

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05078180 Silver Creek near Clearbrook, Minn.

Peak-flow information:

Number of systematic peak flows in record	26
Systematic period begins	1960
Systematic period ends	1985
Length of systematic record	26
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.4
Standard error of generalized skew	0.4266
Low-outlier method	Single Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.6738	0.4074	-1.410

Low-outlier information:

Number of low outliers	1
Low-outlier threshold	5.4

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.6769	0.3958	-0.877

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	2.18	0.07	5.80	--	--	--
0.9900	3.25	0.18	7.67	--	--	--
0.9500	8.77	1.31	16.00	--	--	--
0.9000	14.00	3.28	23.10	--	--	--
0.8000	23.50	10.20	35.60	--	--	--
0.6667	36.20	20.80	52.20	--	--	--
0.5000	54.20	35.60	76.20	64.4	47.5	87.2
0.4292	63.10	42.80	88.40	--	--	--
0.2000	104.00	74.70	148.00	133.0	101.0	176.0
0.1000	136.00	99.30	206.00	186.0	138.0	249.0
0.0400	173.00	125.00	294.00	264.0	187.0	374.0
0.0200	197.00	139.00	369.00	338.0	228.0	501.0
0.0100	219.00	148.00	452.00	425.0	273.0	663.0
0.0050	238.00	154.00	547.00	--	--	--
0.0020	260.00	159.00	698.00	677.0	387.0	1,180.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

* Less than low-outlier threshold

Water	Peak	Peak-flow
year	flow	code
1960	33.0	--
1961	5.4	--
1962	132.0	--
1963	81.0	--
1964	21.0	--
1965	98.0	--
1966	33.0	--
1967	109.0	--
1968	63.0	--
1969	56.0	--
1970	40.0	--
1971	46.0	--
1972	67.0	--
1973	94.0	--
1974	57.0	--
1975	81.0	--
1976	42.0	--
1977	3.5	*
1978	72.0	--
1979	77.0	--
1980	35.0	--
1981	16.0	--
1982	72.0	--
1983	58.0	--
1984	47.0	--
1985	194.0	--