

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

Station - 0407809265 MIDDLE BRANCH EMBARRASS RIVER NR WITTENBERG, 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	=	11
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	11
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.257
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.	194.9
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	1061.7
**WCF233W-EXPECTED PROB OUT OF RANGE AT TAB PROB.	0.00005    0.00200
WCF002J-CALCS COMPLETED. RETURN CODE = 2	

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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	2.6579	0.1763	0.321
BULL.17B ESTIMATE	0.0	1.0000	2.6579	0.1763	-0.027

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	158.3	180.7	116.5	81.5	220.9
0.9900	175.5	194.9	139.0	95.5	239.4
0.9500	232.6	242.6	209.9	146.4	299.6
0.9000	270.1	274.8	253.7	182.6	339.4
0.8000	323.4	321.7	313.5	236.3	397.9
0.5000	455.7	445.1	455.7	367.1	566.1
0.2000	640.5	635.1	660.4	520.5	877.2
0.1000	764.4	774.5	812.4	608.5	1130.0
0.0400	922.3	966.3	1033.0	711.2	1492.0
0.0200	1041.0	1121.0	1226.0	783.7	1792.0
0.0100	1160.0	1286.0	1449.0	853.6	2114.0
0.0050	1281.0	1462.0	1713.0	922.0	2461.0
0.0020	1444.0	1715.0	--	1011.0	2960.0
0.6667	382.6	( 1.50-year flood )			
0.4292	489.9	( 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
1990	710.0		1996	905.0	
1991	402.0		1997	684.0	
1992	468.0		1998	307.0	
1993	592.0		1999	306.0	
1994	440.0		2000	322.0	
1995	265.0				

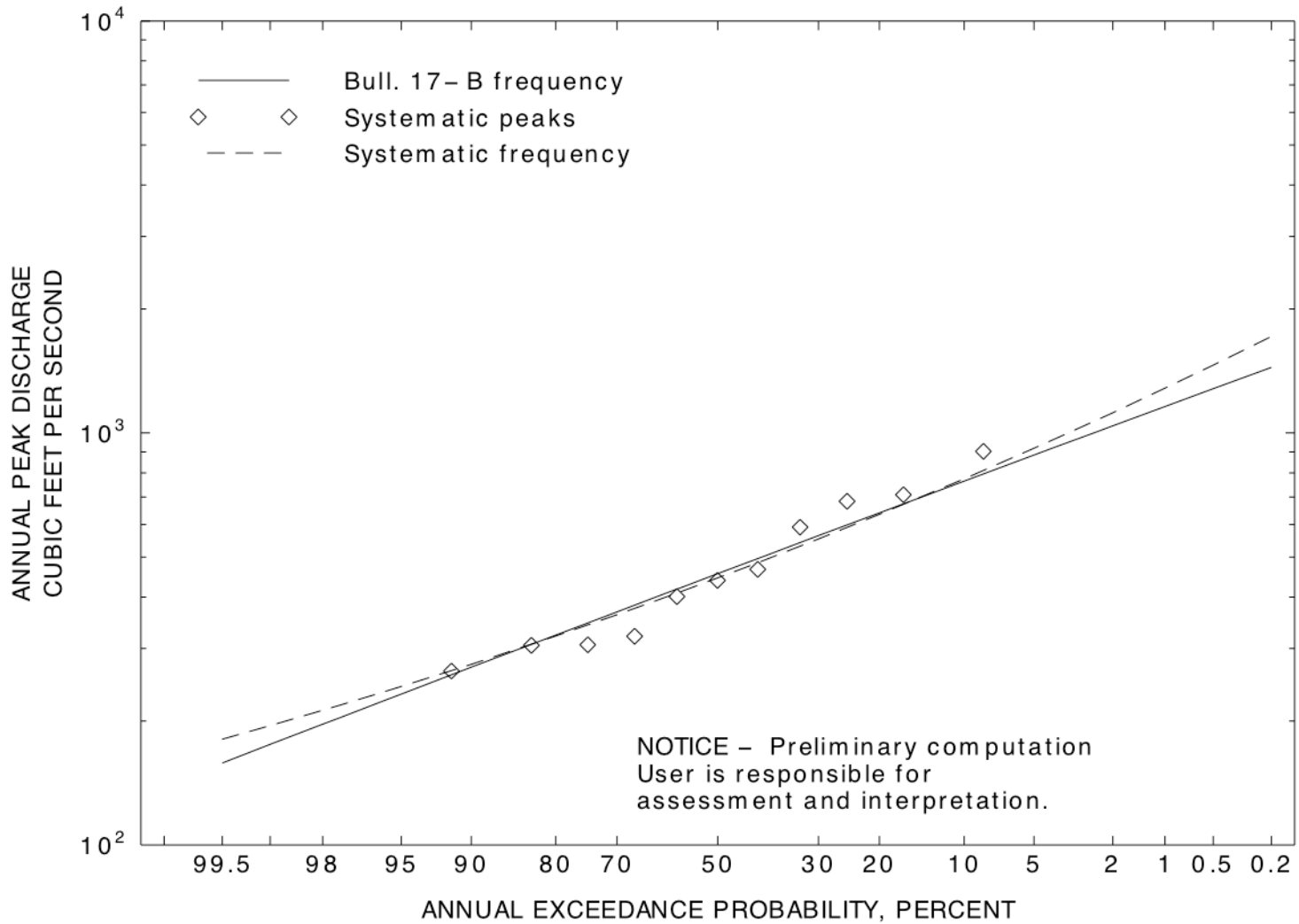
Explanation of peak discharge qualification codes

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
1996	905.0	0.0833	0.0833
1990	710.0	0.1667	0.1667
1997	684.0	0.2500	0.2500
1993	592.0	0.3333	0.3333
1992	468.0	0.4167	0.4167
1994	440.0	0.5000	0.5000
1991	402.0	0.5833	0.5833
2000	322.0	0.6667	0.6667
1998	307.0	0.7500	0.7500
1999	306.0	0.8333	0.8333
1995	265.0	0.9167	0.9167



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