

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

Station - 05341900 KINNICKINNIC RIVER TRIB AT RIVER FALLS, 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	=	41
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	41
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.388
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.	2	40.0
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		35.5
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		17796.4

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	40.0	0.9512	2.8636	0.5255	-0.378
BULL.17B ESTIMATE	40.0	0.9512	2.8636	0.5255	-0.381

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
0.9500	88.3	88.4	80.9	49.2	136.9
0.9000	148.7	148.8	140.9	90.8	218.0
0.8000	271.6	271.5	264.6	181.5	379.1
0.5000	788.8	788.3	788.8	576.3	1086.0
0.2000	2055.0	2055.0	2096.0	1468.0	3093.0
0.1000	3251.0	3253.0	3374.0	2239.0	5240.0
0.0400	5142.0	5150.0	5479.0	3380.0	8968.0
0.0200	6802.0	6817.0	7403.0	4331.0	12490.0
0.0100	8655.0	8681.0	9642.0	5353.0	16640.0
0.0050	10700.0	10740.0	12200.0	6443.0	21430.0
0.0020	13670.0	13740.0	16160.0	7980.0	28770.0
0.6667	463.1	( 1.50-year flood )			
0.4292	979.4	( 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
1959	580.0		1980	2170.0	
1960	80.0		1981	770.0	
1961	160.0		1983	1430.0	
1962	105.0		1984	980.0	
1963	100.0		1985	1130.0	
1964	40.0	L	1986	1900.0	
1965	3420.0		1987	1060.0	
1966	500.0		1988	5200.0	
1967	200.0		1989	2720.0	
1968	460.0		1990	3440.0	
1969	40.0	L	1991	1720.0	
1970	80.0		1992	800.0	
1971	380.0		1993	2700.0	
1972	380.0		1994	1250.0	
1973	270.0		1995	3040.0	
1974	620.0		1996	609.0	
1975	2000.0		1997	1290.0	
1976	480.0		1998	3590.0	
1977	1700.0		1999	444.0	
1978	5100.0		2000	278.0	
1979	520.0				

