

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

Station - 05391000 WISCONSIN R AT RAINBOW LK NEAR LAKE TOMAHAWK, WI  
 2002 JUL 10 11:21:04

I N P U T   D A T A   S U M M A R Y

Number of peaks in record	=	86
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	86
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	0.000
Standard error of generalized skew	=	0.550
Skew option	=	STATION SKEW
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.		657.4
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		4939.6
*WCF151I-17B WEIGHTED SKEW REPLACED BY USER OPTION.	-0.479	-0.636 -1

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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	3.2558	0.1477	-0.636
BULL.17B ESTIMATE	0.0	1.0000	3.2558	0.1477	-0.636

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	614.4	614.4	589.6	519.3	702.0
0.9900	700.3	700.3	678.8	602.2	789.8
0.9500	975.6	975.6	962.8	874.5	1067.0
0.9000	1146.0	1146.0	1137.0	1046.0	1238.0
0.8000	1375.0	1375.0	1370.0	1276.0	1468.0
0.5000	1868.0	1868.0	1868.0	1758.0	1986.0
0.2000	2412.0	2412.0	2417.0	2256.0	2602.0
0.1000	2705.0	2705.0	2716.0	2513.0	2949.0
0.0400	3015.0	3015.0	3036.0	2779.0	3326.0
0.0200	3212.0	3212.0	3240.0	2946.0	3568.0
0.0100	3384.0	3384.0	3420.0	3090.0	3783.0
0.0050	3537.0	3537.0	3581.0	3217.0	3975.0
0.0020	3715.0	3715.0	3770.0	3364.0	4200.0
0.6667	1606.4	( 1.50-year flood )			
0.4292	1984.2	( 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
1915	1830.0		1958	1360.0	K
1916	2600.0		1959	2990.0	K
1917	1920.0		1960	2620.0	K
1918	2190.0		1961	2030.0	K
1919	1570.0		1962	1810.0	K
1920	1740.0		1963	1550.0	K
1921	1970.0		1964	1260.0	K
1922	1630.0		1965	2140.0	K
1923	1810.0		1966	1690.0	K
1924	1620.0		1967	2630.0	K
1925	1940.0		1968	2400.0	K
1926	1460.0		1969	1990.0	K
1927	2270.0		1970	2340.0	K
1928	2880.0		1971	1590.0	K
1929	2650.0		1972	1880.0	K
1930	1930.0		1973	2740.0	K
1931	1310.0		1974	1810.0	K
1932	2300.0		1975	1520.0	K
1933	2300.0		1976	1500.0	
1934	1370.0		1977	1470.0	
1935	2140.0		1978	2750.0	K
1936	2380.0		1979	1700.0	K
1937	1520.0	K	1980	2110.0	
1938	2770.0	K	1981	2520.0	
1939	2500.0	K	1982	1560.0	
1940	2080.0	K	1983	1660.0	
1941	1450.0	K	1984	1690.0	
1942	3240.0	K	1985	1450.0	
1943	3310.0	K	1986	2040.0	
1944	1880.0	K	1987	1460.0	
1945	1900.0	K	1988	733.0	
1946	1760.0	K	1989	819.0	
1947	1380.0	K	1990	740.0	
1948	1270.0	K	1991	2100.0	K
1949	1380.0	K	1992	1170.0	K
1950	2520.0	K	1993	1650.0	K
1951	2440.0	K	1994	783.0	K
1952	3110.0	K	1995	807.0	K
1953	2990.0	K	1996	1780.0	K
1954	1960.0	K	1997	1280.0	K
1955	2730.0	K	1998	1110.0	K
1956	1610.0	K	1999	937.0	K
1957	1430.0	K	2000	2250.0	K

