

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

Station - 04026200 SAND RIVER TRIBUTARY NEAR RED CLIFF, WI
 2002 MAR 13 09:01:59

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

Number of peaks in record	=	42
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	42
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.110
Standard error of generalized skew	=	0.550
Skew option	=	WEIGHTED
Gage base discharge	=	40.0
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. *****

WCF133I-SYSTEMATIC PEAKS BELOW GAGE BASE WERE NOTED.	3	40.0
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		651.4
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		23.7

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	40.0	0.9286	2.0681	0.2793	0.672
BULL.17B ESTIMATE	40.0	0.9286	2.0681	0.2793	0.384

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
0.9000	52.9	54.5	51.9	41.2	64.4
0.8000	67.5	67.4	66.8	54.5	80.6
0.5000	112.3	108.9	112.3	94.9	132.4
0.2000	197.9	194.7	200.6	166.1	244.4
0.1000	272.6	275.4	280.3	223.0	353.1
0.0400	390.7	412.3	412.0	307.4	539.2
0.0200	498.2	545.3	538.3	380.5	720.1
0.0100	624.3	710.3	693.8	463.1	943.4
0.0050	771.9	914.6	886.7	556.6	1218.0
0.0020	1006.0	1260.0	1214.0	699.4	1676.0
0.6667	86.0	(1.50-year flood)			
0.4292	125.6	(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	90.0		1980	135.0	
1960	68.0		1981	190.0	
1961	125.0		1982	160.0	
1962	58.0		1983	218.0	
1963	65.0		1984	115.0	
1964	624.0		1985	145.0	
1965	40.0	L	1986	223.0	
1966	64.0		1987	333.0	
1967	158.0		1988	200.0	
1968	68.0		1989	230.0	
1969	65.0		1990	170.0	
1970	140.0		1991	530.0	
1971	125.0		1992	69.0	
1972	360.0		1993	83.0	
1973	65.0		1994	195.0	
1974	120.0		1995	71.0	
1975	90.0		1996	106.0	
1976	95.0		1997	68.6	
1977	75.0		1998	44.4	
1978	40.0	L	1999	107.0	
1979	155.0		2000	24.0	

