

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

Station - 04077400 WOLF RIVER NEAR SHAWANO, WI
 2002 MAR 13 09:02:35

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

Number of peaks in record	=	90
Peaks not used in analysis	=	2
Systematic peaks in analysis	=	88
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.248
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. *****

**WCF109W-PEAKS WITH MINUS-FLAGGED DISCHARGES WERE BYPASSED.		2
**WCF113W-NUMBER OF SYSTEMATIC PEAKS HAS BEEN REDUCED TO NSYS =	=	88
WCF134I-NO SYSTEMATIC PEAKS WERE BELOW GAGE BASE.		0.0
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		5829.7
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		1101.0
WCF002J-CALCS COMPLETED. RETURN CODE = 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	3.4037	0.1217	0.401
BULL.17B ESTIMATE	0.0	1.0000	3.4037	0.1217	0.263

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	1319.0	1367.0	1298.0	1185.0	1437.0
0.9900	1394.0	1435.0	1376.0	1261.0	1511.0
0.9500	1633.0	1653.0	1622.0	1505.0	1747.0
0.9000	1785.0	1794.0	1777.0	1660.0	1897.0
0.8000	1995.0	1994.0	1991.0	1876.0	2107.0
0.5000	2503.0	2487.0	2503.0	2381.0	2629.0
0.2000	3194.0	3185.0	3202.0	3026.0	3396.0
0.1000	3654.0	3665.0	3674.0	3434.0	3933.0
0.0400	4241.0	4292.0	4285.0	3939.0	4640.0
0.0200	4683.0	4776.0	4753.0	4312.0	5186.0
0.0100	5131.0	5274.0	5233.0	4684.0	5747.0
0.0050	5588.0	5791.0	5733.0	5059.0	6327.0
0.0020	6209.0	6509.0	6426.0	5564.0	7129.0
0.6667	2224.6	(1.50-year flood)			
0.4292	2629.3	(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
1908	3520.0		1956	1730.0	
1912	4070.0		1957	2070.0	
1913	2400.0		1958	1600.0	
1914	2060.0		1959	1990.0	
1915	1720.0		1960	-4830.0	D
1916	3370.0		1961	2100.0	
1917	2260.0		1962	2250.0	
1918	2620.0		1963	1620.0	
1919	2470.0		1964	1950.0	
1920	2550.0		1965	3400.0	
1921	3760.0		1966	1780.0	
1922	4390.0		1967	3220.0	
1923	3260.0		1968	2260.0	
1924	3320.0		1969	3780.0	
1925	1510.0		1970	2220.0	
1926	2850.0		1971	2580.0	
1927	2210.0		1972	2780.0	
1928	2940.0		1973	5200.0	
1929	4100.0		1974	2360.0	
1930	1620.0		1975	2710.0	
1931	1530.0		1976	4500.0	
1932	2110.0		1977	1960.0	
1933	1710.0		1978	1930.0	
1934	2120.0		1979	2730.0	
1935	2160.0		1980	2710.0	
1936	2320.0		1981	2320.0	
1937	2940.0		1982	2000.0	
1938	3330.0		1983	2240.0	
1939	2640.0		1984	2240.0	
1940	2250.0		1985	2570.0	
1941	3400.0		1986	4440.0	
1942	2250.0		1987	2550.0	
1943	2920.0		1988	2490.0	
1944	1840.0		1989	-2050.0	K
1945	2420.0		1990	3150.0	
1946	2420.0		1991	2500.0	
1947	2200.0		1992	3130.0	
1948	1990.0		1993	3820.0	
1949	1990.0		1994	2330.0	
1950	2300.0		1995	2630.0	
1951	3590.0		1996	3860.0	
1952	2080.0		1997	3580.0	
1953	2500.0		1998	3030.0	
1954	1890.0		1999	1920.0	
1955	1920.0		2000	4020.0	

