

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

Station - 05356500 CHIPPEWA RIVER NEAR BRUCE, WI
 2002 JUL 10 11:20:45

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

Number of peaks in record	=	74
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	74
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.	2500.8
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	34894.8
*WCF151I-17B WEIGHTED SKEW REPLACED BY USER OPTION.	-0.186 -0.237 -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	3.9704	0.1965	-0.237
BULL.17B ESTIMATE	0.0	1.0000	3.9704	0.1965	-0.237

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	2633.0	2633.0	2509.0	2113.0	3128.0
0.9900	3015.0	3015.0	2904.0	2466.0	3531.0
0.9500	4310.0	4310.0	4237.0	3698.0	4877.0
0.9000	5177.0	5177.0	5123.0	4542.0	5771.0
0.8000	6422.0	6422.0	6390.0	5760.0	7059.0
0.5000	9510.0	9510.0	9510.0	8717.0	10380.0
0.2000	13730.0	13730.0	13790.0	12480.0	15320.0
0.1000	16470.0	16470.0	16610.0	14800.0	18730.0
0.0400	19860.0	19860.0	20150.0	17580.0	23090.0
0.0200	22320.0	22320.0	22760.0	19550.0	26340.0
0.0100	24720.0	24720.0	25360.0	21440.0	29580.0
0.0050	27100.0	27100.0	27960.0	23290.0	32820.0
0.0020	30190.0	30190.0	31430.0	25660.0	37130.0
0.6667	7803.1	(1.50-year flood)			
0.4292	10311.4	(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
1927	11000.0	K	1964	4350.0	K
1928	8080.0	K	1965	12300.0	K
1929	6920.0	K	1966	8510.0	K
1930	3380.0	K	1967	19000.0	K
1931	3480.0	K	1968	13100.0	K
1932	7950.0	K	1969	9810.0	K
1933	4470.0	K	1970	10400.0	K
1934	7950.0	K	1971	15200.0	K
1935	13800.0	K	1972	8220.0	K
1936	12100.0	K	1973	17100.0	K
1937	5890.0	K	1974	9770.0	K
1938	12000.0	K	1975	9170.0	K
1939	12400.0	K	1976	12500.0	
1940	7040.0	K	1977	10900.0	
1941	25800.0	K	1978	7470.0	K
1942	10200.0	K	1979	7950.0	K
1943	17000.0	K	1980	9430.0	
1944	7990.0	K	1981	7860.0	
1945	13900.0	K	1982	11100.0	
1946	11000.0	K	1983	13600.0	
1947	5410.0	K	1984	6970.0	
1948	5960.0	K	1985	6910.0	
1949	7360.0	K	1986	17500.0	
1950	11900.0	K	1987	5040.0	
1951	12500.0	K	1988	3300.0	
1952	9630.0	K	1989	5090.0	
1953	14500.0	K	1990	12000.0	
1954	19400.0	K	1991	10000.0	K
1955	6660.0	K	1992	11100.0	K
1956	11900.0	K	1993	12700.0	K
1957	4620.0	K	1994	29000.0	K
1958	9500.0	K	1995	7760.0	K
1959	6780.0	K	1996	14100.0	K
1960	11500.0	K	1997	12200.0	K
1961	7600.0	K	1998	11800.0	K
1962	5980.0	K	1999	9260.0	K
1963	3700.0	K	2000	12600.0	K

Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
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

