematic record

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1912	2,000	--	1989	1,250	--
1913	434	--	1990	965	--
1914	11,600	--	1991	300	--
			1992	2,600	--
1969	19,500	H	1993	35,400	--
			1994	4,260	--
1972	3,000	--	1995	3,550	--
1973	1,800	--	1996	1,690	--
1974	595	--	1997	13,600	--
1975	1,750	--	1998	1,080	--
1976	980	--	1999	1,670	--
1977	2,550	--	2000	2,600	--
1978	2,980	--	2001	11,900	--
1979	2,950	--	Gap in systematic record		
1980	2,675	--	2003	1,410	--
1981	628	--	2004	3,240	--
1982	870	--	2005	2,050	--
1983	2,675	--	2006	5,410	--
1984	5,650	--	2007	10,900	--
1985	3,750	--	2008	1,300	--
1986	6,400	--	2009	520	--
1987	1,350	--	2010	14,700	--
1988	960	--	2011	3,800	--