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

Streamgage number and name:

05062500 Wild Rice River at Twin Valley, Minn.

Peak-flow information:

Number of systematic peak flows in record	91
Systematic period begins	1909
Systematic period ends	2011
Length of systematic record	103
Years without information	12
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.387
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
3.1878	0.4180	-0.209

Outlier criteria and number of peak flows exceeding:

Low	87.2	0
High	27238.3	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
3.1878	0.4180	-0.258

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	102	67.4	143	––	––	––
0.9900	137	93.6	186	––	––	––
0.9500	296	221.0	376	––	––	––
0.9000	438	342.0	541	––	––	––
0.8000	695	566.0	834	––	––	––
0.6667	1,050	881.0	1,250	––	––	––
0.5000	1,610	1,360.0	1,900	1,600	1,310	1,950
0.4292	1,900	1,610.0	2,260	––	––	––
0.2000	3,500	2,910.0	4,310	3,400	2,780	4,170
0.1000	5,140	4,180.0	6,550	4,920	3,920	6,160
0.0400	7,610	6,010.0	10,100	7,090	5,380	9,340
0.0200	9,720	7,520.0	13,300	8,810	6,370	12,200
0.0100	12,000	9,150.0	16,900	10,600	7,280	15,400
0.0050	14,600	10,900.0	20,900	––	––	––
0.0020	18,200	13,300.0	26,900	14,800	9,020	24,300

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
1909	9,200	−−	1959	451	−−
1910	1,610	−−	1960	716	−−
1911	473	−−	1961	847	−−
1912	758	−−	1962	2,760	−−
1913	1,610	−−	1963	1,680	−−
1914	1,120	−−	1964	1,640	−−
1915	2,240	−−	1965	3,160	−−
1916	1,670	−−	1966	2,120	−−
1917	719	−−	1967	1,710	−−
Gap in systematic record			1968	594	−−
1931	112	−−	1969	4,850	−−
1932	358	−−	1970	1,740	−−
1933	450	−−	1971	1,060	−−
1934	266	−−	1972	2,220	−−
1935	216	−−	1973	1,670	−−
1936	2,490	−−	1974	3,890	−−
1937	301	−−	1975	3,660	−−
1938	836	−−	1976	1,250	−−
1939	459	−−	1977	146	−−
1940	1,100	−−	1978	6,470	−−
1941	828	−−	1979	6,010	−−
1942	1,550	−−	1980	1,080	−−
1943	4,120	−−	1981	295	−−
1944	1,560	−−	1982	1,200	−−
1945	1,520	−−	1983	635	−−
1946	1,490	−−	1984	1,370	−−
1947	2,510	−−	1985	4,100	−−
1948	916	−−	1986	1,960	−−
1949	1,610	−−	1987	1,280	−−
1950	4,380	−−	1988	711	−−
1951	1,820	−−	1989	5,260	−−
1952	1,810	−−	1990	1,090	−−
1953	1,170	−−	1991	682	−−
1954	1,390	−−	1992	791	−−
1955	927	−−	1993	3,980	−−
1956	1,380	−−	1994	1,810	−−
1957	814	−−	1995	2,500	−−
1958	294	−−	1996	3,700	−−

Water year	Peak flow	Peak-flow code
1997	10,000	−−
1998	3,020	−−
1999	2,480	−−
2000	5,340	−−
2001	5,250	−−
2002	20,300	−−
2003	1,400	−−
2004	2,500	−−
2005	3,140	−−
2006	5,400	−−
2007	3,700	−−
2008	1,770	−−
2009	6,700	−−
2010	4,000	−−
2011	3,910	−−