

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

Station - 04086000 SHEBOYGAN RIVER AT SHEBOYGAN, WI
 2002 MAR 13 09:02:40

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

Number of peaks in record	=	57
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	57
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.368
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	462.8
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		16150.8

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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	3.4637	0.2833	-0.892
BULL.17B ESTIMATE	462.8	0.9825	3.4729	0.2629	-0.551

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	--	317.9	--	--	--
0.9900	--	424.1	--	--	--
0.9500	1008.0	866.2	974.0	789.2	1220.0
0.9000	1332.0	1215.0	1304.0	1085.0	1570.0
0.8000	1827.0	1760.0	1809.0	1546.0	2106.0
0.5000	3140.0	3201.0	3140.0	2751.0	3595.0
0.2000	4991.0	5078.0	5024.0	4321.0	5915.0
0.1000	6173.0	6153.0	6247.0	5265.0	7504.0
0.0400	7580.0	7299.0	7731.0	6350.0	9478.0
0.0200	8559.0	8013.0	8780.0	7086.0	10890.0
0.0100	9477.0	8622.0	9782.0	7765.0	12250.0
0.0050	10340.0	9146.0	10740.0	8397.0	13550.0
0.0020	11420.0	9729.0	11960.0	9169.0	15200.0
0.6667	2402.2	(1.50-year flood)			
0.4292	3498.2	(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
1917	2080.0		1973	3580.0	
1918	6340.0		1974	3430.0	
1919	3670.0		1975	7680.0	
1920	7140.0		1976	3190.0	
1921	5140.0		1977	1600.0	
1922	3500.0		1978	7410.0	
1923	4200.0		1979	6460.0	
1951	4310.0		1980	2540.0	
1952	3780.0		1981	3050.0	
1953	1830.0		1982	4660.0	
1954	1320.0		1983	2860.0	
1955	4010.0		1984	3000.0	
1956	2870.0		1985	2260.0	
1957	694.0		1986	4000.0	
1958	379.0		1987	2070.0	
1959	4790.0		1988	1530.0	
1960	6300.0		1989	5610.0	
1961	1990.0		1990	3400.0	
1962	4340.0		1991	1810.0	
1963	2500.0		1992	1900.0	
1964	814.0		1993	4480.0	
1965	4880.0		1994	1840.0	
1966	5150.0		1995	1230.0	
1967	2710.0		1996	4350.0	
1968	1330.0		1997	6380.0	
1969	2320.0		1998	7820.0	
1970	594.0		1999	2480.0	
1971	2820.0		2000	1920.0	
1972	3290.0				

