

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

Station - 05356000 CHIPPEWA RIVER AT BISHOPS BRIDGE NEAR WINTER, WI
 2002 JUL 10 11:20:43

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.		521.1	
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		15272.3	
*WCF151I-17B WEIGHTED SKEW REPLACED BY USER OPTION.	-0.418	-0.565	-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	3.4504	0.2519	-0.565
BULL.17B ESTIMATE	0.0	1.0000	3.4504	0.2519	-0.565

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	467.0	467.0	431.8	343.4	593.4
0.9900	578.7	578.7	545.3	438.9	718.7
0.9500	999.3	999.3	974.3	816.5	1176.0
0.9000	1307.0	1307.0	1287.0	1103.0	1503.0
0.8000	1771.0	1771.0	1758.0	1543.0	1998.0
0.5000	2979.0	2979.0	2979.0	2665.0	3336.0
0.2000	4637.0	4637.0	4660.0	4104.0	5339.0
0.1000	5677.0	5677.0	5727.0	4961.0	6672.0
0.0400	6899.0	6899.0	6999.0	5937.0	8293.0
0.0200	7739.0	7739.0	7884.0	6594.0	9437.0
0.0100	8522.0	8522.0	8718.0	7197.0	10520.0
0.0050	9254.0	9254.0	9506.0	7754.0	11550.0
0.0020	10150.0	10150.0	10490.0	8432.0	12830.0
0.6667	2304.0	(1.50-year flood)			
0.4292	3303.1	(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	3360.0	K	1964	1080.0	K
1928	3810.0	K	1965	2890.0	K
1929	3810.0	K	1966	2940.0	K
1930	1870.0	K	1967	6460.0	K
1931	1450.0	K	1968	4780.0	K
1932	1250.0	K	1969	3190.0	K
1933	746.0	K	1970	1610.0	K
1934	819.0	K	1971	3290.0	K
1935	1780.0	K	1972	5930.0	K
1936	2600.0	K	1973	2990.0	K
1937	1200.0	K	1974	3390.0	K
1938	3650.0	K	1975	1620.0	K
1939	4660.0	K	1976	3450.0	
1940	2050.0	K	1977	3920.0	
1941	7520.0	K	1978	4700.0	K
1942	3260.0	K	1979	2460.0	K
1943	4130.0	K	1980	1720.0	
1944	5060.0	K	1981	5460.0	
1945	3340.0	K	1982	2590.0	
1946	7220.0	K	1983	2080.0	
1947	2030.0	K	1984	3190.0	
1948	919.0	K	1985	2520.0	
1949	722.0	K	1986	6290.0	
1950	6650.0	K	1987	3090.0	
1951	3620.0	K	1988	1940.0	
1952	3340.0	K	1989	1810.0	
1953	4070.0	K	1990	4200.0	
1954	6800.0	K	1991	2210.0	K
1955	2490.0	K	1992	3590.0	K
1956	1100.0	K	1993	4280.0	K
1957	818.0	K	1994	6070.0	K
1958	3480.0	K	1995	2630.0	K
1959	2890.0	K	1996	5330.0	K
1960	4630.0	K	1997	3750.0	K
1961	1670.0	K	1998	5290.0	K
1962	2480.0	K	1999	3010.0	K
1963	1240.0	K	2000	3750.0	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

