

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05272000 Johnson Creek tributary number 2 near St. Augusta, Minn.

Peak-flow information:

Number of systematic peak flows in record	20
Systematic period begins	1964
Systematic period ends	1983
Length of systematic record	20
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.181
Standard error of generalized skew	0.426
Low-outlier method	Bulletin 17B Grubbs-Beck test

Bulletin 17B systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.9185	0.2812	-0.069

Outlier criteria and number of peak flows exceeding:

Low	17.7	0
High	388.2	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.9185	0.2812	-0.134

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	14.4	7.2	22.1	--	--	--
0.9900	17.3	9.1	25.6	--	--	--
0.9500	27.9	17.2	38.2	--	--	--
0.9000	35.8	23.8	47.5	--	--	--
0.8000	48.3	34.6	62.0	--	--	--
0.6667	63.5	48.0	80.5	--	--	--
0.5000	84.1	65.7	108.0	81.1	62.2	106
0.4292	94.3	74.2	122.0	--	--	--
0.2000	144.0	112.0	201.0	139.0	104.0	186
0.1000	188.0	142.0	282.0	183.0	132.0	253
0.0400	250.0	182.0	406.0	242.0	165.0	357
0.0200	299.0	212.0	514.0	290.0	188.0	447
0.0100	351.0	242.0	634.0	341.0	210.0	553
0.0050	405.0	272.0	768.0	--	--	--
0.0020	481.0	314.0	966.0	471.0	259.0	858

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1964	39	--
1965	274	--
1966	108	--
1967	88	--
1968	38	--
1969	196	--
1970	25	--
1971	57	--
1972	56	--
1973	41	--
1974	39	--
1975	188	--
1976	52	--
1977	103	--
1978	139	--
1979	131	--
1980	100	--
1981	100	--
1982	98	--
1983	135	--