

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

04015300 Little Stewart River near Two Harbors, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	41
Systematic period begins	1960
Systematic period ends	2000
Length of systematic record	41
Years without information	0
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.5
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
	2.2459	0.2093	0.228

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

Low	48.1	0
High	644.8	0

**Bulletin 17B Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
2.2459	0.2093	0.347

**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	59.5	45.0	73.0	--	--	--
0.9900	65.0	50.0	78.8	--	--	--
0.9500	83.8	67.6	98.7	--	--	--
0.9000	96.9	80.1	112.0	--	--	--
0.8000	117.0	99.2	133.0	--	--	--
0.6667	140.0	122.0	159.0	--	--	--
0.5000	171.0	151.0	194.0	173	149	201
0.4292	187.0	165.0	212.0	--	--	--
0.2000	262.0	229.0	307.0	267	222	321
0.1000	332.0	285.0	404.0	344	275	430
0.0400	433.0	361.0	552.0	462	346	616
0.0200	517.0	422.0	683.0	570	406	800
0.0100	610.0	488.0	833.0	697	471	1,030
0.0050	713.0	558.0	1,000.0	--	--	--
0.0020	865.0	658.0	1,270.0	1,090	649	1,820

### 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
1960	140	--	1981	200	--
1961	200	--	1982	135	--
1962	118	--	1983	100	--
1963	65	--	1984	109	--
1964	260	--	1985	110	--
1965	161	--	1986	113	--
1966	139	--	1987	160	--
1967	171	--	1988	165	--
1968	243	--	1989	144	--
1969	176	--	1990	94	--
1970	185	--	1991	105	--
1971	207	--	1992	158	--
1972	598	--	1993	255	--
1973	206	--	1994	187	--
1974	362	--	1995	235	--
1975	245	--	1996	263	--
1976	143	--	1997	214	--
1977	377	--	1998	59	--
1978	212	--	1999	320	--
1979	500	--	2000	144	--
1980	148	--			