

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05320440 Judicial Ditch Number 49 near Amboy, Minn.

Peak-flow information:

Number of systematic peak flows in record	14
Systematic period begins	1959
Systematic period ends	1972
Length of systematic record	14
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.141
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
2.3100	0.3408	0.492

Outlier criteria and number of peak flows exceeding:

Low	36.0	0
High	1159.5	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.3100	0.3408	0.060

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	28.3	10.1	50.0	--	--	--
0.9900	34.1	13.2	58.0	--	--	--
0.9500	56.9	27.3	88.3	--	--	--
0.9000	75.1	40.0	112.0	--	--	--
0.8000	105.0	63.0	151.0	--	--	--
0.6667	145.0	94.6	204.0	--	--	--
0.5000	203.0	140.0	291.0	209	142	307
0.4292	233.0	164.0	342.0	--	--	--
0.2000	394.0	276.0	658.0	419	276	635
0.1000	561.0	377.0	1,060.0	608	383	967
0.0400	820.0	519.0	1,790.0	908	534	1,540
0.0200	1,050.0	635.0	2,540.0	1,170	649	2,110
0.0100	1,310.0	760.0	3,490.0	1,480	778	2,810
0.0050	1,610.0	895.0	4,690.0	--	--	--
0.0020	2,070.0	1,090.0	6,730.0	2,320	1,070	5,050

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1959	56	--
1960	1,110	--
1961	206	--
1962	202	--
1963	130	--
1964	100	--
1965	480	--
1966	144	--
1967	450	--
1968	288	--
1969	314	--
1970	133	--
1971	207	--
1972	84	--