

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05244440 Leaf River near Aldrich, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	40
Systematic period begins	1972
Systematic period ends	2011
Length of systematic record	40
Years without information	0
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.026
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
3.2580	0.2790	-0.319

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

Low	323.3	0
High	10146.1	0

**Bulletin 17B Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
3.2580	0.2790	-0.186

**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	310	198	425	--	--	--
0.9900	372	248	499	--	--	--
0.9500	609	447	768	--	--	--
0.9000	786	603	964	--	--	--
0.8000	1,060	854	1,270	--	--	--
0.6667	1,400	1,160	1,650	--	--	--
0.5000	1,850	1,560	2,190	1,900	1,560	2,320
0.4292	2,070	1,750	2,470	--	--	--
0.2000	3,130	2,610	3,890	3,210	2,600	3,960
0.1000	4,070	3,330	5,280	4,220	3,330	5,350
0.0400	5,350	4,250	7,280	5,620	4,220	7,490
0.0200	6,350	4,940	8,930	6,730	4,840	9,360
0.0100	7,390	5,640	10,700	7,930	5,440	11,600
0.0050	8,470	6,360	12,600	--	--	--
0.0020	9,960	7,310	15,300	11,000	6,740	17,900

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

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1972	3,250	--	1992	878	--
1973	1,430	--	1993	1,700	--
1974	4,440	--	1994	2,300	--
1975	3,950	--	1995	2,100	--
1976	950	--	1996	2,970	--
1977	450	--	1997	3,800	--
1978	2,410	--	1998	1,100	--
1979	5,170	--	1999	2,680	--
1980	2,060	--	2000	1,610	--
1981	400	--	2001	5,800	--
1982	3,910	--	2002	1,580	--
1983	1,330	--	2003	988	--
1984	1,580	--	2004	940	--
1985	2,500	--	2005	1,610	--
1986	3,260	--	2006	3,080	--
1987	1,120	--	2007	1,720	--
1988	633	--	2008	1,240	--
1989	1,780	--	2009	4,000	--
1990	930	--	2010	1,980	--
1991	1,030	--	2011	2,610	--