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

Station - 05402000 YELLOW RIVER AT BABCOCK, 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	=	56
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	56
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.350
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. 1 866.3
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. 18864.0

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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	3.6496	0.2533	-1.442
BULL.17B ESTIMATE	866.3	0.9821	3.6617	0.2208	-0.654

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	--	469.2	--	--	--
0.9900	--	652.8	--	--	--
0.9500	1829.0	1437.0	1774.0	1484.0	2153.0
0.9000	2332.0	2048.0	2290.0	1960.0	2683.0
0.8000	3064.0	2969.0	3038.0	2662.0	3456.0
0.5000	4848.0	5108.0	4848.0	4334.0	5439.0
0.2000	7095.0	7238.0	7133.0	6280.0	8195.0
0.1000	8409.0	8145.0	8490.0	7354.0	9914.0
0.0400	9873.0	8885.0	10030.0	8515.0	11900.0
0.0200	10830.0	9238.0	11050.0	9261.0	13240.0
0.0100	11700.0	9479.0	11980.0	9921.0	14460.0
0.0050	12480.0	9644.0	12830.0	10510.0	15580.0
0.0020	13400.0	9787.0	13860.0	11210.0	16930.0
0.6667	3869.6	(1.50-year flood)			
0.4292	5307.2	(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
1944	4880.0		1972	5220.0	
1945	8430.0		1973	7550.0	
1946	4270.0		1974	3220.0	
1947	2700.0		1975	6160.0	
1948	4180.0		1976	4300.0	
1949	1360.0		1977	876.0	
1950	5400.0		1978	5470.0	
1951	6620.0		1979	6000.0	
1952	11600.0		1980	6930.0	
1953	7130.0		1981	3940.0	
1954	3760.0		1982	3900.0	
1955	4180.0		1983	7740.0	
1956	8470.0		1984	4260.0	
1957	462.0		1985	2360.0	
1958	3080.0		1986	8640.0	
1959	3400.0		1987	2450.0	
1960	5460.0		1988	2680.0	
1961	7680.0		1989	6110.0	
1962	3030.0		1990	6740.0	
1963	8810.0		1991	4810.0	
1964	3500.0		1992	4310.0	
1965	6320.0		1993	8180.0	
1966	4650.0		1994	2670.0	
1967	10800.0		1995	2470.0	
1968	7890.0		1996	3000.0	
1969	6260.0		1998	5020.0	
1970	4800.0		1999	2340.0	
1971	4350.0		2000	4910.0	

