

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

Station - 05333500 ST. CROIX RIVER NEAR DANBURY, WI
2002 MAR 13 09:02:45

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

Number of peaks in record	=	84
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	84
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.266
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
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.	1536.3
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	14115.9

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 2002 MAR 13 09:02:45

ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	0.0	1.0000	3.6681	0.1629	-0.100
BULL.17B ESTIMATE	0.0	1.0000	3.6681	0.1629	-0.130

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	1693.0	1711.0	1639.0	1436.0	1930.0
0.9900	1878.0	1894.0	1831.0	1615.0	2119.0
0.9500	2479.0	2487.0	2450.0	2206.0	2729.0
0.9000	2866.0	2869.0	2845.0	2591.0	3119.0
0.8000	3405.0	3403.0	3393.0	3130.0	3667.0
0.5000	4695.0	4686.0	4695.0	4387.0	5025.0
0.2000	6399.0	6396.0	6420.0	5941.0	6964.0
0.1000	7489.0	7499.0	7537.0	6887.0	8273.0
0.0400	8827.0	8863.0	8928.0	8014.0	9931.0
0.0200	9797.0	9859.0	9952.0	8815.0	11160.0
0.0100	10750.0	10840.0	10970.0	9588.0	12390.0
0.0050	11690.0	11810.0	11990.0	10340.0	13610.0
0.0020	12920.0	13100.0	13350.0	11320.0	15250.0
0.6667	3989.2	(1.50-year flood)			
0.4292	5020.0	(2.33-year flood)			

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 2002 MAR 13 09:02:45

I N P U T D A T A L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1914	4030.0		1956	4950.0	
1915	4640.0		1957	3600.0	
1916	8480.0		1958	8500.0	
1917	2840.0		1959	3420.0	
1918	3000.0		1960	3910.0	
1919	3330.0		1961	7130.0	
1920	6300.0		1962	5160.0	
1921	2630.0		1963	2460.0	
1922	7380.0		1964	4600.0	
1923	3290.0		1965	6460.0	
1924	3100.0		1966	5700.0	
1925	2970.0		1967	6260.0	
1926	2030.0		1968	6830.0	
1927	6540.0		1969	6600.0	
1928	3690.0		1970	3120.0	
1929	3460.0		1971	5750.0	
1930	3130.0		1972	7140.0	
1931	3080.0		1973	4070.0	
1932	3240.0		1974	4960.0	
1933	3160.0		1975	4590.0	
1934	5090.0		1976	6360.0	
1935	5630.0		1977	5830.0	
1936	4980.0		1978	4870.0	
1937	3400.0		1979	5950.0	
1938	4000.0		1980	2490.0	
1939	4920.0		1981	5380.0	
1940	2930.0		1985	4480.0	
1941	8630.0		1986	6640.0	
1942	3480.0		1987	2390.0	
1943	4250.0		1988	2630.0	
1944	8990.0		1989	3450.0	
1945	5600.0		1990	6000.0	
1946	6900.0		1991	4550.0	
1947	3530.0		1992	5640.0	
1948	4450.0		1993	3260.0	
1949	4580.0		1994	6900.0	
1950	10200.0		1995	3670.0	
1951	5840.0		1996	7220.0	
1952	6980.0		1997	6750.0	
1953	6540.0		1998	5510.0	
1954	8900.0		1999	6870.0	
1955	4200.0		2000	2300.0	

Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION

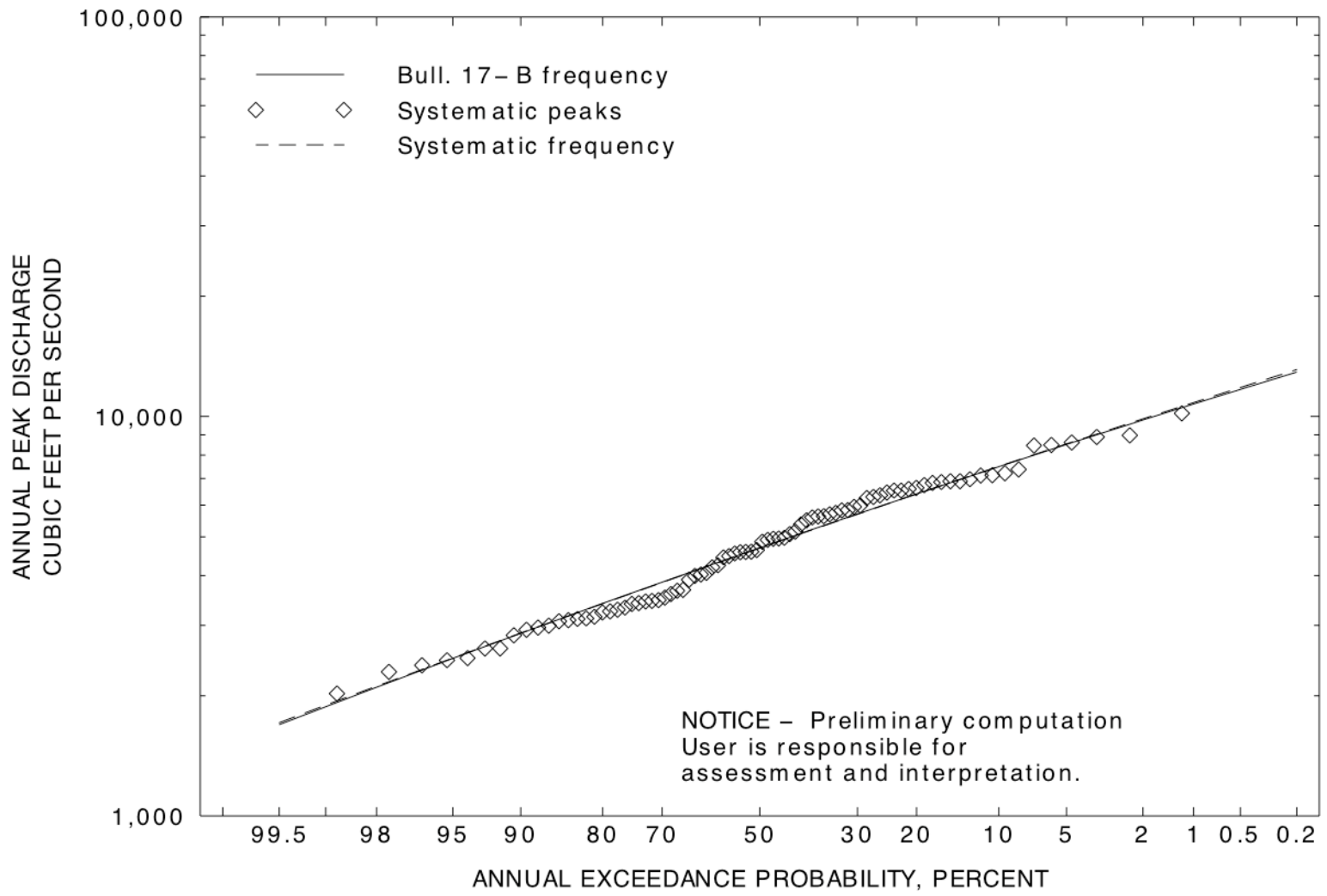
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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2002 MAR 13 09:02:45

EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1950	10200.0	0.0118	0.0118
1944	8990.0	0.0235	0.0235
1954	8900.0	0.0353	0.0353
1941	8630.0	0.0471	0.0471
1958	8500.0	0.0588	0.0588
1916	8480.0	0.0706	0.0706
1922	7380.0	0.0824	0.0824
1996	7220.0	0.0941	0.0941
1972	7140.0	0.1059	0.1059
1961	7130.0	0.1176	0.1176
1952	6980.0	0.1294	0.1294
1946	6900.0	0.1412	0.1412
1994	6900.0	0.1529	0.1529
1999	6870.0	0.1647	0.1647
1968	6830.0	0.1765	0.1765
1997	6750.0	0.1882	0.1882
1986	6640.0	0.2000	0.2000
1969	6600.0	0.2118	0.2118
1927	6540.0	0.2235	0.2235
1953	6540.0	0.2353	0.2353
1965	6460.0	0.2471	0.2471
1976	6360.0	0.2588	0.2588
1920	6300.0	0.2706	0.2706
1967	6260.0	0.2824	0.2824
1990	6000.0	0.2941	0.2941
1979	5950.0	0.3059	0.3059
1951	5840.0	0.3176	0.3176
1977	5830.0	0.3294	0.3294
1971	5750.0	0.3412	0.3412
1966	5700.0	0.3529	0.3529
1992	5640.0	0.3647	0.3647
1935	5630.0	0.3765	0.3765
1945	5600.0	0.3882	0.3882
1998	5510.0	0.4000	0.4000
1981	5380.0	0.4118	0.4118
1962	5160.0	0.4235	0.4235
1934	5090.0	0.4353	0.4353
1936	4980.0	0.4471	0.4471
1974	4960.0	0.4588	0.4588
1956	4950.0	0.4706	0.4706
1939	4920.0	0.4824	0.4824
1978	4870.0	0.4941	0.4941
1915	4640.0	0.5059	0.5059
1964	4600.0	0.5176	0.5176
1975	4590.0	0.5294	0.5294
1949	4580.0	0.5412	0.5412
1991	4550.0	0.5529	0.5529
1985	4480.0	0.5647	0.5647

1948	4450.0	0.5765	0.5765
1943	4250.0	0.5882	0.5882
1955	4200.0	0.6000	0.6000
1973	4070.0	0.6118	0.6118
1914	4030.0	0.6235	0.6235
1938	4000.0	0.6353	0.6353
1960	3910.0	0.6471	0.6471
1928	3690.0	0.6588	0.6588
1995	3670.0	0.6706	0.6706
1957	3600.0	0.6824	0.6824
1947	3530.0	0.6941	0.6941
1942	3480.0	0.7059	0.7059
1929	3460.0	0.7176	0.7176
1989	3450.0	0.7294	0.7294
1959	3420.0	0.7412	0.7412
1937	3400.0	0.7529	0.7529
1919	3330.0	0.7647	0.7647
1923	3290.0	0.7765	0.7765
1993	3260.0	0.7882	0.7882
1932	3240.0	0.8000	0.8000
1933	3160.0	0.8118	0.8118
1930	3130.0	0.8235	0.8235
1970	3120.0	0.8353	0.8353
1924	3100.0	0.8471	0.8471
1931	3080.0	0.8588	0.8588
1918	3000.0	0.8706	0.8706
1925	2970.0	0.8824	0.8824
1940	2930.0	0.8941	0.8941
1917	2840.0	0.9059	0.9059
1921	2630.0	0.9176	0.9176
1988	2630.0	0.9294	0.9294
1980	2490.0	0.9412	0.9412
1963	2460.0	0.9529	0.9529
1987	2390.0	0.9647	0.9647
2000	2300.0	0.9765	0.9765
1926	2030.0	0.9882	0.9882



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 2002 MAR 13 09:02:45