

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05271800 Johnson Creek tributary at Luxemburg, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	26
Systematic period begins	1964
Systematic period ends	1989
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	-0.17
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
1.5204	0.3300	0.400

**Low-outlier information:**

Number of low outliers	1
Low-outlier threshold	11

**Final analysis results:**

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

	Standard		
Mean	deviation	Skewness	
1.5189	0.3331	0.055	

**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	4.77	1.16	8.05	--	--	--
0.9900	5.72	1.73	9.18	--	--	--
0.9500	9.47	4.60	13.80	--	--	--
0.9000	12.40	7.19	17.50	--	--	--
0.8000	17.30	11.40	23.80	--	--	--
0.6667	23.60	16.70	32.20	--	--	--
0.5000	32.80	23.80	45.30	33.2	25.2	43.7
0.4292	37.60	27.50	52.60	--	--	--
0.2000	62.80	45.40	96.90	62.7	45.9	85.8
0.1000	88.60	62.30	157.00	87.7	61.3	126.0
0.0400	128.00	85.50	292.00	125.0	81.2	192.0
0.0200	163.00	104.00	459.00	156.0	95.9	253.0
0.0100	203.00	122.00	711.00	190.0	111.0	328.0
0.0050	248.00	141.00	1,090.00	--	--	--
0.0020	316.00	167.00	1,880.00	283.0	145.0	552.0

### 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
1964	29	--
1965	125	--
1966	23	--
1967	39	--
1968	14	--
1969	52	--
1970	54	--
1971	49	--
1972	26	--
1973	13	--
1974	11	--
1975	35	--
1976	30	--
1977	46	--
1978	19	--
1979	72	--
1980	40	--
1981	22	--
1982	48	--
1983	90	--
1984	35	--
1985	218	--
1986	32	--
1987	11	--
1988	4	*
1989	25	--