

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

Station - 04073500 FOX RIVER AT BERLIN, WI
 2002 MAR 13 09:02:33

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

Number of peaks in record	=	103
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	103
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.361
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
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.	1065.6
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	10400.2

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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	3.5223	0.1635	-0.188
BULL.17B ESTIMATE	0.0	1.0000	3.5223	0.1635	-0.217

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	1169.0	1181.0	1137.0	1006.0	1322.0
0.9900	1307.0	1317.0	1278.0	1138.0	1462.0
0.9500	1753.0	1758.0	1735.0	1577.0	1914.0
0.9000	2039.0	2041.0	2026.0	1862.0	2203.0
0.8000	2436.0	2435.0	2429.0	2259.0	2606.0
0.5000	3375.0	3369.0	3375.0	3174.0	3589.0
0.2000	4585.0	4584.0	4597.0	4285.0	4948.0
0.1000	5342.0	5349.0	5369.0	4950.0	5838.0
0.0400	6251.0	6276.0	6306.0	5728.0	6938.0
0.0200	6898.0	6940.0	6981.0	6272.0	7737.0
0.0100	7522.0	7583.0	7639.0	6791.0	8517.0
0.0050	8129.0	8213.0	8285.0	7290.0	9285.0
0.0020	8912.0	9029.0	9132.0	7927.0	10290.0
0.6667	2863.3	(1.50-year flood)			
0.4292	3609.6	(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
1898	2730.0		1950	4780.0	
1899	2800.0		1951	4020.0	
1900	2830.0		1952	4900.0	
1901	4800.0		1953	4100.0	
1902	2450.0		1954	1870.0	
1903	2670.0		1955	3020.0	
1904	5400.0		1956	4000.0	
1905	5920.0		1957	1690.0	
1906	4450.0		1958	1380.0	
1907	2520.0		1959	3670.0	
1908	4020.0		1960	4100.0	
1909	2910.0		1961	2210.0	
1910	3080.0		1962	5160.0	
1911	2600.0		1963	3480.0	
1912	4100.0		1964	1430.0	
1913	4340.0		1965	2760.0	
1914	2750.0		1966	3140.0	
1915	3000.0		1967	2990.0	
1916	6400.0		1968	1970.0	
1917	5650.0		1969	2910.0	
1918	6050.0		1970	1700.0	
1919	2670.0		1971	2400.0	
1920	5150.0		1972	3440.0	
1921	2450.0		1973	6010.0	
1922	5920.0		1974	3010.0	
1923	6050.0		1975	4200.0	
1924	4020.0		1976	3420.0	
1925	2520.0		1977	1870.0	
1926	3440.0		1978	2870.0	
1927	3170.0		1979	5670.0	
1928	5920.0		1980	2380.0	
1929	6620.0		1981	3100.0	
1930	3000.0		1982	3800.0	
1931	1140.0		1983	2710.0	
1932	1910.0		1984	3540.0	
1933	2600.0		1985	3810.0	
1934	1910.0		1986	4960.0	
1935	4340.0		1987	4760.0	
1936	4340.0		1988	2540.0	
1937	3260.0		1989	3360.0	
1938	6190.0		1990	2270.0	
1939	4910.0		1991	2480.0	
1940	4720.0		1992	2080.0	
1941	3540.0		1993	4680.0	
1942	2740.0		1994	3200.0	
1943	5080.0		1995	2440.0	
1944	2290.0		1996	3190.0	
1945	3460.0		1997	3040.0	

1946	6900.0	1998	2980.0
1947	3160.0	1999	3030.0
1948	4540.0	2000	2590.0
1949	2600.0		