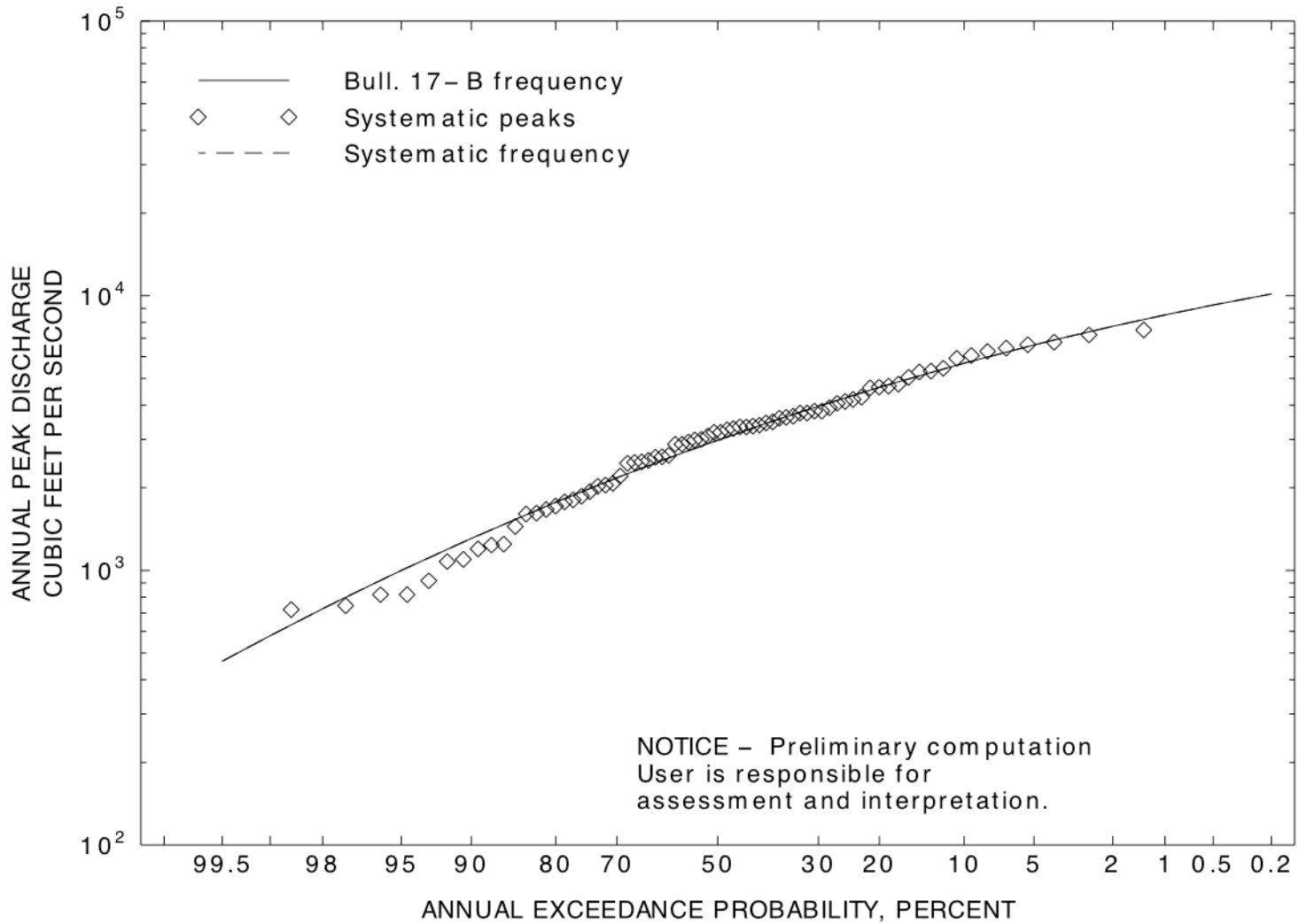
K 6 OR C Known effect of regulation or urbanization
H 7 Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1941	7520.0	0.0133	0.0133
1946	7220.0	0.0267	0.0267
1954	6800.0	0.0400	0.0400
1950	6650.0	0.0533	0.0533
1967	6460.0	0.0667	0.0667
1986	6290.0	0.0800	0.0800
1994	6070.0	0.0933	0.0933
1972	5930.0	0.1067	0.1067
1981	5460.0	0.1200	0.1200
1996	5330.0	0.1333	0.1333
1998	5290.0	0.1467	0.1467
1944	5060.0	0.1600	0.1600
1968	4780.0	0.1733	0.1733
1978	4700.0	0.1867	0.1867
1939	4660.0	0.2000	0.2000
1960	4630.0	0.2133	0.2133
1993	4280.0	0.2267	0.2267
1990	4200.0	0.2400	0.2400
1943	4130.0	0.2533	0.2533
1953	4070.0	0.2667	0.2667
1977	3920.0	0.2800	0.2800
1928	3810.0	0.2933	0.2933
1929	3810.0	0.3067	0.3067
1997	3750.0	0.3200	0.3200
2000	3750.0	0.3333	0.3333
1938	3650.0	0.3467	0.3467
1951	3620.0	0.3600	0.3600
1992	3590.0	0.3733	0.3733
1958	3480.0	0.3867	0.3867
1976	3450.0	0.4000	0.4000
1974	3390.0	0.4133	0.4133
1927	3360.0	0.4267	0.4267
1945	3340.0	0.4400	0.4400
1952	3340.0	0.4533	0.4533
1971	3290.0	0.4667	0.4667
1942	3260.0	0.4800	0.4800
1969	3190.0	0.4933	0.4933
1984	3190.0	0.5067	0.5067
1987	3090.0	0.5200	0.5200
1999	3010.0	0.5333	0.5333
1973	2990.0	0.5467	0.5467
1966	2940.0	0.5600	0.5600
1959	2890.0	0.5733	0.5733
1965	2890.0	0.5867	0.5867
1995	2630.0	0.6000	0.6000
1936	2600.0	0.6133	0.6133
1982	2590.0	0.6267	0.6267
1985	2520.0	0.6400	0.6400

1955	2490.0	0.6533	0.6533
1962	2480.0	0.6667	0.6667
1979	2460.0	0.6800	0.6800
1991	2210.0	0.6933	0.6933
1983	2080.0	0.7067	0.7067
1940	2050.0	0.7200	0.7200
1947	2030.0	0.7333	0.7333
1988	1940.0	0.7467	0.7467
1930	1870.0	0.7600	0.7600
1989	1810.0	0.7733	0.7733
1935	1780.0	0.7867	0.7867
1980	1720.0	0.8000	0.8000
1961	1670.0	0.8133	0.8133
1975	1620.0	0.8267	0.8267
1970	1610.0	0.8400	0.8400
1931	1450.0	0.8533	0.8533
1932	1250.0	0.8667	0.8667
1963	1240.0	0.8800	0.8800
1937	1200.0	0.8933	0.8933
1956	1100.0	0.9067	0.9067
1964	1080.0	0.9200	0.9200
1948	919.0	0.9333	0.9333
1934	819.0	0.9467	0.9467
1957	818.0	0.9600	0.9600
1933	746.0	0.9733	0.9733
1949	722.0	0.9867	0.9867



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