

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05276100 North Fork Crow River tributary near Paynesville, 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	-0.14
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:

	Mean	Standard deviation	Skewness
	1.2662	0.3393	-0.187

Low-outlier information:

Number of low outliers	1
Low-outlier threshold	5.3

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.2663	0.3390	-0.158

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	2.20	0.37	3.99	--	--	--
0.9900	2.75	0.60	4.68	--	--	--
0.9500	4.94	2.04	7.44	--	--	--
0.9000	6.71	3.50	9.68	--	--	--
0.8000	9.64	6.03	13.40	--	--	--
0.6667	13.40	9.19	18.40	--	--	--
0.5000	18.80	13.50	26.00	19.3	14.3	25.9
0.4292	21.60	15.70	30.00	--	--	--
0.2000	35.80	26.00	53.40	37.8	27.7	51.5
0.1000	49.50	35.30	82.50	53.8	38.2	75.9
0.0400	69.30	47.50	141.00	78.8	52.7	118.0
0.0200	85.80	56.50	205.00	101.0	63.7	159.0
0.0100	104.00	65.20	294.00	126.0	75.9	210.0
0.0050	123.00	73.40	414.00	--	--	--
0.0020	150.00	83.70	639.00	197.0	104.0	373.0

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	48.0	--
1961	13.0	--
1962	10.0	--
1963	5.3	--
1964	6.7	--
1965	31.0	--
1966	68.0	--
1967	21.0	--
1968	2.1	*
1969	15.0	--
1970	29.0	--
1971	23.0	--
1972	46.0	--
1973	9.0	--
1974	6.8	--
1975	21.0	--
1976	12.0	--
1977	41.0	--
1978	23.0	--
1979	39.0	--
1980	14.0	--
1981	36.0	--
1982	12.0	--
1983	64.0	--
1984	21.0	--
1985	11.0	--