Explanation of peak discharge qualification codes

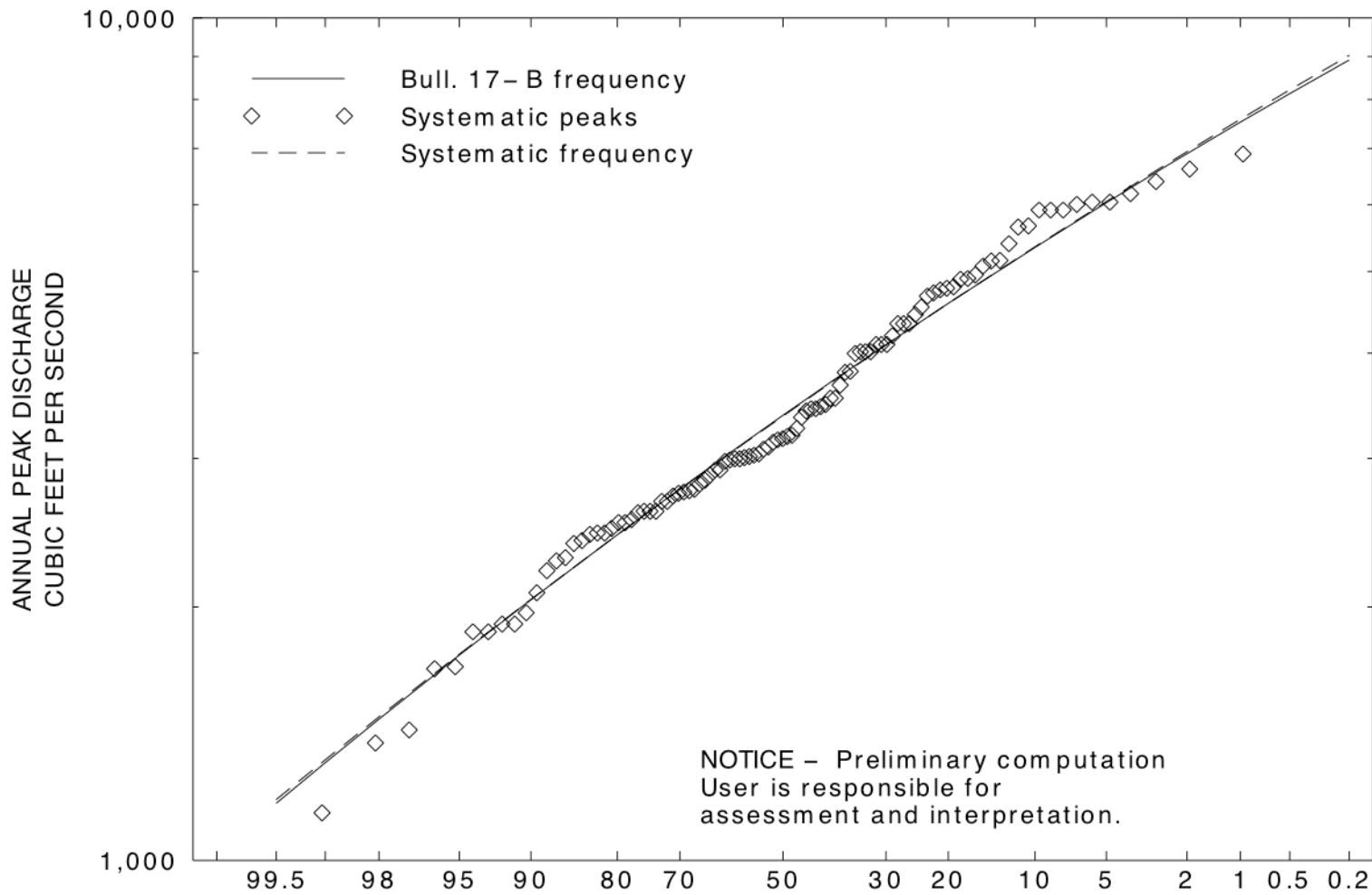
PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1946	6900.0	0.0096	0.0096
1929	6620.0	0.0192	0.0192
1916	6400.0	0.0288	0.0288
1938	6190.0	0.0385	0.0385
1918	6050.0	0.0481	0.0481
1923	6050.0	0.0577	0.0577
1973	6010.0	0.0673	0.0673
1905	5920.0	0.0769	0.0769
1922	5920.0	0.0865	0.0865
1928	5920.0	0.0962	0.0962
1979	5670.0	0.1058	0.1058
1917	5650.0	0.1154	0.1154
1904	5400.0	0.1250	0.1250
1962	5160.0	0.1346	0.1346
1920	5150.0	0.1442	0.1442
1943	5080.0	0.1538	0.1538
1986	4960.0	0.1635	0.1635
1939	4910.0	0.1731	0.1731
1952	4900.0	0.1827	0.1827
1901	4800.0	0.1923	0.1923
1950	4780.0	0.2019	0.2019
1987	4760.0	0.2115	0.2115
1940	4720.0	0.2212	0.2212
1993	4680.0	0.2308	0.2308
1948	4540.0	0.2404	0.2404
1906	4450.0	0.2500	0.2500
1913	4340.0	0.2596	0.2596
1935	4340.0	0.2692	0.2692
1936	4340.0	0.2788	0.2788
1975	4200.0	0.2885	0.2885
1912	4100.0	0.2981	0.2981
1953	4100.0	0.3077	0.3077
1960	4100.0	0.3173	0.3173
1908	4020.0	0.3269	0.3269
1924	4020.0	0.3365	0.3365
1951	4020.0	0.3462	0.3462
1956	4000.0	0.3558	0.3558
1985	3810.0	0.3654	0.3654
1982	3800.0	0.3750	0.3750
1959	3670.0	0.3846	0.3846
1941	3540.0	0.3942	0.3942
1984	3540.0	0.4038	0.4038
1963	3480.0	0.4135	0.4135
1945	3460.0	0.4231	0.4231
1926	3440.0	0.4327	0.4327
1972	3440.0	0.4423	0.4423
1976	3420.0	0.4519	0.4519
1989	3360.0	0.4615	0.4615

