

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05078230 Lost River at Oklee, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	51
Systematic period begins	1961
Systematic period ends	2011
Length of systematic record	51
Years without information	0
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.45
Standard error of generalized skew	0.4266
Low-outlier method	Fixed Threshold

**EMA systematic record analysis results:**

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

	Standard	
Mean	deviation	Skewness
3.0628	0.3158	-0.811

**Low-outlier information:**

Number of low outliers	1
Low-outlier threshold	246

**Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
3.0632	0.3145	-0.641

**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	116	20.1	206	--	--	--
0.9900	154	34.0	254	--	--	--
0.9500	313	135.0	440	--	--	--
0.9000	441	248.0	587	--	--	--
0.8000	650	449.0	827	--	--	--
0.6667	907	692.0	1,120	--	--	--
0.5000	1,250	999.0	1,530	1,180	974	1,440
0.4292	1,410	1,140.0	1,730	--	--	--
0.2000	2,150	1,770.0	2,650	2,090	1,740	2,500
0.1000	2,750	2,260.0	3,490	2,680	2,210	3,260
0.0400	3,460	2,800.0	4,740	3,410	2,690	4,320
0.0200	3,950	3,110.0	5,770	3,920	2,970	5,180
0.0100	4,420	3,350.0	6,890	4,420	3,200	6,110
0.0050	4,850	3,540.0	8,120	--	--	--
0.0020	5,380	3,720.0	9,950	5,550	3,610	8,540

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

Explanation of symbols and codes

-- none

\* Less than low-outlier threshold

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1961	279	--	1987	661	--
1962	1,490	--	1988	620	--
1963	355	--	1989	940	--
1964	472	--	1990	134	*
1965	1,780	--	1991	247	--
1966	2,240	--	1992	500	--
1967	2,880	--	1993	1,000	--
1968	551	--	1994	1,270	--
1969	3,210	--	1995	900	--
1970	2,300	--	1996	2,790	--
1971	1,430	--	1997	2,030	--
1972	2,070	--	1998	1,850	--
1973	1,030	--	1999	1,510	--
1974	2,270	--	2000	1,140	--
1975	2,120	--	2001	2,040	--
1976	920	--	2002	833	--
1977	855	--	2003	1,240	--
1978	3,140	--	2004	558	--
1979	2,140	--	2005	1,710	--
1980	670	--	2006	2,040	--
1981	1,560	--	2007	1,530	--
1982	1,320	--	2008	342	--
1983	520	--	2009	2,800	--
1984	626	--	2010	2,180	--
1985	2,320	--	2011	1,770	--
1986	1,720	--			