Explanation of peak discharge qualification codes

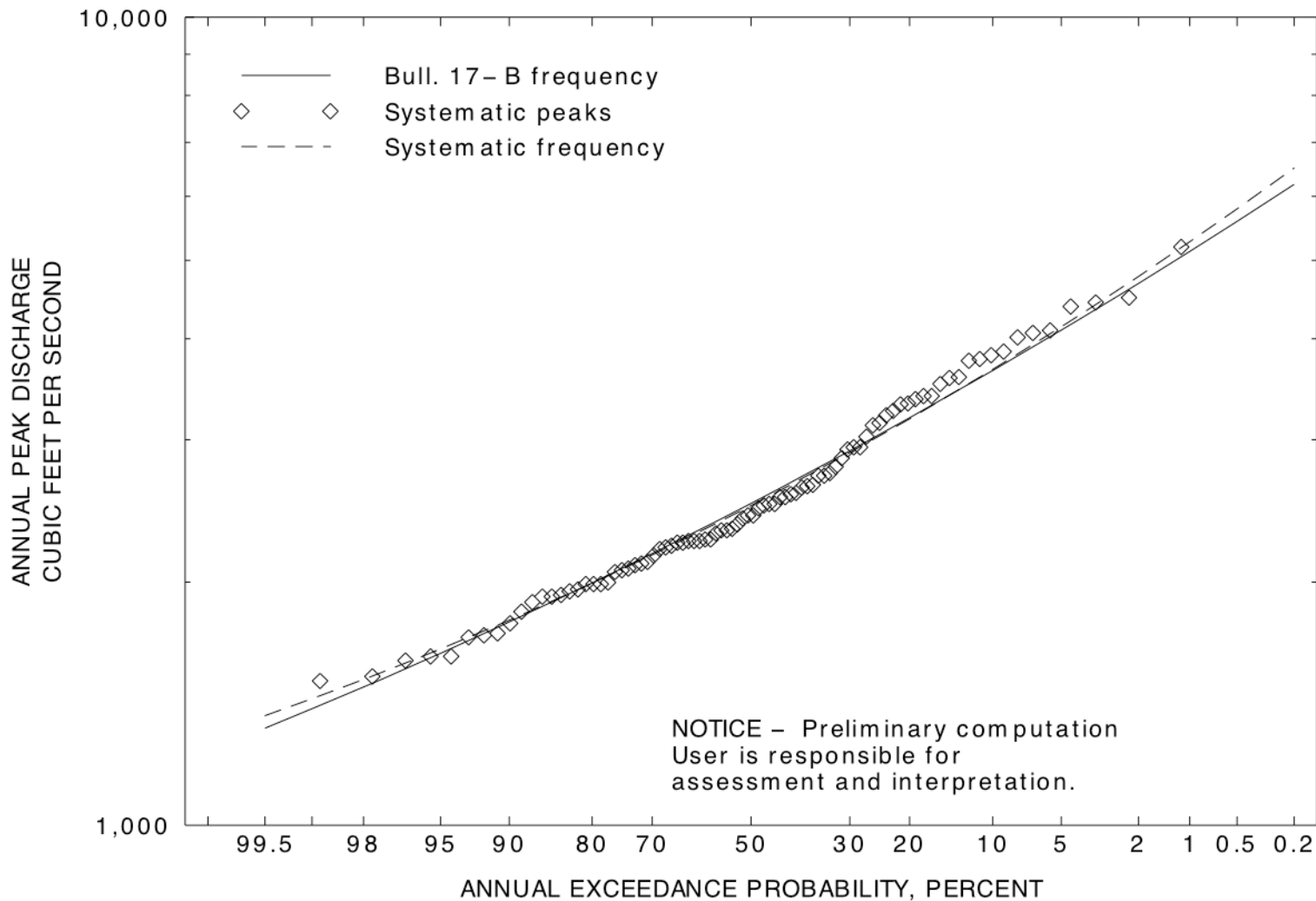
PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1973	5200.0	0.0112	0.0112
1976	4500.0	0.0225	0.0225
1986	4440.0	0.0337	0.0337
1922	4390.0	0.0449	0.0449
1929	4100.0	0.0562	0.0562
1912	4070.0	0.0674	0.0674
2000	4020.0	0.0787	0.0787
1996	3860.0	0.0899	0.0899
1993	3820.0	0.1011	0.1011
1969	3780.0	0.1124	0.1124
1921	3760.0	0.1236	0.1236
1951	3590.0	0.1348	0.1348
1997	3580.0	0.1461	0.1461
1908	3520.0	0.1573	0.1573
1941	3400.0	0.1685	0.1685
1965	3400.0	0.1798	0.1798
1916	3370.0	0.1910	0.1910
1938	3330.0	0.2022	0.2022
1924	3320.0	0.2135	0.2135
1923	3260.0	0.2247	0.2247
1967	3220.0	0.2360	0.2360
1990	3150.0	0.2472	0.2472
1992	3130.0	0.2584	0.2584
1998	3030.0	0.2697	0.2697
1928	2940.0	0.2809	0.2809
1937	2940.0	0.2921	0.2921
1943	2920.0	0.3034	0.3034
1926	2850.0	0.3146	0.3146
1972	2780.0	0.3258	0.3258
1979	2730.0	0.3371	0.3371
1975	2710.0	0.3483	0.3483
1980	2710.0	0.3596	0.3596
1939	2640.0	0.3708	0.3708
1995	2630.0	0.3820	0.3820
1918	2620.0	0.3933	0.3933
1971	2580.0	0.4045	0.4045
1985	2570.0	0.4157	0.4157
1920	2550.0	0.4270	0.4270
1987	2550.0	0.4382	0.4382
1953	2500.0	0.4494	0.4494
1991	2500.0	0.4607	0.4607
1988	2490.0	0.4719	0.4719
1919	2470.0	0.4831	0.4831
1945	2420.0	0.4944	0.4944
1946	2420.0	0.5056	0.5056
1913	2400.0	0.5169	0.5169
1974	2360.0	0.5281	0.5281
1994	2330.0	0.5393	0.5393