1937	3260.0	0.4712	0.4712
1994	3200.0	0.4808	0.4808
1996	3190.0	0.4904	0.4904
1927	3170.0	0.5000	0.5000
1947	3160.0	0.5096	0.5096
1966	3140.0	0.5192	0.5192
1981	3100.0	0.5288	0.5288
1910	3080.0	0.5385	0.5385
1997	3040.0	0.5481	0.5481
1999	3030.0	0.5577	0.5577
1955	3020.0	0.5673	0.5673
1974	3010.0	0.5769	0.5769
1915	3000.0	0.5865	0.5865
1930	3000.0	0.5962	0.5962
1967	2990.0	0.6058	0.6058
1998	2980.0	0.6154	0.6154
1909	2910.0	0.6250	0.6250
1969	2910.0	0.6346	0.6346
1978	2870.0	0.6442	0.6442
1900	2830.0	0.6538	0.6538
1899	2800.0	0.6635	0.6635
1965	2760.0	0.6731	0.6731
1914	2750.0	0.6827	0.6827
1942	2740.0	0.6923	0.6923
1898	2730.0	0.7019	0.7019
1983	2710.0	0.7115	0.7115
1903	2670.0	0.7212	0.7212
1919	2670.0	0.7308	0.7308
1911	2600.0	0.7404	0.7404
1933	2600.0	0.7500	0.7500
1949	2600.0	0.7596	0.7596
2000	2590.0	0.7692	0.7692
1988	2540.0	0.7788	0.7788
1907	2520.0	0.7885	0.7885
1925	2520.0	0.7981	0.7981
1991	2480.0	0.8077	0.8077
1902	2450.0	0.8173	0.8173
1921	2450.0	0.8269	0.8269
1995	2440.0	0.8365	0.8365
1971	2400.0	0.8462	0.8462
1980	2380.0	0.8558	0.8558
1944	2290.0	0.8654	0.8654
1990	2270.0	0.8750	0.8750
1961	2210.0	0.8846	0.8846
1992	2080.0	0.8942	0.8942
1968	1970.0	0.9038	0.9038
1932	1910.0	0.9135	0.9135
1934	1910.0	0.9231	0.9231
1954	1870.0	0.9327	0.9327
1977	1870.0	0.9423	0.9423
1970	1700.0	0.9519	0.9519
1957	1690.0	0.9615	0.9615
1964	1430.0	0.9712	0.9712
1958	1380.0	0.9808	0.9808
1931	1140.0	0.9904	0.9904



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