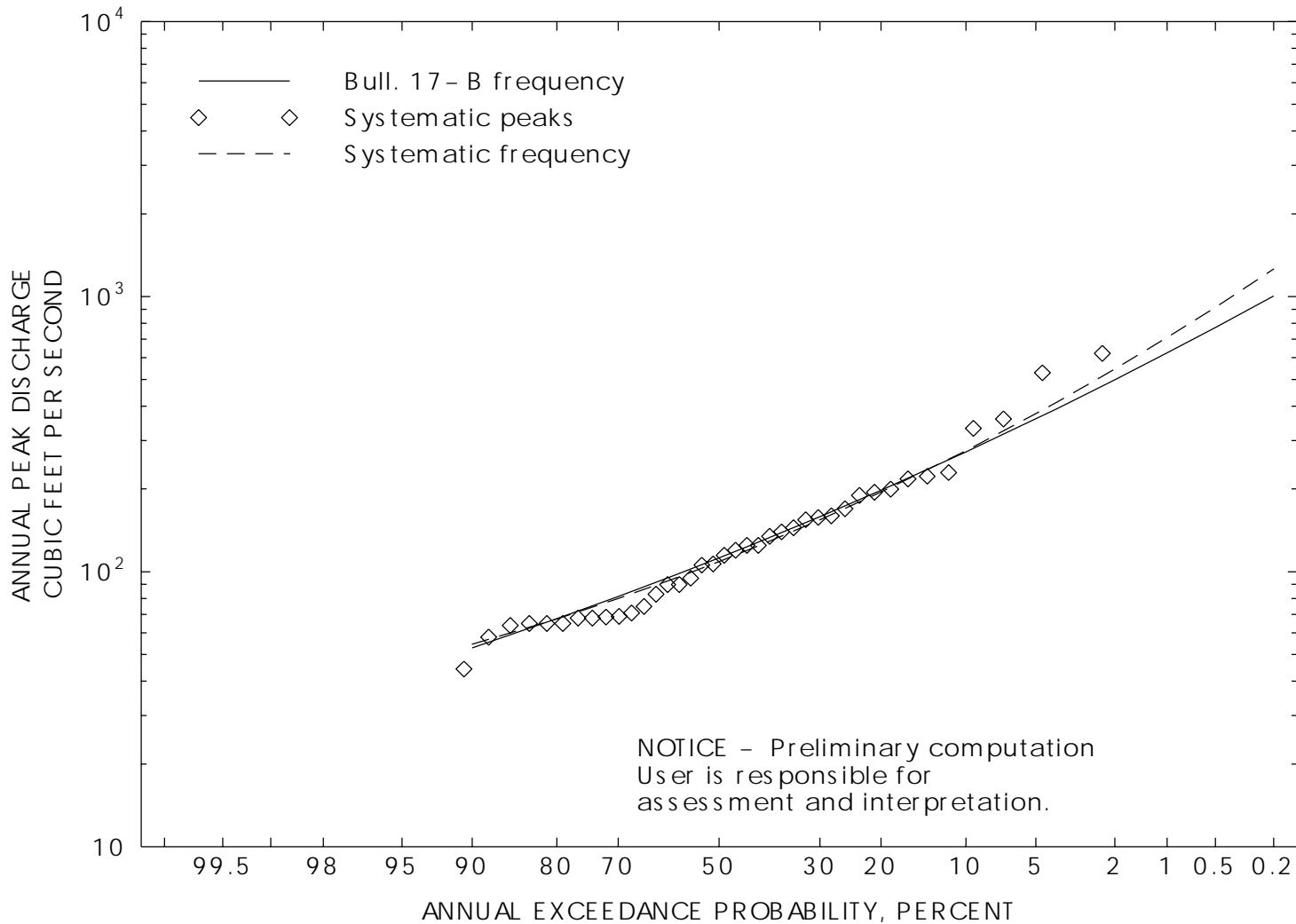
Explanation of peak discharge qualification codes

PEAKFQ CODE	WATSTORE 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
1964	624.0	0.0233	0.0233
1991	530.0	0.0465	0.0465
1972	360.0	0.0698	0.0698
1987	333.0	0.0930	0.0930
1989	230.0	0.1163	0.1163
1986	223.0	0.1395	0.1395
1983	218.0	0.1628	0.1628
1988	200.0	0.1860	0.1860
1994	195.0	0.2093	0.2093
1981	190.0	0.2326	0.2326
1990	170.0	0.2558	0.2558
1982	160.0	0.2791	0.2791
1967	158.0	0.3023	0.3023
1979	155.0	0.3256	0.3256
1985	145.0	0.3488	0.3488
1970	140.0	0.3721	0.3721
1980	135.0	0.3953	0.3953
1961	125.0	0.4186	0.4186
1971	125.0	0.4419	0.4419
1974	120.0	0.4651	0.4651
1984	115.0	0.4884	0.4884
1999	107.0	0.5116	0.5116
1996	106.0	0.5349	0.5349
1976	95.0	0.5581	0.5581
1959	90.0	0.5814	0.5814
1975	90.0	0.6047	0.6047
1993	83.0	0.6279	0.6279
1977	75.0	0.6512	0.6512
1995	71.0	0.6744	0.6744
1992	69.0	0.6977	0.6977
1997	68.6	0.7209	0.7209
1960	68.0	0.7442	0.7442
1968	68.0	0.7674	0.7674
1963	65.0	0.7907	0.7907
1969	65.0	0.8140	0.8140
1973	65.0	0.8372	0.8372
1966	64.0	0.8605	0.8605
1962	58.0	0.8837	0.8837
1998	44.4	0.9070	0.9070
1965	40.0	--	--
1978	40.0	--	--
2000	24.0	--	--



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