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

Streamgage number and name:
05131500 Little Fork River at Littlefork, Minn.

Peak-flow information:

Number of systematic peak flows in record	91
Systematic period begins	1910
Systematic period ends	2011
Length of systematic record	102
Years without information	11
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.226
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:

Mean	Standard deviation	Skewness
3.9434	0.2331	-0.264

Outlier criteria and number of peak flows exceeding:

Low	1770.0	0
High	43540.8	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
3.9434	0.2331	-0.253

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	1,940	1,540	2,340	−−	−−	−−
0.9900	2,280	1,840	2,710	−−	−−	−−
0.9500	3,500	2,980	4,000	−−	−−	−−
0.9000	4,360	3,790	4,900	−−	−−	−−
0.8000	5,630	5,020	6,240	−−	−−	−−
0.6667	7,100	6,420	7,800	−−	−−	−−
0.5000	8,980	8,180	9,860	8,940	7,970	10,000
0.4292	9,870	9,000	10,900	−−	−−	−−
0.2000	13,900	12,500	15,600	13,800	12,300	15,600
0.1000	17,200	15,300	19,700	17,200	15,000	19,600
0.0400	21,400	18,800	25,100	21,400	18,200	25,200
0.0200	24,500	21,300	29,200	24,500	20,200	29,800
0.0100	27,700	23,700	33,400	27,700	22,000	34,700
0.0050	30,800	26,200	37,600	−−	−−	−−
0.0020	34,900	29,300	43,400	35,000	25,600	47,700

Peak-flow data used in the analysis:
Explanation of symbols and codes
   −−   none

Water year	Peak flow	Peak-flow code	Water year	Peak flow	Peak-flow code
1910	5,000	−−	1958	3,160	−−
1911	3,760	−−	1959	5,140	−−
1912	3,310	−−	1960	8,500	−−
1913	6,420	−−	1961	9,120	−−
1914	6,720	−−	1962	13,500	−−
1915	10,000	−−	1963	8,790	−−
1916	25,000	−−	1964	11,600	−−
1917	4,580	−−	1965	11,400	−−
Gap in systematic record			1966	14,700	−−
1929	4,220	−−	1967	6,880	−−
1930	7,180	−−	1968	5,790	−−
1931	4,030	−−	1969	20,600	−−
1932	6,720	−−	1970	17,300	−−
1933	8,140	−−	1971	15,000	−−
1934	6,880	−−	1972	13,700	−−
1935	8,080	−−	1973	3,760	−−
1936	9,090	−−	1974	14,700	−−
1937	17,500	−−	1975	17,300	−−
1938	18,300	−−	1976	9,600	−−
1939	5,500	−−	1977	8,990	−−
1940	13,300	−−	1978	11,400	−−
1941	14,700	−−	1979	20,600	−−
1942	7,360	−−	1980	5,600	−−
1943	10,600	−−	1981	6,160	−−
1944	10,500	−−	1982	12,800	−−
1945	10,300	−−	1983	5,600	−−
1946	7,600	−−	1984	9,590	−−
1947	11,200	−−	1985	19,900	−−
1948	14,500	−−	1986	9,350	−−
1949	9,200	−−	1987	6,520	−−
1950	25,000	−−	1988	11,800	−−
1951	14,400	−−	1989	13,700	−−
1952	10,300	−−	1990	5,480	−−
1953	6,930	−−	1991	5,550	−−
1954	16,700	−−	1992	4,690	−−
1955	7,740	−−	1993	6,580	−−
1956	9,410	−−	1994	6,900	−−
1957	15,600	−−	1995	3,040	−−

Water year	Peak flow	Peak-flow code
1996	14,300	––
1997	12,400	––
1998	4,370	––
1999	12,000	––
2000	3,590	––
2001	19,600	––
2002	7,690	––
2003	2,190	––
2004	6,880	––
2005	13,800	––
2006	10,600	––
2007	3,690	––
2008	11,500	––
2009	9,220	––
2010	3,720	––
2011	17,600	––