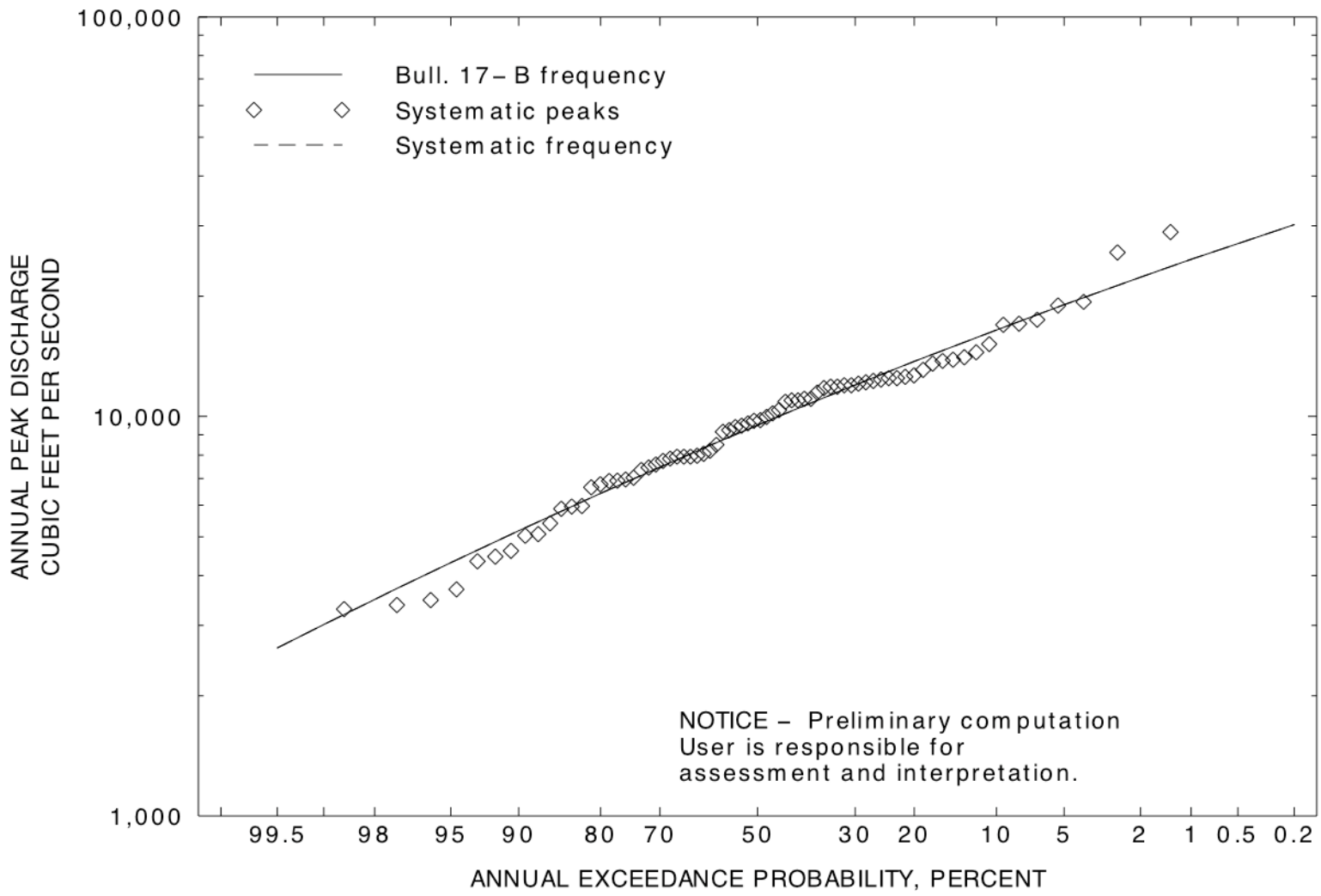
K 6 OR C Known effect of regulation or urbanization
H 7 Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1994	29000.0	0.0133	0.0133
1941	25800.0	0.0267	0.0267
1954	19400.0	0.0400	0.0400
1967	19000.0	0.0533	0.0533
1986	17500.0	0.0667	0.0667
1973	17100.0	0.0800	0.0800
1943	17000.0	0.0933	0.0933
1971	15200.0	0.1067	0.1067
1953	14500.0	0.1200	0.1200
1996	14100.0	0.1333	0.1333
1945	13900.0	0.1467	0.1467
1935	13800.0	0.1600	0.1600
1983	13600.0	0.1733	0.1733
1968	13100.0	0.1867	0.1867
1993	12700.0	0.2000	0.2000
2000	12600.0	0.2133	0.2133
1951	12500.0	0.2267	0.2267
1976	12500.0	0.2400	0.2400
1939	12400.0	0.2533	0.2533
1965	12300.0	0.2667	0.2667
1997	12200.0	0.2800	0.2800
1936	12100.0	0.2933	0.2933
1938	12000.0	0.3067	0.3067
1990	12000.0	0.3200	0.3200
1950	11900.0	0.3333	0.3333
1956	11900.0	0.3467	0.3467
1998	11800.0	0.3600	0.3600
1960	11500.0	0.3733	0.3733
1982	11100.0	0.3867	0.3867
1992	11100.0	0.4000	0.4000
1927	11000.0	0.4133	0.4133
1946	11000.0	0.4267	0.4267
1977	10900.0	0.4400	0.4400
1970	10400.0	0.4533	0.4533
1942	10200.0	0.4667	0.4667
1991	10000.0	0.4800	0.4800
1969	9810.0	0.4933	0.4933
1974	9770.0	0.5067	0.5067
1952	9630.0	0.5200	0.5200
1958	9500.0	0.5333	0.5333
1980	9430.0	0.5467	0.5467
1999	9260.0	0.5600	0.5600
1975	9170.0	0.5733	0.5733
1966	8510.0	0.5867	0.5867
1972	8220.0	0.6000	0.6000
1928	8080.0	0.6133	0.6133
1944	7990.0	0.6267	0.6267
1932	7950.0	0.6400	0.6400

1934	7950.0	0.6533	0.6533
1979	7950.0	0.6667	0.6667
1981	7860.0	0.6800	0.6800
1995	7760.0	0.6933	0.6933
1961	7600.0	0.7067	0.7067
1978	7470.0	0.7200	0.7200
1949	7360.0	0.7333	0.7333
1940	7040.0	0.7467	0.7467
1984	6970.0	0.7600	0.7600
1929	6920.0	0.7733	0.7733
1985	6910.0	0.7867	0.7867
1959	6780.0	0.8000	0.8000
1955	6660.0	0.8133	0.8133
1962	5980.0	0.8267	0.8267
1948	5960.0	0.8400	0.8400
1937	5890.0	0.8533	0.8533
1947	5410.0	0.8667	0.8667
1989	5090.0	0.8800	0.8800
1987	5040.0	0.8933	0.8933
1957	4620.0	0.9067	0.9067
1933	4470.0	0.9200	0.9200
1964	4350.0	0.9333	0.9333
1963	3700.0	0.9467	0.9467
1931	3480.0	0.9600	0.9600
1930	3380.0	0.9733	0.9733
1988	3300.0	0.9867	0.9867



NOTICE - Preliminary computation
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