

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

04011390 Little Devil Track River tributary near Grand Marais, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	16
Systematic period begins	1966
Systematic period ends	1981
Length of systematic record	16
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
	1.1374	0.3589	0.475

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

Low	2.1	0
High	90.2	0

**Bulletin 17B Final analysis results:**

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

	Standard		
Mean	deviation	Skewness	
1.1374	0.3589	0.491	

**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	2.4	1.0	4.0	--	--	--
0.9900	2.7	1.2	4.4	--	--	--
0.9500	4.0	2.1	6.1	--	--	--
0.9000	5.0	2.8	7.4	--	--	--
0.8000	6.8	4.1	9.7	--	--	--
0.6667	9.1	6.0	12.8	--	--	--
0.5000	12.8	8.9	18.2	15.5	10.8	22.4
0.4292	14.9	10.5	21.4	--	--	--
0.2000	26.8	18.8	43.5	34.5	21.9	54.3
0.1000	40.9	27.5	75.7	56.0	32.9	95.2
0.0400	66.4	41.3	146.0	97.6	52.1	183.0
0.0200	92.3	54.1	230.0	141.0	70.6	283.0
0.0100	126.0	69.4	353.0	198.0	93.0	421.0
0.0050	168.0	87.6	531.0	--	--	--
0.0020	243.0	117.0	889.0	391.0	161.0	950.0

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

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1966	5.3	--
1967	40.0	--
1968	6.4	--
1969	19.0	--
1970	19.0	--
1971	28.0	--
1972	15.0	--
1973	6.1	--
1974	8.9	--
1975	3.8	--
1976	7.7	--
1977	77.0	--
1978	11.0	--
1979	37.0	--
1980	14.0	--
1981	11.0	--