Explanation of peak discharge qualification codes

PEAKFQ   WATSTORE

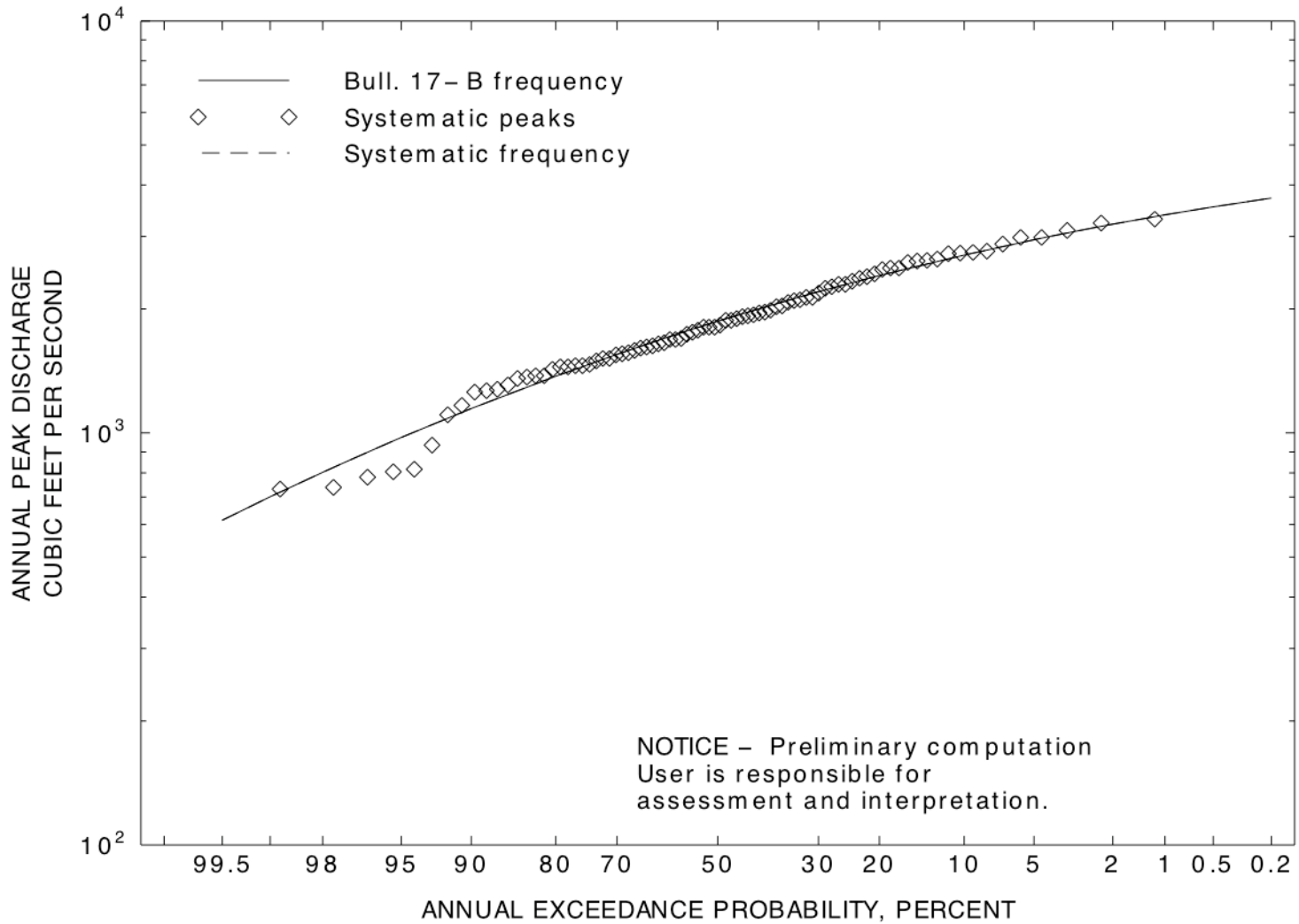
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1943	3310.0	0.0115	0.0115
1942	3240.0	0.0230	0.0230
1952	3110.0	0.0345	0.0345
1953	2990.0	0.0460	0.0460
1959	2990.0	0.0575	0.0575
1928	2880.0	0.0690	0.0690
1938	2770.0	0.0805	0.0805
1978	2750.0	0.0920	0.0920
1973	2740.0	0.1034	0.1034
1955	2730.0	0.1149	0.1149
1929	2650.0	0.1264	0.1264
1967	2630.0	0.1379	0.1379
1960	2620.0	0.1494	0.1494
1916	2600.0	0.1609	0.1609
1950	2520.0	0.1724	0.1724
1981	2520.0	0.1839	0.1839
1939	2500.0	0.1954	0.1954
1951	2440.0	0.2069	0.2069
1968	2400.0	0.2184	0.2184
1936	2380.0	0.2299	0.2299
1970	2340.0	0.2414	0.2414
1932	2300.0	0.2529	0.2529
1933	2300.0	0.2644	0.2644
1927	2270.0	0.2759	0.2759
2000	2250.0	0.2874	0.2874
1918	2190.0	0.2989	0.2989
1935	2140.0	0.3103	0.3103
1965	2140.0	0.3218	0.3218
1980	2110.0	0.3333	0.3333
1991	2100.0	0.3448	0.3448
1940	2080.0	0.3563	0.3563
1986	2040.0	0.3678	0.3678
1961	2030.0	0.3793	0.3793
1969	1990.0	0.3908	0.3908
1921	1970.0	0.4023	0.4023
1954	1960.0	0.4138	0.4138
1925	1940.0	0.4253	0.4253
1930	1930.0	0.4368	0.4368
1917	1920.0	0.4483	0.4483
1945	1900.0	0.4598	0.4598
1944	1880.0	0.4713	0.4713
1972	1880.0	0.4828	0.4828
1915	1830.0	0.4943	0.4943
1923	1810.0	0.5057	0.5057
1962	1810.0	0.5172	0.5172
1974	1810.0	0.5287	0.5287
1996	1780.0	0.5402	0.5402
1946	1760.0	0.5517	0.5517

1920	1740.0	0.5632	0.5632
1979	1700.0	0.5747	0.5747
1966	1690.0	0.5862	0.5862
1984	1690.0	0.5977	0.5977
1983	1660.0	0.6092	0.6092
1993	1650.0	0.6207	0.6207
1922	1630.0	0.6322	0.6322
1924	1620.0	0.6437	0.6437
1956	1610.0	0.6552	0.6552
1971	1590.0	0.6667	0.6667
1919	1570.0	0.6782	0.6782
1982	1560.0	0.6897	0.6897
1963	1550.0	0.7011	0.7011
1937	1520.0	0.7126	0.7126
1975	1520.0	0.7241	0.7241
1976	1500.0	0.7356	0.7356
1977	1470.0	0.7471	0.7471
1926	1460.0	0.7586	0.7586
1987	1460.0	0.7701	0.7701
1941	1450.0	0.7816	0.7816
1985	1450.0	0.7931	0.7931
1957	1430.0	0.8046	0.8046
1947	1380.0	0.8161	0.8161
1949	1380.0	0.8276	0.8276
1934	1370.0	0.8391	0.8391
1958	1360.0	0.8506	0.8506
1931	1310.0	0.8621	0.8621
1997	1280.0	0.8736	0.8736
1948	1270.0	0.8851	0.8851
1964	1260.0	0.8966	0.8966
1992	1170.0	0.9080	0.9080
1998	1110.0	0.9195	0.9195
1999	937.0	0.9310	0.9310
1989	819.0	0.9425	0.9425
1995	807.0	0.9540	0.9540
1994	783.0	0.9655	0.9655
1990	740.0	0.9770	0.9770
1988	733.0	0.9885	0.9885



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