

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

Station - 05368000 HAY RIVER AT WHEELER, WI
 2002 MAR 13 09:02:55

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

Number of peaks in record	=	51
Peaks not used in analysis	=	1
Systematic peaks in analysis	=	50
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.350
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. *****

**WCF109W-PEAKS WITH MINUS-FLAGGED DISCHARGES WERE BYPASSED.		1
**WCF113W-NUMBER OF SYSTEMATIC PEAKS HAS BEEN REDUCED TO NSYS =	=	50
WCF134I-NO SYSTEMATIC PEAKS WERE BELOW GAGE BASE.		0.0
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		574.4
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		18936.7
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	3.5183	0.2742	-0.026
BULL.17B ESTIMATE	0.0	1.0000	3.5183	0.2742	-0.109

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	607.8	638.6	554.7	418.5	802.0
0.9900	721.7	750.0	672.1	512.4	932.5
0.9500	1145.0	1162.0	1108.0	879.1	1405.0
0.9000	1458.0	1466.0	1429.0	1162.0	1747.0
0.8000	1946.0	1940.0	1926.0	1610.0	2281.0
0.5000	3336.0	3307.0	3336.0	2875.0	3873.0
0.2000	5628.0	5616.0	5682.0	4798.0	6806.0
0.1000	7351.0	7395.0	7487.0	6142.0	9207.0
0.0400	9725.0	9905.0	10050.0	7909.0	12710.0
0.0200	11620.0	11960.0	12160.0	9270.0	15650.0
0.0100	13620.0	14160.0	14450.0	10670.0	18840.0
0.0050	15720.0	16520.0	16940.0	12110.0	22310.0
0.0020	18670.0	19900.0	20590.0	14080.0	27330.0
0.6667	2536.9	(1.50-year flood)			
0.4292	3734.1	(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
1934	-99999.0		1976	2720.0	
1951	5120.0		1977	1900.0	
1952	5120.0		1978	1930.0	
1953	6700.0		1979	4290.0	
1954	6600.0		1980	3060.0	
1955	1250.0		1981	3120.0	
1956	5270.0		1982	6180.0	
1957	1390.0		1983	4000.0	
1958	2790.0		1984	1480.0	
1959	854.0		1985	2030.0	
1960	4700.0		1986	5340.0	
1961	4790.0		1987	1180.0	
1962	2390.0		1988	1140.0	
1963	4650.0		1989	9590.0	
1964	1020.0		1990	5960.0	
1965	10900.0		1991	5460.0	
1966	5510.0		1992	3130.0	
1967	13600.0		1993	3710.0	
1968	2420.0		1994	3050.0	
1969	3260.0		1995	4180.0	
1970	2510.0		1996	2400.0	
1971	2660.0		1997	3250.0	
1972	1720.0		1998	3070.0	
1973	3790.0		1999	1730.0	
1974	2630.0		2000	3960.0	
1975	10400.0				

