

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05340050 Sunrise River near Lindstrom, Minn.

Peak-flow information:

Number of systematic peak flows in record	20
Systematic period begins	1966
Systematic period ends	1985
Length of systematic record	20
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.236
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	
2.5885	0.1527	0.004	

Outlier criteria and number of peak flows exceeding:

Low	167.6	0
High	896.8	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.5885	0.1527	-0.134

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	150	103	189	--	--	--
0.9900	165	117	205	--	--	--
0.9500	215	165	255	--	--	--
0.9000	246	197	286	--	--	--
0.8000	289	241	331	--	--	--
0.6667	335	288	382	--	--	--
0.5000	391	342	447	397	340	463
0.4292	416	365	479	--	--	--
0.2000	522	456	627	532	450	629
0.1000	605	520	754	622	513	753
0.0400	706	594	919	733	583	923
0.0200	778	645	1,040	816	627	1,060
0.0100	849	693	1,170	899	668	1,210
0.0050	918	740	1,300	--	--	--
0.0020	1,010	799	1,470	1,100	749	1,600

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1966	361	--
1967	508	--
1968	335	--
1969	704	--
1970	304	--
1971	365	--
1972	234	--
1973	285	--
1974	380	--
1975	745	--
1976	558	--
1977	185	--
1978	392	--
1979	420	--
1980	303	--
1981	280	--
1982	448	--
1983	586	--
1984	421	--
1985	408	--