

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

Station - 05392000 WI RIVER AT WHIRLPOOL RAPIDS NR RHINELANDER, WI
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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.		1039.6	
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		8176.0	
*WCF151I-17B WEIGHTED SKEW REPLACED BY USER OPTION.	-0.400	-0.520	-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	3.4647	0.1510	-0.520
BULL.17B ESTIMATE	0.0	1.0000	3.4647	0.1510	-0.520

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	1006.0	1006.0	967.8	851.6	1149.0
0.9900	1141.0	1141.0	1107.0	981.0	1286.0
0.9500	1571.0	1571.0	1551.0	1406.0	1720.0
0.9000	1840.0	1840.0	1825.0	1676.0	1990.0
0.8000	2203.0	2203.0	2195.0	2041.0	2356.0
0.5000	3004.0	3004.0	3004.0	2824.0	3199.0
0.2000	3927.0	3927.0	3937.0	3668.0	4245.0
0.1000	4445.0	4445.0	4466.0	4121.0	4860.0
0.0400	5014.0	5014.0	5053.0	4608.0	5553.0
0.0200	5387.0	5387.0	5441.0	4921.0	6015.0
0.0100	5723.0	5723.0	5794.0	5201.0	6436.0
0.0050	6029.0	6029.0	6119.0	5454.0	6824.0
0.0020	6397.0	6397.0	6514.0	5756.0	7293.0
0.6667	2576.0	(1.50-year flood)			
0.4292	3196.5	(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	2960.0	K	1958	2110.0	K
1916	4730.0	K	1959	5150.0	K
1917	2710.0	K	1960	5050.0	K
1918	3700.0	K	1961	3180.0	K
1919	2810.0	K	1962	2760.0	K
1920	3200.0	K	1963	2400.0	K
1921	3550.0	K	1964	1950.0	K
1922	2830.0	K	1965	3920.0	K
1923	3260.0	K	1966	2440.0	K
1924	2800.0	K	1967	3790.0	K
1925	2050.0	K	1968	3780.0	K
1926	2670.0	K	1969	2940.0	K
1927	3190.0	K	1970	3720.0	K
1928	4620.0	K	1971	2630.0	K
1929	5030.0	K	1972	3060.0	K
1930	2820.0	K	1973	4340.0	K
1931	1980.0	K	1974	3040.0	K
1932	2760.0	K	1975	2410.0	K
1933	3240.0	K	1976	2490.0	K
1934	2120.0	K	1977	2390.0	
1935	3580.0	K	1978	4390.0	
1936	4160.0	K	1979	2760.0	
1937	2330.0	K	1980	3400.0	
1938	3900.0	K	1981	4040.0	
1939	4190.0	K	1982	2530.0	
1940	3820.0	K	1983	2690.0	
1941	3070.0	K	1984	2740.0	
1942	4570.0	K	1985	2360.0	
1943	5580.0	K	1986	3290.0	
1944	2850.0	K	1987	2380.0	
1945	3410.0	K	1988	1220.0	
1946	4290.0	K	1989	1360.0	
1947	2480.0	K	1990	1230.0	
1948	1810.0	K	1991	3380.0	
1949	1870.0	K	1992	1920.0	
1950	4980.0	K	1993	2680.0	
1951	4040.0	K	1994	1300.0	
1952	4370.0	K	1995	1340.0	
1953	4330.0	K	1996	2880.0	
1954	3530.0	K	1997	2090.0	
1955	3900.0	K	1998	1820.0	
1956	2470.0	K	1999	1550.0	
1957	2150.0	K	2000	3620.0	

