

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

Station - 05341500 APPLE RIVER NEAR SOMERSET, 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	=	80
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	80
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.375
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.	344.4
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	3889.8

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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	3.0635	0.1791	-0.279
BULL.17B ESTIMATE	0.0	1.0000	3.0635	0.1791	-0.299

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	356.6	359.4	341.7	293.4	415.9
0.9900	405.5	408.0	392.4	339.6	466.9
0.9500	568.2	569.4	559.9	496.9	633.9
0.9000	674.6	675.0	668.5	601.7	742.2
0.8000	824.1	823.6	820.5	749.5	895.3
0.5000	1181.0	1180.0	1181.0	1095.0	1276.0
0.2000	1645.0	1645.0	1651.0	1513.0	1811.0
0.1000	1934.0	1936.0	1947.0	1761.0	2162.0
0.0400	2279.0	2286.0	2306.0	2049.0	2596.0
0.0200	2523.0	2535.0	2563.0	2248.0	2910.0
0.0100	2756.0	2774.0	2812.0	2436.0	3214.0
0.0050	2982.0	3005.0	3056.0	2616.0	3513.0
0.0020	3269.0	3302.0	3373.0	2842.0	3899.0
0.6667	986.0	(1.50-year flood)			
0.4292	1271.8	(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
1905	2280.0		1945	1890.0	
1906	2250.0		1946	1870.0	
1907	1640.0		1947	1150.0	
1908	1380.0		1948	1780.0	
1909	1060.0		1949	942.0	
1910	603.0		1950	1290.0	
1911	540.0		1951	1930.0	
1912	930.0		1952	2380.0	
1913	990.0		1953	1300.0	
1914	870.0		1954	2200.0	
1915	824.0		1955	760.0	
1916	1800.0		1956	1540.0	
1917	966.0		1957	890.0	
1918	1160.0		1958	703.0	
1919	1120.0		1959	495.0	
1920	1370.0		1960	1060.0	
1921	671.0		1961	981.0	
1922	1420.0		1962	1400.0	
1923	1060.0		1963	1040.0	
1924	537.0		1964	860.0	
1925	598.0		1965	2510.0	
1926	932.0		1966	1060.0	
1927	982.0		1967	1920.0	
1928	1160.0		1968	890.0	
1929	1140.0		1969	1330.0	
1930	919.0		1970	1040.0	
1931	381.0		1987	690.0	
1932	1220.0		1988	536.0	
1933	1300.0		1989	971.0	
1934	1670.0		1990	1370.0	
1935	814.0		1991	1210.0	
1936	1690.0		1992	1090.0	
1937	558.0		1993	1290.0	
1938	2160.0		1994	1320.0	
1939	1570.0		1995	1410.0	
1940	1010.0		1996	1670.0	
1941	1400.0		1997	1630.0	
1942	1020.0		1998	1590.0	
1943	2460.0		1999	886.0	
1944	1930.0		2000	1100.0	

Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly

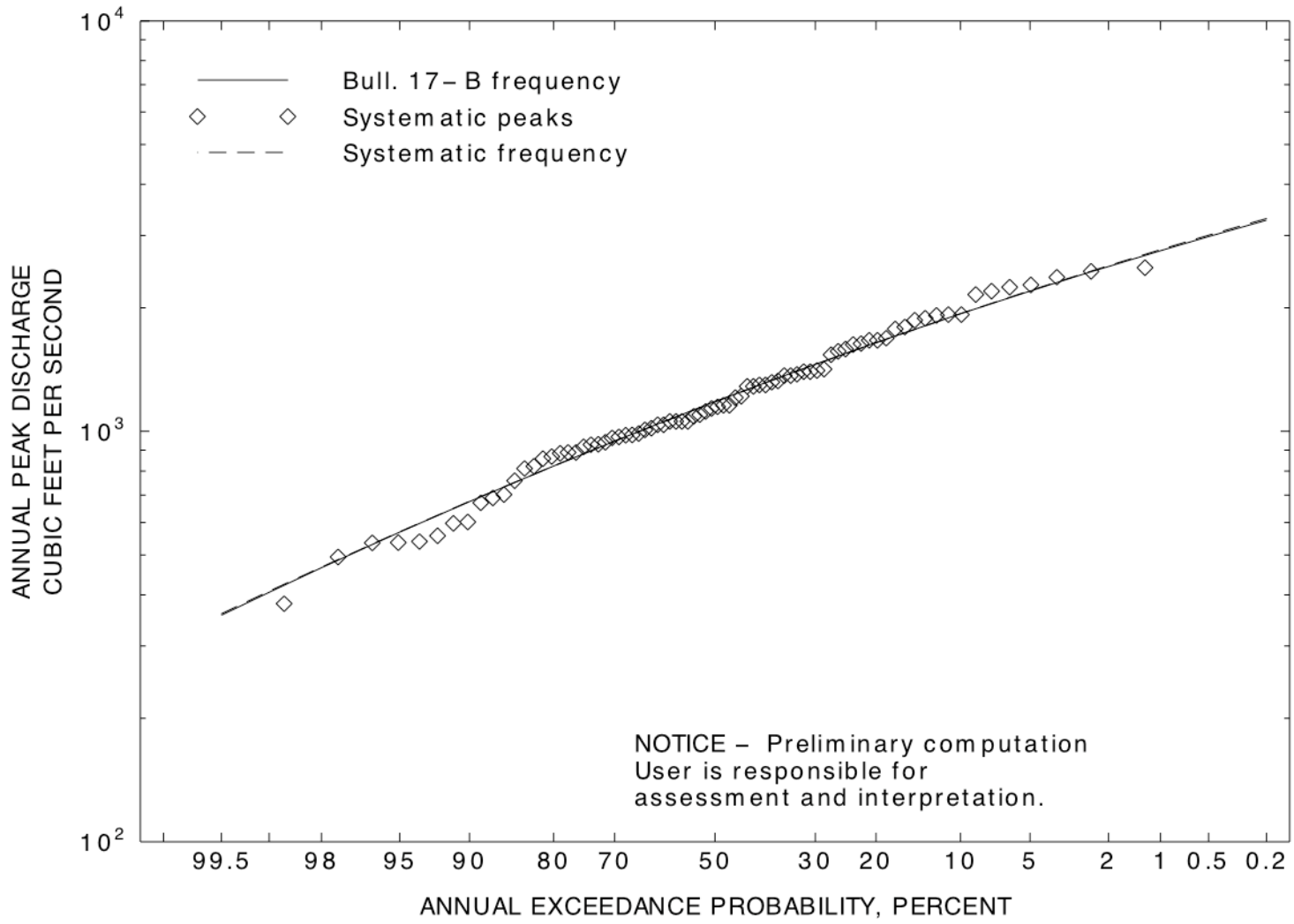
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1965	2510.0	0.0123	0.0123
1943	2460.0	0.0247	0.0247
1952	2380.0	0.0370	0.0370
1905	2280.0	0.0494	0.0494
1906	2250.0	0.0617	0.0617
1954	2200.0	0.0741	0.0741
1938	2160.0	0.0864	0.0864
1944	1930.0	0.0988	0.0988
1951	1930.0	0.1111	0.1111
1967	1920.0	0.1235	0.1235
1945	1890.0	0.1358	0.1358
1946	1870.0	0.1481	0.1481
1916	1800.0	0.1605	0.1605
1948	1780.0	0.1728	0.1728
1936	1690.0	0.1852	0.1852
1934	1670.0	0.1975	0.1975
1996	1670.0	0.2099	0.2099
1907	1640.0	0.2222	0.2222
1997	1630.0	0.2346	0.2346
1998	1590.0	0.2469	0.2469
1939	1570.0	0.2593	0.2593
1956	1540.0	0.2716	0.2716
1922	1420.0	0.2840	0.2840
1995	1410.0	0.2963	0.2963
1941	1400.0	0.3086	0.3086
1962	1400.0	0.3210	0.3210
1908	1380.0	0.3333	0.3333
1920	1370.0	0.3457	0.3457
1990	1370.0	0.3580	0.3580
1969	1330.0	0.3704	0.3704
1994	1320.0	0.3827	0.3827
1933	1300.0	0.3951	0.3951
1953	1300.0	0.4074	0.4074
1950	1290.0	0.4198	0.4198
1993	1290.0	0.4321	0.4321
1932	1220.0	0.4444	0.4444
1991	1210.0	0.4568	0.4568
1918	1160.0	0.4691	0.4691
1928	1160.0	0.4815	0.4815
1947	1150.0	0.4938	0.4938
1929	1140.0	0.5062	0.5062
1919	1120.0	0.5185	0.5185
2000	1100.0	0.5309	0.5309
1992	1090.0	0.5432	0.5432
1909	1060.0	0.5556	0.5556
1923	1060.0	0.5679	0.5679
1960	1060.0	0.5802	0.5802
1966	1060.0	0.5926	0.5926

1963	1040.0	0.6049	0.6049
1970	1040.0	0.6173	0.6173
1942	1020.0	0.6296	0.6296
1940	1010.0	0.6420	0.6420
1913	990.0	0.6543	0.6543
1927	982.0	0.6667	0.6667
1961	981.0	0.6790	0.6790
1989	971.0	0.6914	0.6914
1917	966.0	0.7037	0.7037
1949	942.0	0.7160	0.7160
1926	932.0	0.7284	0.7284
1912	930.0	0.7407	0.7407
1930	919.0	0.7531	0.7531
1957	890.0	0.7654	0.7654
1968	890.0	0.7778	0.7778
1999	886.0	0.7901	0.7901
1914	870.0	0.8025	0.8025
1964	860.0	0.8148	0.8148
1915	824.0	0.8272	0.8272
1935	814.0	0.8395	0.8395
1955	760.0	0.8519	0.8519
1958	703.0	0.8642	0.8642
1987	690.0	0.8765	0.8765
1921	671.0	0.8889	0.8889
1910	603.0	0.9012	0.9012
1925	598.0	0.9136	0.9136
1937	558.0	0.9259	0.9259
1911	540.0	0.9383	0.9383
1924	537.0	0.9506	0.9506
1988	536.0	0.9630	0.9630
1959	495.0	0.9753	0.9753
1931	381.0	0.9877	0.9877



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