

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05278750 Otter Creek tributary near Lester Prairie, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	28
Systematic period begins	1962
Systematic period ends	1991
Length of systematic record	30
Years without information	2
Number of historical peak flows in record	1 1991

**Frequency analysis options:**

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.15
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
1.4275	0.2917	-0.900

**Low-outlier information:**

Number of low outliers	1
Low-outlier threshold	6.6

**Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
1.4288	0.2858	-0.431

**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	3.78	0.66	6.64	--	--	--
0.9900	4.73	1.02	7.80	--	--	--
0.9500	8.44	3.41	12.20	--	--	--
0.9000	11.30	5.95	15.50	--	--	--
0.8000	15.70	10.20	20.80	--	--	--
0.6667	21.10	15.10	27.20	--	--	--
0.5000	28.10	21.30	36.00	28.2	22.2	35.8
0.4292	31.60	24.20	40.40	--	--	--
0.2000	47.10	36.90	62.10	48.1	38.0	60.9
0.1000	60.20	46.90	84.30	62.7	48.5	81.0
0.0400	76.60	58.50	120.00	82.7	61.1	112.0
0.0200	88.70	66.00	153.00	98.5	69.8	139.0
0.0100	101.00	72.30	191.00	116.0	78.6	171.0
0.0050	112.00	77.60	235.00	--	--	--
0.0020	127.00	83.20	305.00	160.0	97.1	265.0

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

- none
- H Historic, outside of systematic record
- \* Less than low-outlier threshold

Water	Peak	Peak-flow
year	flow	code
1962	79.0	--
1963	21.0	--
1964	26.0	--
1965	87.0	--
1966	41.0	--
1967	23.0	--
1968	12.0	--
1969	31.0	--
1970	27.0	--
1971	30.0	--
1972	29.0	--
1973	31.0	--
1974	31.0	--
1975	31.0	--
1976	6.6	--
1977	22.0	--
1978	69.0	--
1979	28.0	--
1980	42.0	--
1981	32.0	--
1982	21.0	--
1983	29.0	--
1984	9.5	--
1985	35.0	--
1986	40.0	--
1987	13.0	--
1988	3.0	*
1989	31.0	--
1991	58.0	H