

## Annual Peak-Flow Frequency Analysis

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

### Streamgauge number and name:

05216980 Swan River tributary at Warba, Minn.

### Peak-flow information:

Number of systematic peak flows in record	25
Systematic period begins	1961
Systematic period ends	1985
Length of systematic record	25
Years without information	0
Number of historical peak flows in record	0

### Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.168
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:

	Mean	Standard deviation	Skewness
	1.5610	0.2166	-0.593

#### Outlier criteria and number of peak flows exceeding:

Low	10.5	0
High	125.7	0

**Bulletin 17B Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
1.5610	0.2166	-0.345

**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	8.6	5.3	11.8	--	--	--
0.9900	10.1	6.5	13.4	--	--	--
0.9500	15.3	11.0	19.1	--	--	--
0.9000	18.9	14.4	23.0	--	--	--
0.8000	24.2	19.4	28.7	--	--	--
0.6667	30.1	25.0	35.5	--	--	--
0.5000	37.4	31.7	44.4	38.0	31.3	46.0
0.4292	40.9	34.7	48.9	--	--	--
0.2000	55.7	46.8	69.8	57.0	46.8	69.5
0.1000	67.5	55.7	88.1	69.8	56.0	86.9
0.0400	81.9	66.0	112.0	86.2	66.5	112.0
0.0200	92.2	73.0	130.0	98.9	73.6	133.0
0.0100	102.0	79.7	148.0	112.0	80.0	156.0
0.0050	112.0	86.1	166.0	--	--	--
0.0020	124.0	94.1	190.0	144.0	93.7	221.0

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

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1961	27	--
1962	77	--
1963	39	--
1964	52	--
1965	29	--
1966	33	--
1967	29	--
1968	13	--
1969	44	--
1970	30	--
1971	42	--
1972	37	--
1973	15	--
1974	49	--
1975	51	--
1976	13	--
1977	21	--
1978	70	--
1979	50	--
1980	28	--
1981	70	--
1982	43	--
1983	74	--
1984	38	--
1985	40	--