

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

Station - 04081000 WAUPACA RIVER NEAR WAUPACA, WI
2002 MAR 13 09:02:35

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

Number of peaks in record	=	57
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	57
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.317
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.	255.6
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	4022.4

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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	3.0061	0.2124	-0.607
BULL.17B ESTIMATE	0.0	1.0000	3.0061	0.2124	-0.518

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	227.4	218.5	209.1	168.7	284.6
0.9900	271.0	263.0	254.4	207.1	332.2
0.9500	425.0	420.8	413.6	349.0	495.8
0.9000	530.7	529.5	522.0	449.9	606.4
0.8000	683.5	686.2	678.2	597.4	766.9
0.5000	1058.0	1065.0	1058.0	950.3	1180.0
0.2000	1542.0	1542.0	1550.0	1372.0	1768.0
0.1000	1835.0	1823.0	1854.0	1614.0	2150.0
0.0400	2175.0	2138.0	2211.0	1884.0	2607.0
0.0200	2406.0	2347.0	2458.0	2064.0	2928.0
0.0100	2620.0	2536.0	2691.0	2228.0	3230.0
0.0050	2820.0	2709.0	2911.0	2379.0	3516.0
0.0020	3065.0	2917.0	3188.0	2562.0	3873.0
0.6667	852.0	(1.50-year flood)			
0.4292	1154.1	(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
1917	1000.0		1946	1360.0	
1918	1400.0		1947	855.0	
1919	1900.0		1948	2520.0	
1920	1080.0		1949	652.0	
1921	900.0		1950	2100.0	
1922	1440.0		1951	740.0	
1923	1800.0		1952	1440.0	
1924	1440.0		1953	1660.0	
1925	784.0		1954	455.0	
1926	1100.0		1955	950.0	
1927	521.0		1956	1650.0	
1928	1490.0		1957	353.0	
1929	1590.0		1958	375.0	
1930	876.0		1959	1250.0	
1931	322.0		1960	1180.0	
1932	488.0		1961	1070.0	
1933	1490.0		1962	620.0	
1934	2040.0		1963	1570.0	
1935	710.0		1964	328.0	
1936	980.0		1965	1360.0	
1937	758.0		1966	1220.0	
1938	1440.0		1967	1060.0	
1939	1660.0		1968	535.0	
1940	1900.0		1969	770.0	
1941	665.0		1970	1050.0	
1942	960.0		1983	954.0	
1943	1570.0		1984	890.0	
1944	1160.0		1985	849.0	
1945	1000.0				