Explanation of peak discharge qualification codes

PEAKFQ WATSTORE

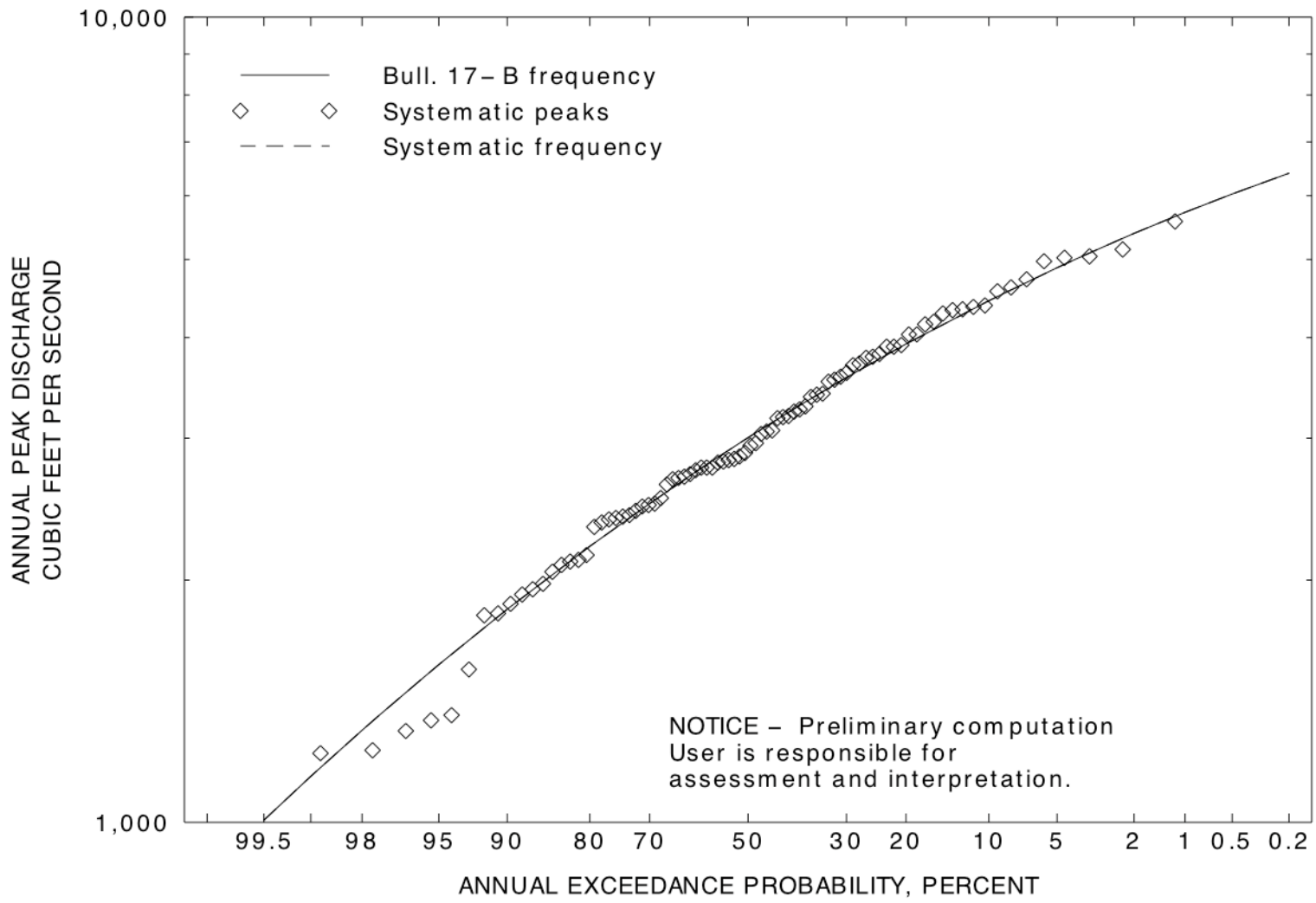
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1943	5580.0	0.0115	0.0115
1959	5150.0	0.0230	0.0230
1960	5050.0	0.0345	0.0345
1929	5030.0	0.0460	0.0460
1950	4980.0	0.0575	0.0575
1916	4730.0	0.0690	0.0690
1928	4620.0	0.0805	0.0805
1942	4570.0	0.0920	0.0920
1978	4390.0	0.1034	0.1034
1952	4370.0	0.1149	0.1149
1973	4340.0	0.1264	0.1264
1953	4330.0	0.1379	0.1379
1946	4290.0	0.1494	0.1494
1939	4190.0	0.1609	0.1609
1936	4160.0	0.1724	0.1724
1951	4040.0	0.1839	0.1839
1981	4040.0	0.1954	0.1954
1965	3920.0	0.2069	0.2069
1938	3900.0	0.2184	0.2184
1955	3900.0	0.2299	0.2299
1940	3820.0	0.2414	0.2414
1967	3790.0	0.2529	0.2529
1968	3780.0	0.2644	0.2644
1970	3720.0	0.2759	0.2759
1918	3700.0	0.2874	0.2874
2000	3620.0	0.2989	0.2989
1935	3580.0	0.3103	0.3103
1921	3550.0	0.3218	0.3218
1954	3530.0	0.3333	0.3333
1945	3410.0	0.3448	0.3448
1980	3400.0	0.3563	0.3563
1991	3380.0	0.3678	0.3678
1986	3290.0	0.3793	0.3793
1923	3260.0	0.3908	0.3908
1933	3240.0	0.4023	0.4023
1920	3200.0	0.4138	0.4138
1927	3190.0	0.4253	0.4253
1961	3180.0	0.4368	0.4368
1941	3070.0	0.4483	0.4483
1972	3060.0	0.4598	0.4598
1974	3040.0	0.4713	0.4713
1915	2960.0	0.4828	0.4828
1969	2940.0	0.4943	0.4943
1996	2880.0	0.5057	0.5057
1944	2850.0	0.5172	0.5172
1922	2830.0	0.5287	0.5287
1930	2820.0	0.5402	0.5402
1919	2810.0	0.5517	0.5517

1924	2800.0	0.5632	0.5632
1932	2760.0	0.5747	0.5747
1962	2760.0	0.5862	0.5862
1979	2760.0	0.5977	0.5977
1984	2740.0	0.6092	0.6092
1917	2710.0	0.6207	0.6207
1983	2690.0	0.6322	0.6322
1993	2680.0	0.6437	0.6437
1926	2670.0	0.6552	0.6552
1971	2630.0	0.6667	0.6667
1982	2530.0	0.6782	0.6782
1976	2490.0	0.6897	0.6897
1947	2480.0	0.7011	0.7011
1956	2470.0	0.7126	0.7126
1966	2440.0	0.7241	0.7241
1975	2410.0	0.7356	0.7356
1963	2400.0	0.7471	0.7471
1977	2390.0	0.7586	0.7586
1987	2380.0	0.7701	0.7701
1985	2360.0	0.7816	0.7816
1937	2330.0	0.7931	0.7931
1957	2150.0	0.8046	0.8046
1934	2120.0	0.8161	0.8161
1958	2110.0	0.8276	0.8276
1997	2090.0	0.8391	0.8391
1925	2050.0	0.8506	0.8506
1931	1980.0	0.8621	0.8621
1964	1950.0	0.8736	0.8736
1992	1920.0	0.8851	0.8851
1949	1870.0	0.8966	0.8966
1998	1820.0	0.9080	0.9080
1948	1810.0	0.9195	0.9195
1999	1550.0	0.9310	0.9310
1989	1360.0	0.9425	0.9425
1995	1340.0	0.9540	0.9540
1994	1300.0	0.9655	0.9655
1990	1230.0	0.9770	0.9770
1988	1220.0	0.9885	0.9885



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