

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05336000 St. Croix River near Grantsburg, Wis.

Peak-flow information:

Number of systematic peak flows in record	51
Systematic period begins	1923
Systematic period ends	2010
Length of systematic record	88
Years without information	37
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.205
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
4.0076	0.1769	0.056

Outlier criteria and number of peak flows exceeding:

Low	3286.4	0
High	31505.4	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
4.0076	0.1769	-0.040

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	3,510	2,780	4,180
0.9900	3,900	3,150	4,580
0.9500	5,180	4,380	5,900
0.9000	6,030	5,220	6,760
0.8000	7,230	6,410	8,000
0.6667	8,560	7,710	9,410
0.5000	10,200	9,280	11,200
0.4292	11,000	9,990	12,100
0.2000	14,400	13,000	16,200
0.1000	17,100	15,300	19,800
0.0400	20,600	18,100	24,500
0.0200	23,300	20,100	28,200
0.0100	25,900	22,100	32,000
0.0050	28,600	24,100	35,900
0.0020	32,200	26,800	41,300

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1923	5,920	--	1949	13,400	--
1924	7,000	--	1950	26,300	--
1925	6,460	--	1951	14,500	--
1926	4,180	--	1952	19,000	--
1927	13,300	--	1953	16,300	--
1928	8,500	--	1954	21,100	--
1929	7,740	--	1955	9,660	--
1930	5,850	--	1956	12,600	--
1931	7,560	--	1957	10,000	--
1932	8,280	--	1958	18,300	--
1933	4,890	--	1959	7,550	--
1934	6,020	--	1960	7,770	--
1935	12,600	--	1961	16,500	--
1936	13,300	--	1962	11,500	--
1937	6,730	--	1963	5,360	--
1938	12,600	--	1964	11,800	--
1939	10,500	--	1965	16,800	--
1940	7,830	--	1966	11,700	--
1941	12,700	--	1967	14,700	--
1942	7,850	--	1968	9,320	--
1943	9,800	--	1969	15,100	--
1944	15,900	--	1970	7,550	--
1945	14,400	--	Gap in systematic record		
1946	15,100	--	2008	9,530	--
1947	7,060	--	2009	7,790	--
1948	8,700	--	2010	7,950	--