Explanation of peak discharge qualification codes

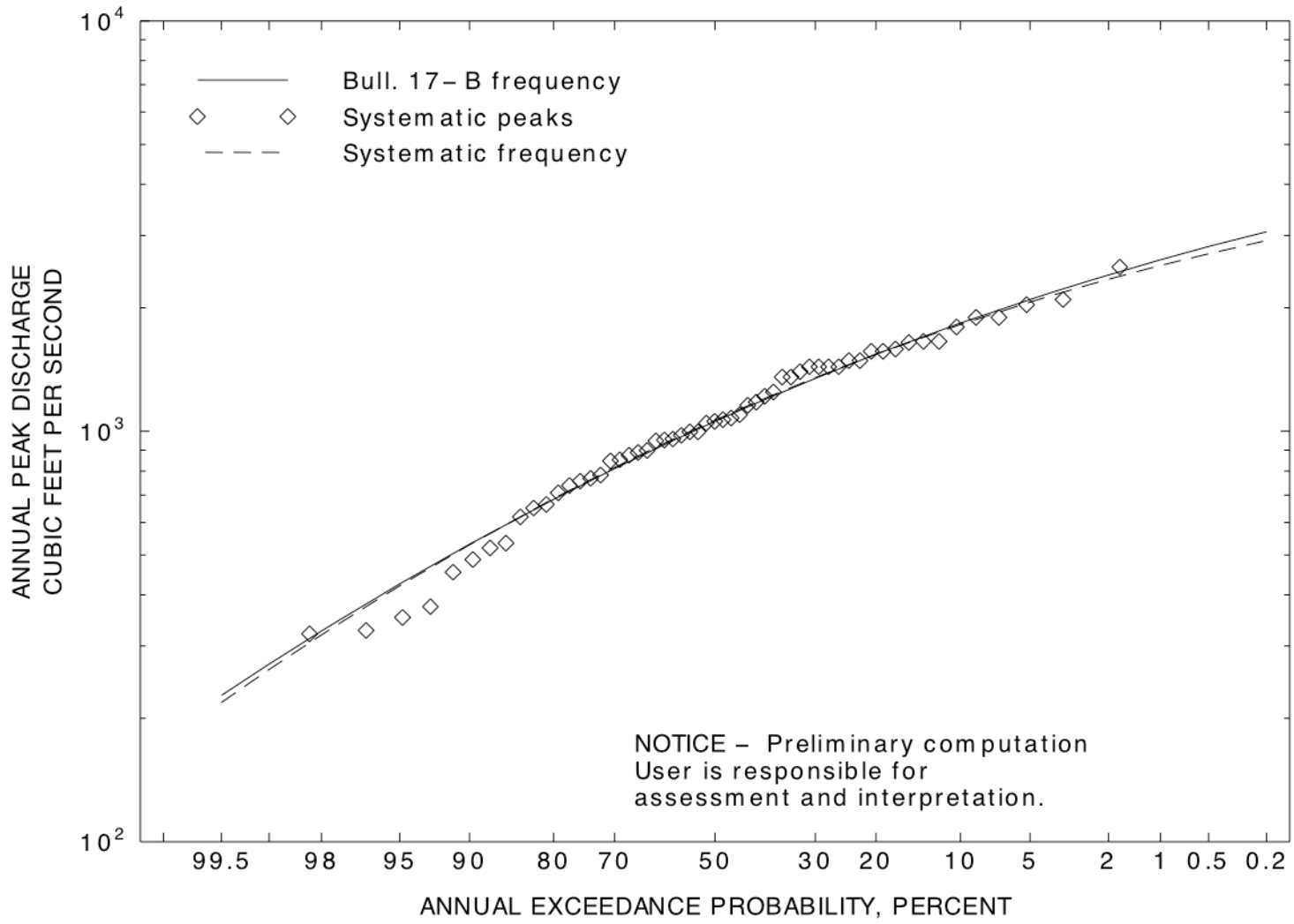
PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1948	2520.0	0.0172	0.0172
1950	2100.0	0.0345	0.0345
1934	2040.0	0.0517	0.0517
1919	1900.0	0.0690	0.0690
1940	1900.0	0.0862	0.0862
1923	1800.0	0.1034	0.1034
1939	1660.0	0.1207	0.1207
1953	1660.0	0.1379	0.1379
1956	1650.0	0.1552	0.1552
1929	1590.0	0.1724	0.1724
1943	1570.0	0.1897	0.1897
1963	1570.0	0.2069	0.2069
1928	1490.0	0.2241	0.2241
1933	1490.0	0.2414	0.2414
1922	1440.0	0.2586	0.2586
1924	1440.0	0.2759	0.2759
1938	1440.0	0.2931	0.2931
1952	1440.0	0.3103	0.3103
1918	1400.0	0.3276	0.3276
1946	1360.0	0.3448	0.3448
1965	1360.0	0.3621	0.3621
1959	1250.0	0.3793	0.3793
1966	1220.0	0.3966	0.3966
1960	1180.0	0.4138	0.4138
1944	1160.0	0.4310	0.4310
1926	1100.0	0.4483	0.4483
1920	1080.0	0.4655	0.4655
1961	1070.0	0.4828	0.4828
1967	1060.0	0.5000	0.5000
1970	1050.0	0.5172	0.5172
1917	1000.0	0.5345	0.5345
1945	1000.0	0.5517	0.5517
1936	980.0	0.5690	0.5690
1942	960.0	0.5862	0.5862
1983	954.0	0.6034	0.6034
1955	950.0	0.6207	0.6207
1921	900.0	0.6379	0.6379
1984	890.0	0.6552	0.6552
1930	876.0	0.6724	0.6724
1947	855.0	0.6897	0.6897
1985	849.0	0.7069	0.7069
1925	784.0	0.7241	0.7241
1969	770.0	0.7414	0.7414
1937	758.0	0.7586	0.7586
1951	740.0	0.7759	0.7759
1935	710.0	0.7931	0.7931
1941	665.0	0.8103	0.8103
1949	652.0	0.8276	0.8276

1962	620.0	0.8448	0.8448
1968	535.0	0.8621	0.8621
1927	521.0	0.8793	0.8793
1932	488.0	0.8966	0.8966
1954	455.0	0.9138	0.9138
1958	375.0	0.9310	0.9310
1957	353.0	0.9483	0.9483
1964	328.0	0.9655	0.9655
1931	322.0	0.9828	0.9828



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