

U. S. GEOLOGICAL SURVEY
 ANNUAL PEAK FLOW FREQUENCY ANALYSIS
 Following Bulletin 17-B Guidelines
 Program peakfq
 (Version 4.0, December, 2000)

Station - 05425500 ROCK RIVER AT WATERTOWN, WI
 2002 MAR 13 09:03:18

I N P U T D A T A S U M M A R Y

Number of peaks in record	=	63
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	63
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.392
Standard error of generalized skew	=	0.550
Skew option	=	WEIGHTED
Gage base discharge	=	0.0
User supplied high outlier threshold	=	--
User supplied low outlier criterion	=	--
Plotting position parameter	=	0.00

***** NOTICE -- Preliminary machine computations. *****
 ***** User responsible for assessment and interpretation. *****

WCF134I-NO SYSTEMATIC PEAKS WERE BELOW GAGE BASE.		0.0
WCF198I-LOW OUTLIERS BELOW FLOOD BASE WERE DROPPED.	1	472.7
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		8095.0

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	0.0	1.0000	3.3088	0.2222	-0.492
BULL.17B ESTIMATE	472.7	0.9841	3.3152	0.2084	-0.253

ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

ANNUAL EXCEEDANCE PROBABILITY	BULL.17B ESTIMATE	SYSTEMATIC RECORD	'EXPECTED PROBABILITY' ESTIMATE	95-PCT CONFIDENCE LIMITS FOR BULL. 17B ESTIMATES	
				LOWER	UPPER
0.9950	--	431.1	--	--	--
0.9900	--	516.6	--	--	--
0.9500	908.1	822.1	889.0	760.0	1046.0
0.9000	1105.0	1035.0	1090.0	948.7	1250.0
0.8000	1390.0	1346.0	1381.0	1225.0	1548.0
0.5000	2109.0	2123.0	2109.0	1908.0	2333.0
0.2000	3109.0	3156.0	3126.0	2788.0	3530.0
0.1000	3767.0	3797.0	3805.0	3334.0	4371.0
0.0400	4584.0	4549.0	4666.0	3989.0	5458.0
0.0200	5180.0	5068.0	5307.0	4455.0	6276.0
0.0100	5766.0	5554.0	5949.0	4904.0	7096.0
0.0050	6344.0	6012.0	6594.0	5342.0	7922.0
0.0020	7102.0	6581.0	7461.0	5906.0	9022.0
0.6667	1709.3	(1.50-year flood)			
0.4292	2297.4	(2.33-year flood)			

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I N P U T D A T A L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1932	1570.0		1964	433.0	
1933	3390.0		1965	2140.0	
1934	1010.0		1966	2140.0	
1935	1980.0		1967	1040.0	
1936	1810.0		1968	1310.0	
1937	2800.0		1969	1740.0	
1938	3340.0		1970	936.0	
1939	1490.0		1977	660.0	
1940	2800.0		1978	1900.0	
1941	1670.0		1979	5080.0	
1942	1170.0		1980	1850.0	
1943	3760.0		1981	1670.0	
1944	2000.0		1982	3150.0	
1945	1040.0		1983	1990.0	
1946	3600.0		1984	1990.0	
1947	1580.0		1985	3180.0	
1948	3290.0		1986	4030.0	
1949	1380.0		1987	3960.0	
1950	2430.0		1988	1320.0	
1951	3340.0		1989	1640.0	
1952	4180.0		1990	2370.0	
1953	1810.0		1991	2100.0	
1954	1640.0		1992	1860.0	
1955	2090.0		1993	4620.0	
1956	1770.0		1994	2070.0	
1957	1190.0		1995	1500.0	
1958	667.0		1996	3790.0	
1959	5030.0		1997	2020.0	
1960	3330.0		1998	2880.0	
1961	1690.0		1999	2680.0	
1962	2800.0		2000	3570.0	
1963	1240.0				