Explanation of peak discharge qualification codes

PEAKFQ CODE	WATSTORE 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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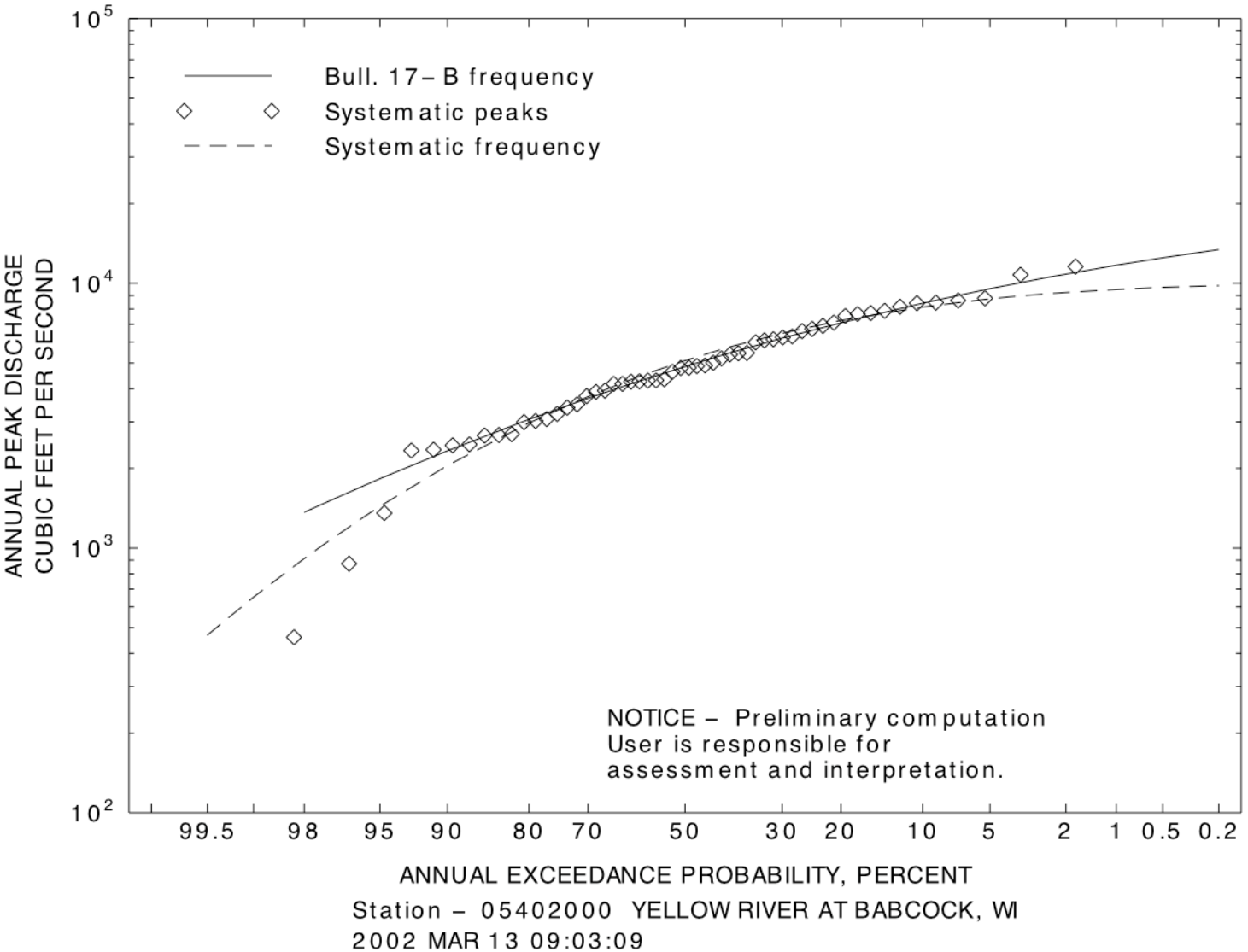
EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1952	11600.0	0.0175	0.0175
1967	10800.0	0.0351	0.0351
1963	8810.0	0.0526	0.0526
1986	8640.0	0.0702	0.0702
1956	8470.0	0.0877	0.0877
1945	8430.0	0.1053	0.1053
1993	8180.0	0.1228	0.1228
1968	7890.0	0.1404	0.1404
1983	7740.0	0.1579	0.1579
1961	7680.0	0.1754	0.1754
1973	7550.0	0.1930	0.1930
1953	7130.0	0.2105	0.2105
1980	6930.0	0.2281	0.2281
1990	6740.0	0.2456	0.2456
1951	6620.0	0.2632	0.2632
1965	6320.0	0.2807	0.2807
1969	6260.0	0.2982	0.2982
1975	6160.0	0.3158	0.3158
1989	6110.0	0.3333	0.3333
1979	6000.0	0.3509	0.3509
1978	5470.0	0.3684	0.3684
1960	5460.0	0.3860	0.3860
1950	5400.0	0.4035	0.4035
1972	5220.0	0.4211	0.4211
1998	5020.0	0.4386	0.4386
2000	4910.0	0.4561	0.4561
1944	4880.0	0.4737	0.4737
1991	4810.0	0.4912	0.4912
1970	4800.0	0.5088	0.5088
1966	4650.0	0.5263	0.5263
1971	4350.0	0.5439	0.5439
1992	4310.0	0.5614	0.5614
1976	4300.0	0.5789	0.5789
1946	4270.0	0.5965	0.5965
1984	4260.0	0.6140	0.6140
1948	4180.0	0.6316	0.6316
1955	4180.0	0.6491	0.6491
1981	3940.0	0.6667	0.6667
1982	3900.0	0.6842	0.6842
1954	3760.0	0.7018	0.7018
1964	3500.0	0.7193	0.7193
1959	3400.0	0.7368	0.7368
1974	3220.0	0.7544	0.7544
1958	3080.0	0.7719	0.7719
1962	3030.0	0.7895	0.7895
1996	3000.0	0.8070	0.8070
1947	2700.0	0.8246	0.8246
1988	2680.0	0.8421	0.8421

1994	2670.0	0.8596	0.8596
1995	2470.0	0.8772	0.8772
1987	2450.0	0.8947	0.8947
1985	2360.0	0.9123	0.9123
1999	2340.0	0.9298	0.9298
1949	1360.0	0.9474	0.9474
1977	876.0	0.9649	0.9649
1957	462.0	0.9825	0.9825


Bull. 17–B frequency
Systematic peaks
Systematic frequency
NOTICE – Preliminary computation
User is responsible for
assessment and interpretation.
ANNUAL PEAK DISCHARGE
CUBIC FEET PER SECOND
10^5
10^4
10^3
10^2
99.5 98 95 90 80 70 50 30 20 10 5 2 1 0.5 0.2
ANNUAL EXCEEDANCE PROBABILITY, PERCENT
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