

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

Station - 05341700 WILLOW RIVER TRIBUTARY NR NEW RICHMOND, WI  
 2002 MAR 13 09:02:47

I N P U T   D A T A   S U M M A R Y

Number of peaks in record	=	22
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	22
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.371
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
WCF198I-LOW OUTLIERS BELOW FLOOD BASE WERE DROPPED.	1	4.9
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		375.0

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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	1.6952	0.4146	-1.500
BULL.17B ESTIMATE	4.9	0.9545	1.7210	0.3689	-0.776

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	--	1.2	--	--	--
0.9900	--	2.1	--	--	--
0.9500	11.1	7.7	9.6	5.9	16.8
0.9000	16.9	13.9	15.6	10.1	24.2
0.8000	27.1	25.6	26.0	18.1	36.9
0.5000	58.6	62.3	58.6	43.4	80.5
0.2000	108.9	109.0	111.3	79.4	165.0
0.1000	142.1	131.0	147.6	101.0	229.1
0.0400	181.4	149.5	192.7	125.3	311.7
0.0200	208.2	158.4	224.5	141.1	371.3
0.0100	232.6	164.4	254.7	155.1	428.0
0.0050	254.8	168.5	282.7	167.6	481.4
0.0020	281.2	171.9	316.4	182.2	546.7
0.6667	40.2	( 1.50-year flood )			
0.4292	68.2	( 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
1959	4.0		1970	66.0	
1960	92.0		1971	100.0	
1961	62.0		1972	32.0	
1962	70.0		1973	65.0	
1963	25.0		1974	55.0	
1964	6.0		1975	86.0	
1965	96.0		1976	17.0	
1966	74.0		1977	80.0	
1967	70.0		1978	112.0	
1968	64.0		1979	130.0	
1969	15.0		1980	134.0	

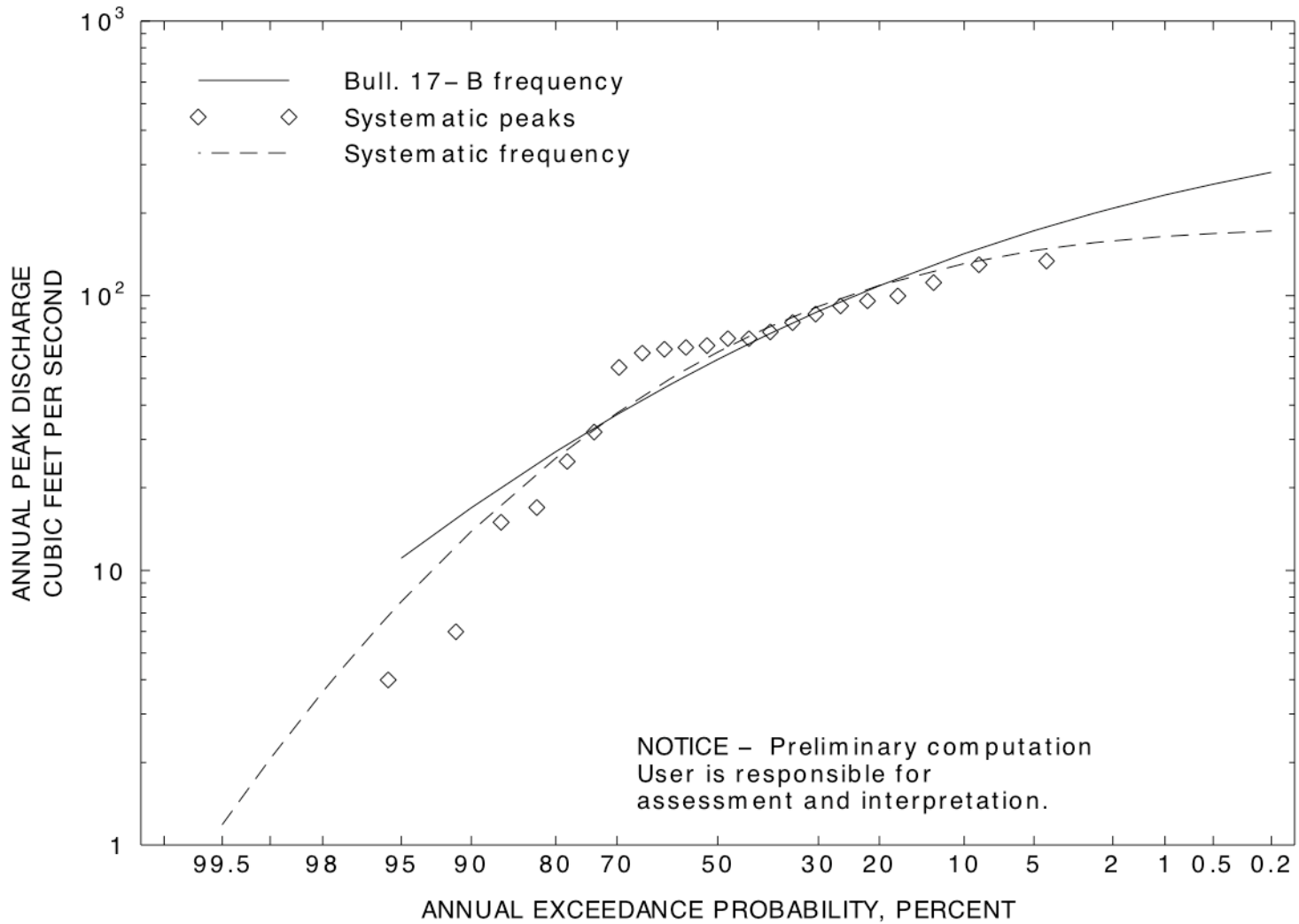
Explanation of peak discharge qualification codes

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
1980	134.0	0.0435	0.0435
1979	130.0	0.0870	0.0870
1978	112.0	0.1304	0.1304
1971	100.0	0.1739	0.1739
1965	96.0	0.2174	0.2174
1960	92.0	0.2609	0.2609
1975	86.0	0.3043	0.3043
1977	80.0	0.3478	0.3478
1966	74.0	0.3913	0.3913
1962	70.0	0.4348	0.4348
1967	70.0	0.4783	0.4783
1970	66.0	0.5217	0.5217
1973	65.0	0.5652	0.5652
1968	64.0	0.6087	0.6087
1961	62.0	0.6522	0.6522
1974	55.0	0.6957	0.6957
1972	32.0	0.7391	0.7391
1963	25.0	0.7826	0.7826
1976	17.0	0.8261	0.8261
1969	15.0	0.8696	0.8696
1964	6.0	0.9130	0.9130
1959	4.0	0.9565	0.9565



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