

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

04015360 Lake Superior tributary number 2 at French River, Minn.

Peak-flow information:

Number of systematic peak flows in record	18
Systematic period begins	1964
Systematic period ends	1981
Length of systematic record	18
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:

	Standard	
Mean	deviation	Skewness
2.1840	0.3876	0.414

Outlier criteria and number of peak flows exceeding:

Low	19.0	0
High	1227.8	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.1840	0.3876	0.468	

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	22.7	9.7	38.2	--	--	--
0.9900	26.1	11.7	43.0	--	--	--
0.9500	40.0	20.6	61.5	--	--	--
0.9000	51.4	28.6	76.4	--	--	--
0.8000	71.1	43.3	102.0	--	--	--
0.6667	98.7	64.7	140.0	--	--	--
0.5000	142.0	98.7	203.0	120	83.1	175
0.4292	167.0	117.0	242.0	--	--	--
0.2000	315.0	220.0	512.0	243	154.0	383
0.1000	497.0	330.0	917.0	347	203.0	592
0.0400	833.0	512.0	1,820.0	501	267.0	941
0.0200	1,180.0	686.0	2,920.0	641	319.0	1,290
0.0100	1,650.0	897.0	4,560.0	805	377.0	1,720
0.0050	2,250.0	1,150.0	6,970.0	--	--	--
0.0020	3,320.0	1,580.0	11,900.0	1,330	543.0	3,240

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1964	337	--
1965	64	--
1966	69	--
1967	276	--
1968	109	--
1969	75	--
1970	69	--
1971	80	--
1972	748	--
1973	68	--
1974	282	--
1975	94	--
1976	51	--
1977	283	--
1978	300	--
1979	550	--
1980	500	--
1981	69	--