

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

Station - 05427965 SPRING HARBOR STORM SEWER AT MADISON, WI
2002 MAR 13 09:03:20

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

Number of peaks in record	=	25
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	25
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.398
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.	122.3
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	1196.9

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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	2.5828	0.1992	-0.530
BULL.17B ESTIMATE	0.0	1.0000	2.5828	0.1992	-0.470

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	96.0	93.6	79.9	60.4	129.4
0.9900	112.7	110.5	98.1	74.2	147.8
0.9500	170.1	169.0	160.4	125.4	209.4
0.9000	208.7	208.4	201.4	161.9	250.2
0.8000	263.8	264.4	259.3	215.2	309.3
0.5000	396.6	398.4	396.6	340.1	464.4
0.2000	566.7	566.8	573.6	482.5	697.4
0.1000	669.8	667.0	684.8	561.5	854.3
0.0400	789.4	781.1	819.6	648.7	1047.0
0.0200	871.3	857.9	915.7	706.4	1186.0
0.0100	947.5	928.4	1009.0	758.9	1318.0
0.0050	1019.0	993.7	1100.0	807.4	1446.0
0.0020	1108.0	1073.0	1217.0	866.3	1608.0
0.6667	323.8	(1.50-year flood)			
0.4292	430.4	(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
1976	169.0		1989	481.0	
1977	572.0		1990	547.0	
1978	529.0		1991	460.0	
1979	248.0		1992	252.0	
1980	450.0		1993	754.0	
1981	706.0		1994	192.0	
1982	283.0		1995	302.0	
1983	318.0		1996	470.0	
1984	650.0		1997	385.0	
1985	259.0		1998	374.0	
1986	303.0		1999	568.0	
1987	437.0		2000	648.0	
1988	138.0				

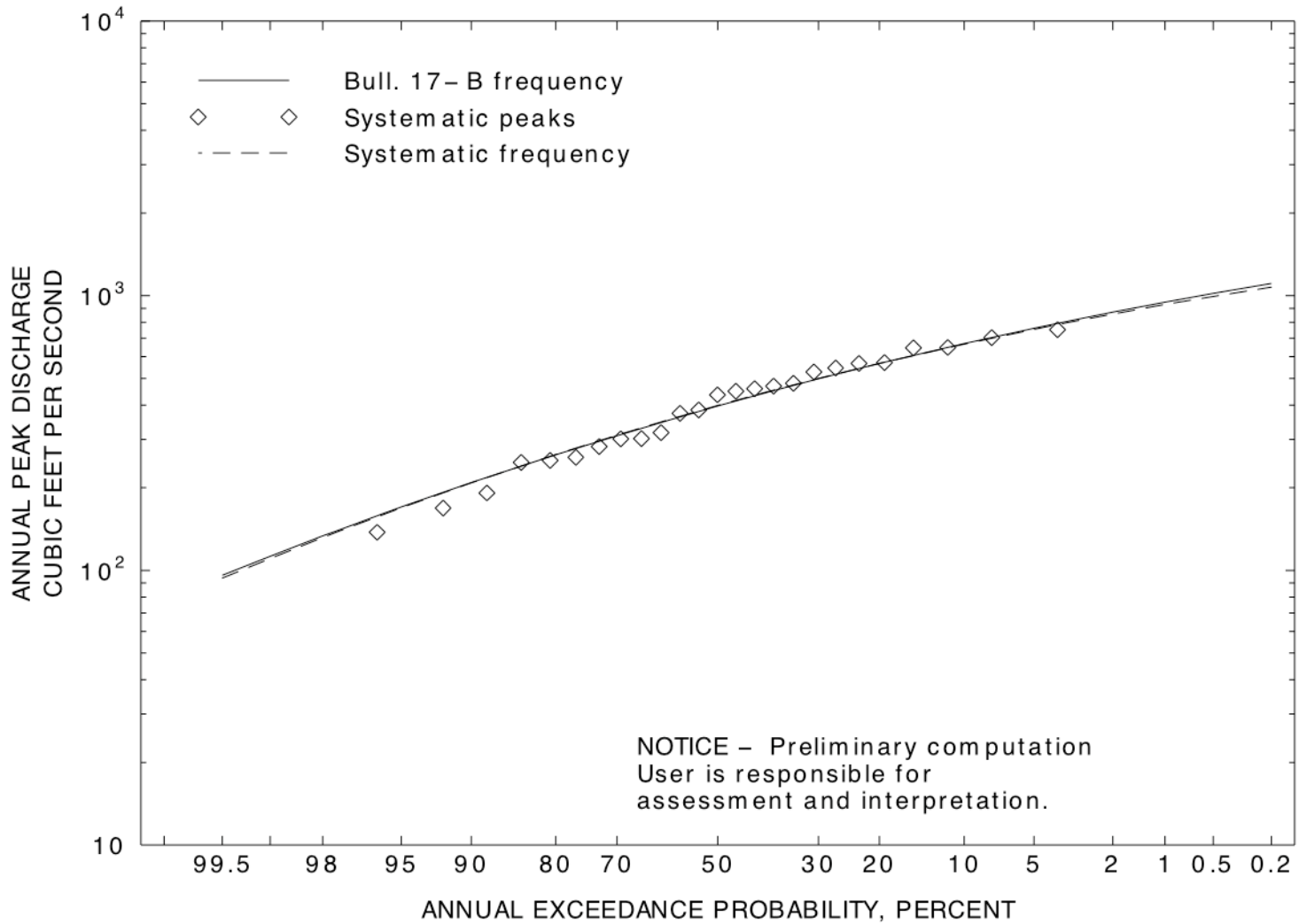
Explanation of peak discharge qualification codes

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
1993	754.0	0.0385	0.0385
1981	706.0	0.0769	0.0769
1984	650.0	0.1154	0.1154
2000	648.0	0.1538	0.1538
1977	572.0	0.1923	0.1923
1999	568.0	0.2308	0.2308
1990	547.0	0.2692	0.2692
1978	529.0	0.3077	0.3077
1989	481.0	0.3462	0.3462
1996	470.0	0.3846	0.3846
1991	460.0	0.4231	0.4231
1980	450.0	0.4615	0.4615
1987	437.0	0.5000	0.5000
1997	385.0	0.5385	0.5385
1998	374.0	0.5769	0.5769
1983	318.0	0.6154	0.6154
1986	303.0	0.6538	0.6538
1995	302.0	0.6923	0.6923
1982	283.0	0.7308	0.7308
1985	259.0	0.7692	0.7692
1992	252.0	0.8077	0.8077
1979	248.0	0.8462	0.8462
1994	192.0	0.8846	0.8846
1976	169.0	0.9231	0.9231
1988	138.0	0.9615	0.9615



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