

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05278350 Fountain Creek near Montrose, Minn.

Peak-flow information:

Number of systematic peak flows in record	24
Systematic period begins	1962
Systematic period ends	1991
Length of systematic record	30
Years without information	6
Number of historical peak flows in record	1 1991

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.17
Standard error of generalized skew	0.4266
Low-outlier method	Multiple Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.7186	0.2234	0.765

Low-outlier information:

Number of low outliers	0
Low-outlier threshold	Not determined

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
1.7198	0.2253	0.171	

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	15.0	6.50	21.2	--	--	--
0.9900	16.8	8.16	23.0	--	--	--
0.9500	22.9	14.60	29.5	--	--	--
0.9000	27.3	19.10	34.4	--	--	--
0.8000	33.8	25.60	42.1	--	--	--
0.6667	41.5	32.70	51.6	--	--	--
0.5000	51.7	41.40	65.0	50.9	41.5	62.5
0.4292	56.7	45.60	71.9	--	--	--
0.2000	80.8	64.10	109.0	80.3	63.3	102.0
0.1000	103.0	79.50	152.0	104.0	78.4	137.0
0.0400	134.0	99.30	233.0	138.0	98.1	194.0
0.0200	160.0	114.00	319.0	167.0	113.0	248.0
0.0100	187.0	129.00	436.0	201.0	129.0	313.0
0.0050	217.0	143.00	594.0	--	--	--
0.0020	260.0	162.00	887.0	294.0	166.0	518.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

H Historic, outside of systematic record

Water	Peak	Peak-flow
year	flow	code
1962	109	--
1963	32	--
1964	33	--
1965	95	--
1966	38	--
1967	73	--
1968	36	--
1969	63	--
1970	29	--
1971	60	--
1972	81	--
1973	28	--
1974	60	--
1975	47	--
1976	43	--
1977	30	--
1978	132	--
1979	63	--
1980	32	--
1981	28	--
1982	52	--
1983	64	--
1984	37	--
1985	57	--
1991	202	H