

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05126000 Dunka River near Babbitt, Minn.

Peak-flow information:

Number of systematic peak flows in record	16
Systematic period begins	1952
Systematic period ends	1980
Length of systematic record	29
Years without information	13
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.153
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
2.5196	0.2258	0.218

Outlier criteria and number of peak flows exceeding:

Low	101.2	0
High	1081.9	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.5196	0.2258	0.176

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	94.5	52.1	134	--	--	--
0.9900	106.0	60.8	146	--	--	--
0.9500	144.0	93.5	190	--	--	--
0.9000	172.0	118.0	220	--	--	--
0.8000	213.0	156.0	266	--	--	--
0.6667	261.0	201.0	324	--	--	--
0.5000	326.0	260.0	407	380	296	487
0.4292	358.0	288.0	452	--	--	--
0.2000	510.0	408.0	694	618	462	828
0.1000	650.0	507.0	954	835	593	1,180
0.0400	848.0	634.0	1,360	1,200	794	1,820
0.0200	1,010.0	733.0	1,740	1,550	969	2,480
0.0100	1,190.0	835.0	2,170	1,970	1,170	3,320
0.0050	1,380.0	941.0	2,670	--	--	--
0.0020	1,650.0	1,090.0	3,450	3,250	1,700	6,210

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1952	379	--
1953	261	--
1954	691	--
1955	281	--
1956	272	--
1957	641	--
1958	185	--
1959	192	--
1960	363	--
1961	487	--
1962	371	--
Gap in systematic record		
1976	396	--
1977	175	--
1978	311	--
1979	876	--
1980	140	--