1936	2320.0	0.5506	0.5506
1981	2320.0	0.5618	0.5618
1950	2300.0	0.5730	0.5730
1917	2260.0	0.5843	0.5843
1968	2260.0	0.5955	0.5955
1940	2250.0	0.6067	0.6067
1942	2250.0	0.6180	0.6180
1962	2250.0	0.6292	0.6292
1983	2240.0	0.6404	0.6404
1984	2240.0	0.6517	0.6517
1970	2220.0	0.6629	0.6629
1927	2210.0	0.6742	0.6742
1947	2200.0	0.6854	0.6854
1935	2160.0	0.6966	0.6966
1934	2120.0	0.7079	0.7079
1932	2110.0	0.7191	0.7191
1961	2100.0	0.7303	0.7303
1952	2080.0	0.7416	0.7416
1957	2070.0	0.7528	0.7528
1914	2060.0	0.7640	0.7640
1982	2000.0	0.7753	0.7753
1948	1990.0	0.7865	0.7865
1949	1990.0	0.7978	0.7978
1959	1990.0	0.8090	0.8090
1977	1960.0	0.8202	0.8202
1964	1950.0	0.8315	0.8315
1978	1930.0	0.8427	0.8427
1955	1920.0	0.8539	0.8539
1999	1920.0	0.8652	0.8652
1954	1890.0	0.8764	0.8764
1944	1840.0	0.8876	0.8876
1966	1780.0	0.8989	0.8989
1956	1730.0	0.9101	0.9101
1915	1720.0	0.9213	0.9213
1933	1710.0	0.9326	0.9326
1930	1620.0	0.9438	0.9438
1963	1620.0	0.9551	0.9551
1958	1600.0	0.9663	0.9663
1931	1530.0	0.9775	0.9775
1925	1510.0	0.9888	0.9888
1989	-2050.0	--	--
1960	-4830.0	--	--



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