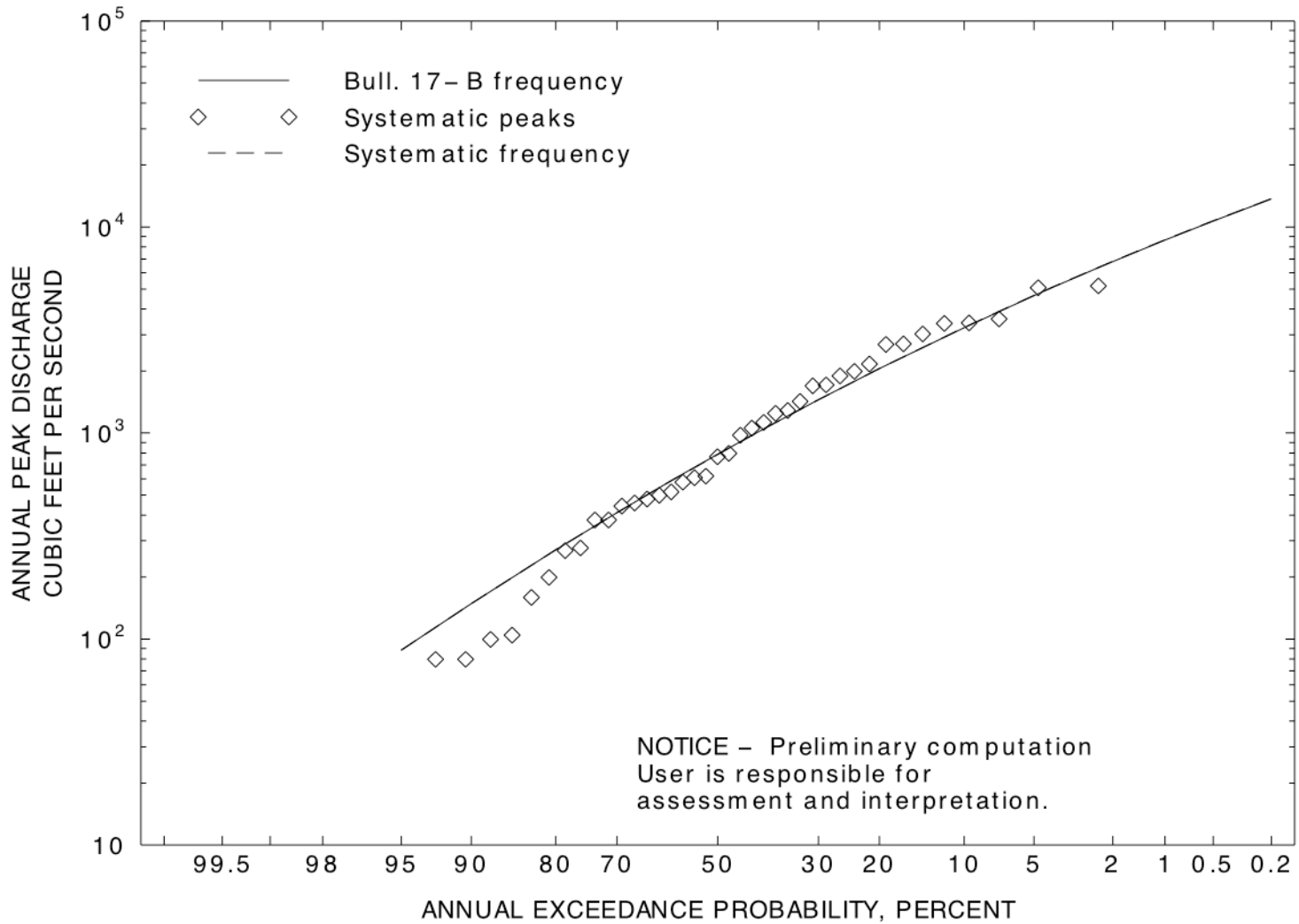
Explanation of peak discharge qualification codes

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
1988	5200.0	0.0238	0.0238
1978	5100.0	0.0476	0.0476
1998	3590.0	0.0714	0.0714
1990	3440.0	0.0952	0.0952
1965	3420.0	0.1190	0.1190
1995	3040.0	0.1429	0.1429
1989	2720.0	0.1667	0.1667
1993	2700.0	0.1905	0.1905
1980	2170.0	0.2143	0.2143
1975	2000.0	0.2381	0.2381
1986	1900.0	0.2619	0.2619
1991	1720.0	0.2857	0.2857
1977	1700.0	0.3095	0.3095
1983	1430.0	0.3333	0.3333
1997	1290.0	0.3571	0.3571
1994	1250.0	0.3810	0.3810
1985	1130.0	0.4048	0.4048
1987	1060.0	0.4286	0.4286
1984	980.0	0.4524	0.4524
1992	800.0	0.4762	0.4762
1981	770.0	0.5000	0.5000
1974	620.0	0.5238	0.5238
1996	609.0	0.5476	0.5476
1959	580.0	0.5714	0.5714
1979	520.0	0.5952	0.5952
1966	500.0	0.6190	0.6190
1976	480.0	0.6429	0.6429
1968	460.0	0.6667	0.6667
1999	444.0	0.6905	0.6905
1971	380.0	0.7143	0.7143
1972	380.0	0.7381	0.7381
2000	278.0	0.7619	0.7619
1973	270.0	0.7857	0.7857
1967	200.0	0.8095	0.8095
1961	160.0	0.8333	0.8333
1962	105.0	0.8571	0.8571
1963	100.0	0.8810	0.8810
1960	80.0	0.9048	0.9048
1970	80.0	0.9286	0.9286
1964	40.0	--	--
1969	40.0	--	--



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