Explanation of peak discharge qualification codes

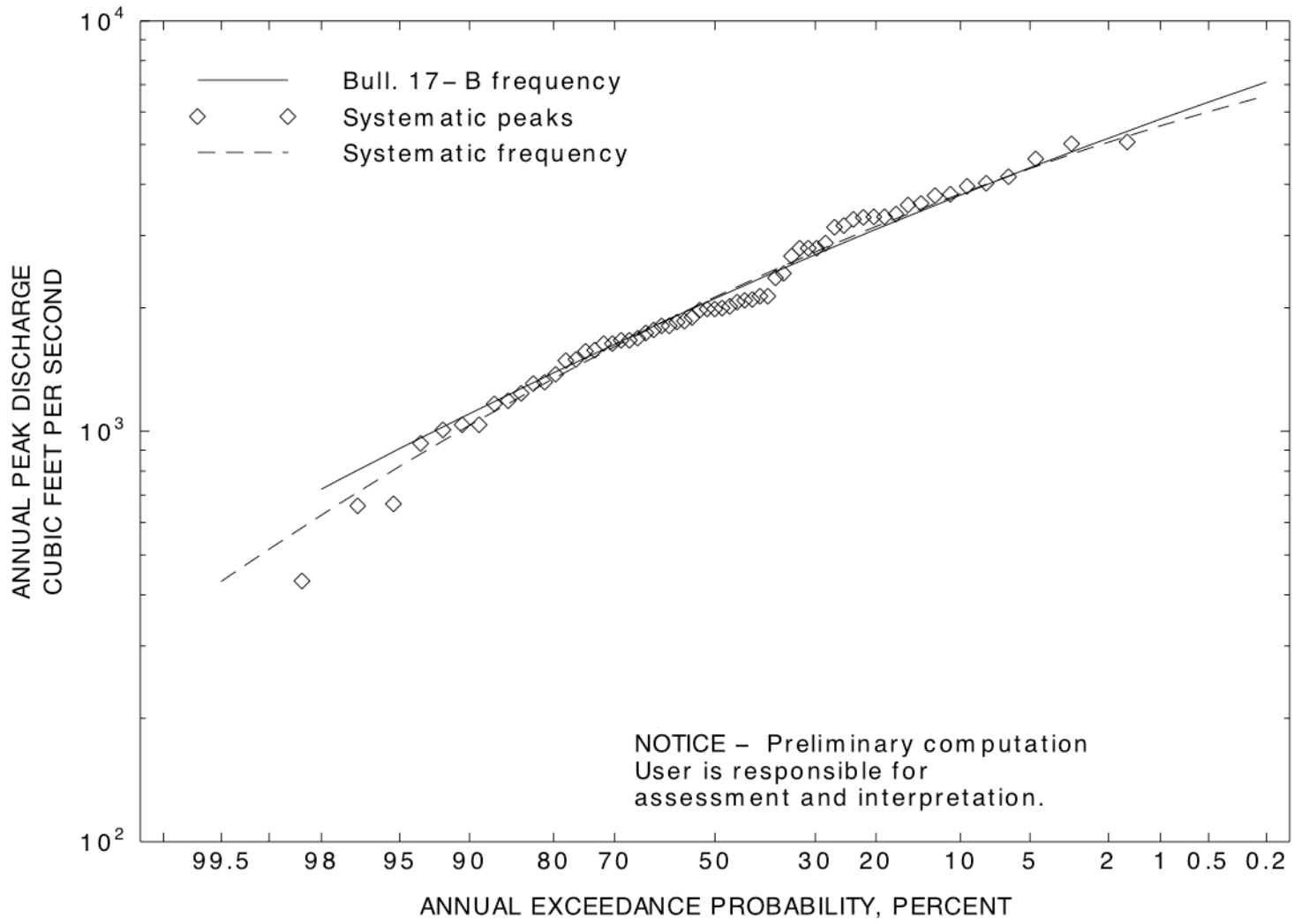
PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1979	5080.0	0.0156	0.0156
1959	5030.0	0.0312	0.0312
1993	4620.0	0.0469	0.0469
1952	4180.0	0.0625	0.0625
1986	4030.0	0.0781	0.0781
1987	3960.0	0.0938	0.0938
1996	3790.0	0.1094	0.1094
1943	3760.0	0.1250	0.1250
1946	3600.0	0.1406	0.1406
2000	3570.0	0.1562	0.1562
1933	3390.0	0.1719	0.1719
1938	3340.0	0.1875	0.1875
1951	3340.0	0.2031	0.2031
1960	3330.0	0.2188	0.2188
1948	3290.0	0.2344	0.2344
1985	3180.0	0.2500	0.2500
1982	3150.0	0.2656	0.2656
1998	2880.0	0.2812	0.2812
1937	2800.0	0.2969	0.2969
1940	2800.0	0.3125	0.3125
1962	2800.0	0.3281	0.3281
1999	2680.0	0.3438	0.3438
1950	2430.0	0.3594	0.3594
1990	2370.0	0.3750	0.3750
1965	2140.0	0.3906	0.3906
1966	2140.0	0.4062	0.4062
1991	2100.0	0.4219	0.4219
1955	2090.0	0.4375	0.4375
1994	2070.0	0.4531	0.4531
1997	2020.0	0.4688	0.4688
1944	2000.0	0.4844	0.4844
1983	1990.0	0.5000	0.5000
1984	1990.0	0.5156	0.5156
1935	1980.0	0.5312	0.5312
1978	1900.0	0.5469	0.5469
1992	1860.0	0.5625	0.5625
1980	1850.0	0.5781	0.5781
1936	1810.0	0.5938	0.5938
1953	1810.0	0.6094	0.6094
1956	1770.0	0.6250	0.6250
1969	1740.0	0.6406	0.6406
1961	1690.0	0.6562	0.6562
1941	1670.0	0.6719	0.6719
1981	1670.0	0.6875	0.6875
1954	1640.0	0.7031	0.7031
1989	1640.0	0.7188	0.7188
1947	1580.0	0.7344	0.7344
1932	1570.0	0.7500	0.7500

1995	1500.0	0.7656	0.7656
1939	1490.0	0.7812	0.7812
1949	1380.0	0.7969	0.7969
1988	1320.0	0.8125	0.8125
1968	1310.0	0.8281	0.8281
1963	1240.0	0.8438	0.8438
1957	1190.0	0.8594	0.8594
1942	1170.0	0.8750	0.8750
1945	1040.0	0.8906	0.8906
1967	1040.0	0.9062	0.9062
1934	1010.0	0.9219	0.9219
1970	936.0	0.9375	0.9375
1958	667.0	0.9531	0.9531
1977	660.0	0.9688	0.9688
1964	433.0	0.9844	0.9844



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