

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

Station - 05432500 PECATONICA RIVER AT DARLINGTON, WI  
 2002 MAR 13 09:03:23

I N P U T   D A T A   S U M M A R Y

Number of peaks in record	=	62
Peaks not used in analysis	=	1
Systematic peaks in analysis	=	61
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.400
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. 1  
 \*\*WCF113W-NUMBER OF SYSTEMATIC PEAKS HAS BEEN REDUCED TO NSYS = 61  
 WCF134I-NO SYSTEMATIC PEAKS WERE BELOW GAGE BASE. 0.0  
 WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION. 304.6  
 WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. 32200.8  
 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	3.4958	0.3561	0.235
BULL.17B ESTIMATE	0.0	1.0000	3.4958	0.3561	0.077

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	402.2	454.0	370.7	267.5	550.1
0.9900	487.2	536.1	456.7	333.9	652.5
0.9500	828.0	860.5	802.3	613.6	1051.0
0.9000	1103.0	1120.0	1081.0	849.2	1365.0
0.8000	1566.0	1559.0	1551.0	1256.0	1891.0
0.5000	3099.0	3033.0	3099.0	2602.0	3690.0
0.2000	6224.0	6176.0	6291.0	5156.0	7756.0
0.1000	9016.0	9124.0	9212.0	7278.0	11730.0
0.0400	13450.0	14030.0	13980.0	10470.0	18470.0
0.0200	17450.0	18670.0	18440.0	13230.0	24920.0
0.0100	22100.0	24270.0	23790.0	16340.0	32730.0
0.0050	27480.0	31000.0	30190.0	19820.0	42100.0
0.0020	35830.0	41940.0	40570.0	25080.0	57310.0
0.6667	2182.5	( 1.50-year flood )			
0.4292	3585.0	( 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
1937	-99999.0		1970	1120.0	
1940	1930.0		1971	2180.0	
1941	1910.0		1972	1830.0	
1942	3460.0		1973	2440.0	
1943	5780.0		1974	3980.0	
1944	6020.0		1975	6030.0	
1945	2040.0		1976	2250.0	
1946	8300.0		1977	2930.0	
1947	3860.0		1978	4330.0	
1948	9540.0		1979	2160.0	
1949	5240.0		1980	2360.0	
1950	22000.0		1981	2820.0	
1951	7750.0		1982	2700.0	
1952	3650.0		1983	1450.0	
1953	8380.0		1984	1300.0	
1954	6930.0		1985	4030.0	
1955	3340.0		1986	2420.0	
1956	1500.0		1987	531.0	
1957	1450.0		1988	630.0	
1958	1600.0		1989	2410.0	
1959	10700.0		1990	18300.0	
1960	7770.0		1991	1350.0	
1961	2930.0		1992	973.0	
1962	2940.0		1993	12400.0	
1963	6300.0		1994	3000.0	
1964	1510.0		1995	690.0	
1965	4540.0		1996	1320.0	
1966	5000.0		1997	1500.0	
1967	6000.0		1998	2290.0	
1968	1470.0		1999	1910.0	
1969	16000.0		2000	5750.0	