Explanation of peak discharge qualification codes

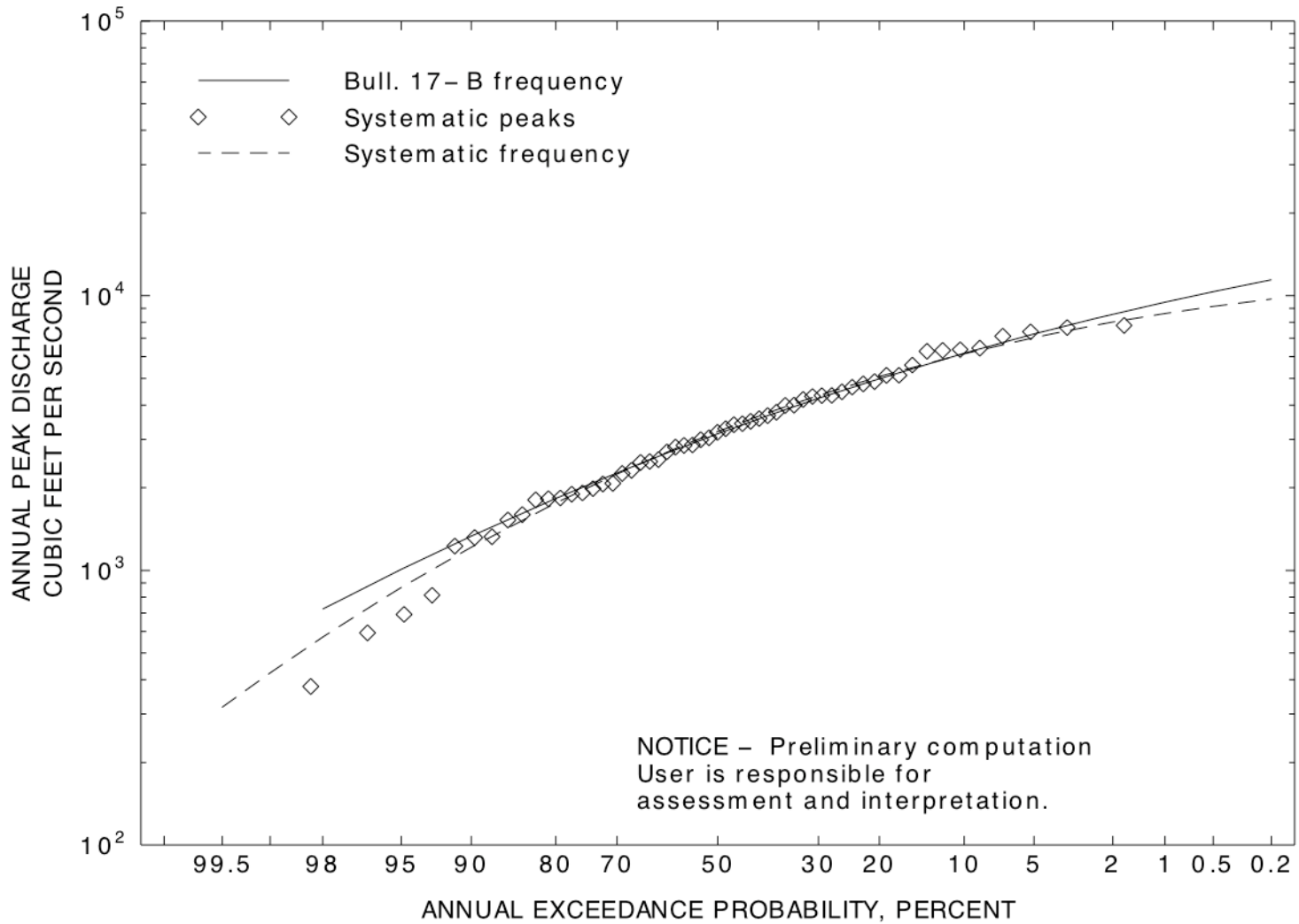
PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1998	7820.0	0.0172	0.0172
1975	7680.0	0.0345	0.0345
1978	7410.0	0.0517	0.0517
1920	7140.0	0.0690	0.0690
1979	6460.0	0.0862	0.0862
1997	6380.0	0.1034	0.1034
1918	6340.0	0.1207	0.1207
1960	6300.0	0.1379	0.1379
1989	5610.0	0.1552	0.1552
1966	5150.0	0.1724	0.1724
1921	5140.0	0.1897	0.1897
1965	4880.0	0.2069	0.2069
1959	4790.0	0.2241	0.2241
1982	4660.0	0.2414	0.2414
1993	4480.0	0.2586	0.2586
1996	4350.0	0.2759	0.2759
1962	4340.0	0.2931	0.2931
1951	4310.0	0.3103	0.3103
1923	4200.0	0.3276	0.3276
1955	4010.0	0.3448	0.3448
1986	4000.0	0.3621	0.3621
1952	3780.0	0.3793	0.3793
1919	3670.0	0.3966	0.3966
1973	3580.0	0.4138	0.4138
1922	3500.0	0.4310	0.4310
1974	3430.0	0.4483	0.4483
1990	3400.0	0.4655	0.4655
1972	3290.0	0.4828	0.4828
1976	3190.0	0.5000	0.5000
1981	3050.0	0.5172	0.5172
1984	3000.0	0.5345	0.5345
1956	2870.0	0.5517	0.5517
1983	2860.0	0.5690	0.5690
1971	2820.0	0.5862	0.5862
1967	2710.0	0.6034	0.6034
1980	2540.0	0.6207	0.6207
1963	2500.0	0.6379	0.6379
1999	2480.0	0.6552	0.6552
1969	2320.0	0.6724	0.6724
1985	2260.0	0.6897	0.6897
1917	2080.0	0.7069	0.7069
1987	2070.0	0.7241	0.7241
1961	1990.0	0.7414	0.7414
2000	1920.0	0.7586	0.7586
1992	1900.0	0.7759	0.7759
1994	1840.0	0.7931	0.7931
1953	1830.0	0.8103	0.8103
1991	1810.0	0.8276	0.8276

1977	1600.0	0.8448	0.8448
1988	1530.0	0.8621	0.8621
1968	1330.0	0.8793	0.8793
1954	1320.0	0.8966	0.8966
1995	1230.0	0.9138	0.9138
1964	814.0	0.9310	0.9310
1957	694.0	0.9483	0.9483
1970	594.0	0.9655	0.9655
1958	379.0	0.9828	0.9828



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