

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05355230 Cannon River tributary near Welch, Minn.

Peak-flow information:

Number of systematic peak flows in record	22
Systematic period begins	1960
Systematic period ends	1981
Length of systematic record	22
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.204
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
1.2856	0.4102	-0.512

Outlier criteria and number of peak flows exceeding:

Low	1.9	0
High	191.4	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.2856	0.4102	-0.327

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	1.3	0.5	2.4
0.9900	1.7	0.7	3.0
0.9500	3.8	1.9	5.9
0.9000	5.6	3.2	8.3
0.8000	8.9	5.6	12.6
0.6667	13.4	9.2	18.7
0.5000	20.3	14.5	28.7
0.4292	24.0	17.2	34.5
0.2000	43.2	30.4	68.6
0.1000	62.3	42.4	108.0
0.0400	90.3	58.4	172.0
0.0200	113.0	71.0	231.0
0.0100	138.0	83.9	298.0
0.0050	164.0	97.1	374.0
0.0020	202.0	115.0	489.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1960	18.0	--
1961	14.0	--
1962	14.0	--
1963	8.0	--
1964	49.0	--
1965	80.0	--
1966	27.0	--
1967	15.0	--
1968	48.0	--
1969	13.0	--
1970	42.0	--
1971	6.1	--
1972	43.0	--
1973	22.0	--
1974	30.0	--
1975	47.0	--
1976	3.0	--
1977	5.0	--
1978	50.0	--
1979	15.0	--
1980	51.0	--
1981	3.5	--