Explanation of peak discharge qualification codes

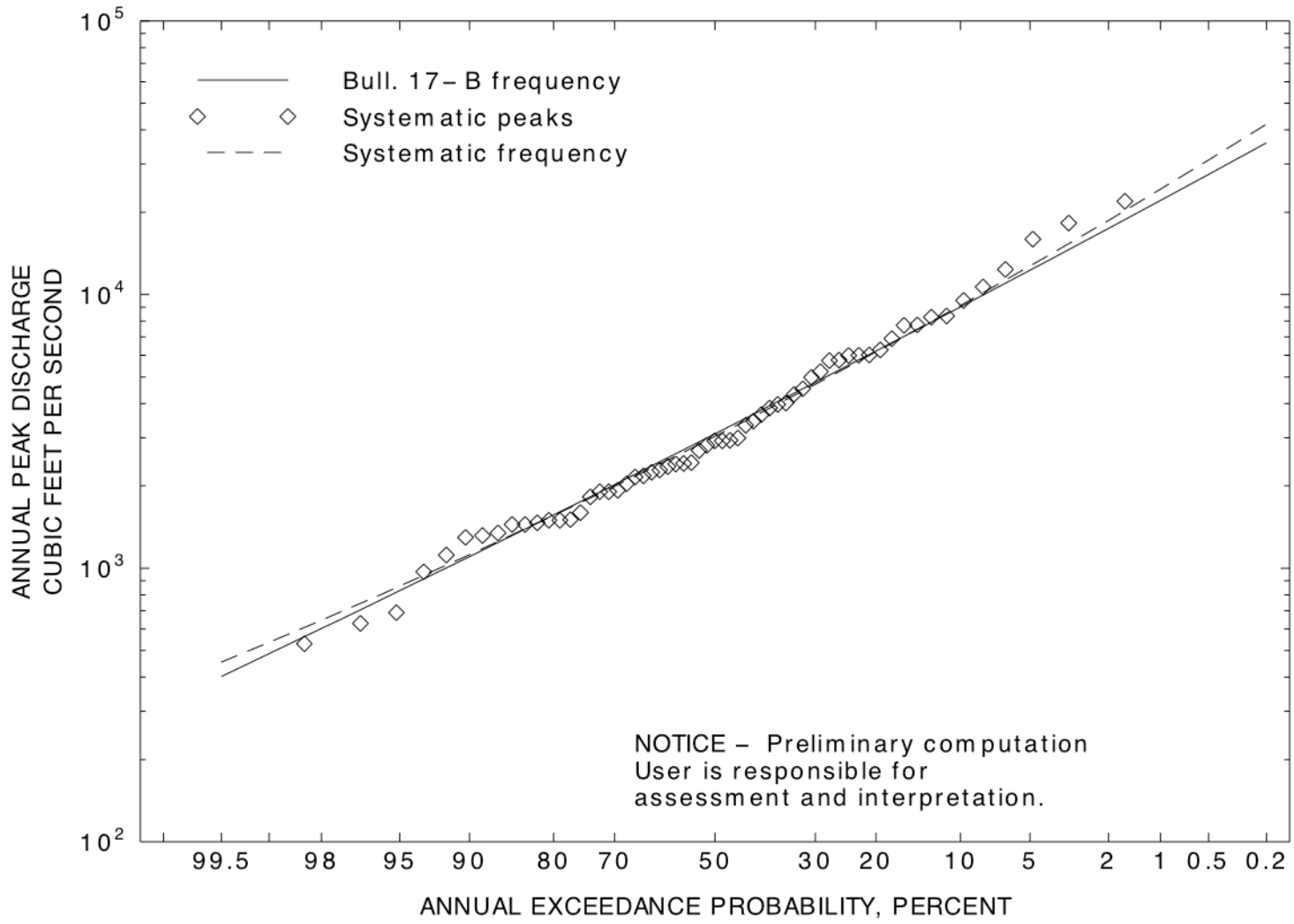
PEAKFQ	WATSTORE	CODE	DEFINITION
D		3	Dam failure, non-recurrent flow anomaly
G		8	Discharge greater than stated value
X		3+8	Both of the above
L		4	Discharge less than stated value
K	6 OR C		Known effect of regulation or urbanization
H		7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1950	22000.0	0.0161	0.0161
1990	18300.0	0.0323	0.0323
1969	16000.0	0.0484	0.0484
1993	12400.0	0.0645	0.0645
1959	10700.0	0.0806	0.0806
1948	9540.0	0.0968	0.0968
1953	8380.0	0.1129	0.1129
1946	8300.0	0.1290	0.1290
1960	7770.0	0.1452	0.1452
1951	7750.0	0.1613	0.1613
1954	6930.0	0.1774	0.1774
1963	6300.0	0.1935	0.1935
1975	6030.0	0.2097	0.2097
1944	6020.0	0.2258	0.2258
1967	6000.0	0.2419	0.2419
1943	5780.0	0.2581	0.2581
2000	5750.0	0.2742	0.2742
1949	5240.0	0.2903	0.2903
1966	5000.0	0.3065	0.3065
1965	4540.0	0.3226	0.3226
1978	4330.0	0.3387	0.3387
1985	4030.0	0.3548	0.3548
1974	3980.0	0.3710	0.3710
1947	3860.0	0.3871	0.3871
1952	3650.0	0.4032	0.4032
1942	3460.0	0.4194	0.4194
1955	3340.0	0.4355	0.4355
1994	3000.0	0.4516	0.4516
1962	2940.0	0.4677	0.4677
1961	2930.0	0.4839	0.4839
1977	2930.0	0.5000	0.5000
1981	2820.0	0.5161	0.5161
1982	2700.0	0.5323	0.5323
1973	2440.0	0.5484	0.5484
1986	2420.0	0.5645	0.5645
1989	2410.0	0.5806	0.5806
1980	2360.0	0.5968	0.5968
1998	2290.0	0.6129	0.6129
1976	2250.0	0.6290	0.6290
1971	2180.0	0.6452	0.6452
1979	2160.0	0.6613	0.6613
1945	2040.0	0.6774	0.6774
1940	1930.0	0.6935	0.6935
1941	1910.0	0.7097	0.7097
1999	1910.0	0.7258	0.7258
1972	1830.0	0.7419	0.7419
1958	1600.0	0.7581	0.7581
1964	1510.0	0.7742	0.7742

1956	1500.0	0.7903	0.7903
1997	1500.0	0.8065	0.8065
1968	1470.0	0.8226	0.8226
1957	1450.0	0.8387	0.8387
1983	1450.0	0.8548	0.8548
1991	1350.0	0.8710	0.8710
1996	1320.0	0.8871	0.8871
1984	1300.0	0.9032	0.9032
1970	1120.0	0.9194	0.9194
1992	973.0	0.9355	0.9355
1995	690.0	0.9516	0.9516
1988	630.0	0.9677	0.9677
1987	531.0	0.9839	0.9839
1937	-99999.0	--	--



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