Explanation of peak discharge qualification codes

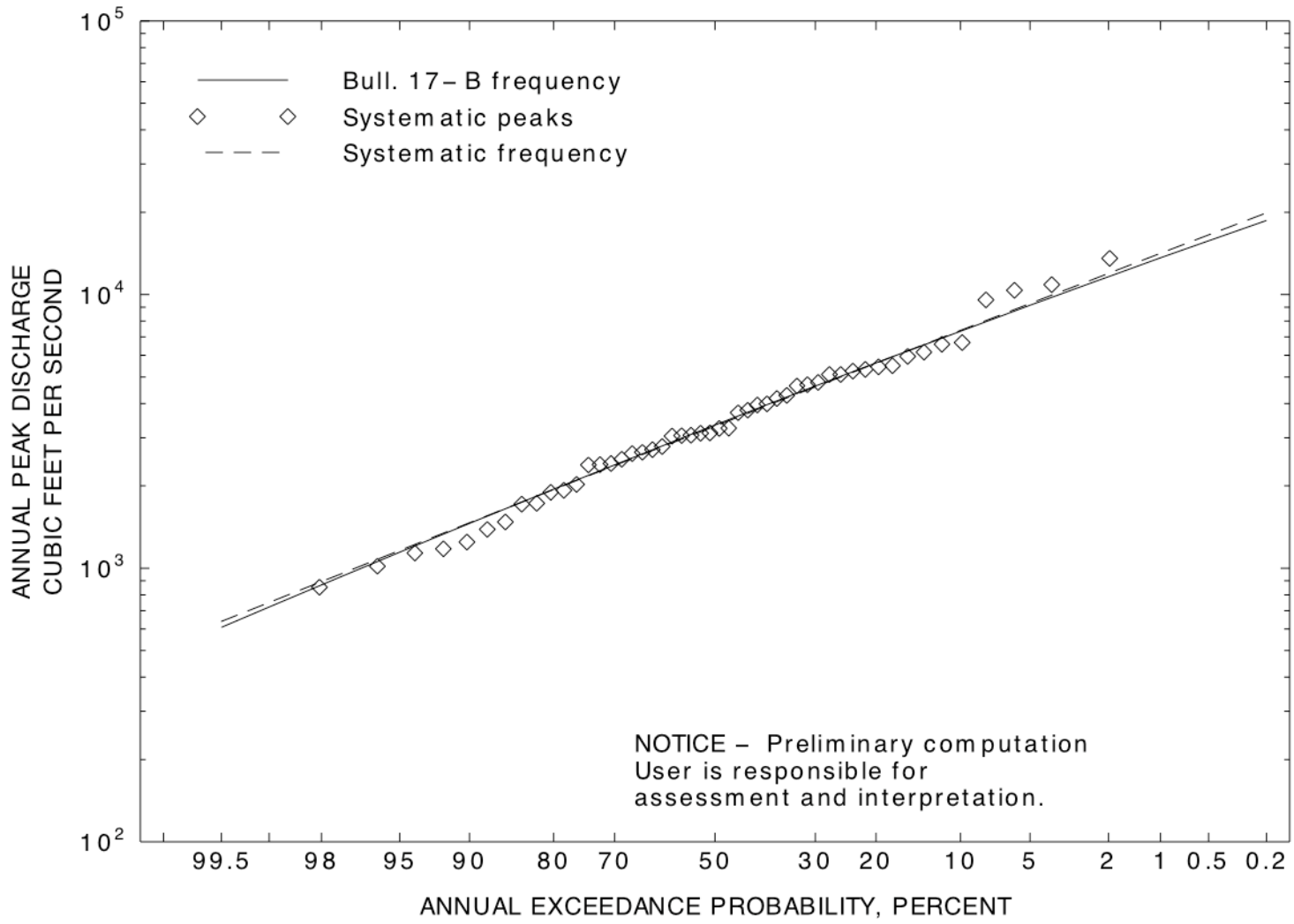
PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1967	13600.0	0.0196	0.0196
1965	10900.0	0.0392	0.0392
1975	10400.0	0.0588	0.0588
1989	9590.0	0.0784	0.0784
1953	6700.0	0.0980	0.0980
1954	6600.0	0.1176	0.1176
1982	6180.0	0.1373	0.1373
1990	5960.0	0.1569	0.1569
1966	5510.0	0.1765	0.1765
1991	5460.0	0.1961	0.1961
1986	5340.0	0.2157	0.2157
1956	5270.0	0.2353	0.2353
1951	5120.0	0.2549	0.2549
1952	5120.0	0.2745	0.2745
1961	4790.0	0.2941	0.2941
1960	4700.0	0.3137	0.3137
1963	4650.0	0.3333	0.3333
1979	4290.0	0.3529	0.3529
1995	4180.0	0.3725	0.3725
1983	4000.0	0.3922	0.3922
2000	3960.0	0.4118	0.4118
1973	3790.0	0.4314	0.4314
1993	3710.0	0.4510	0.4510
1969	3260.0	0.4706	0.4706
1997	3250.0	0.4902	0.4902
1992	3130.0	0.5098	0.5098
1981	3120.0	0.5294	0.5294
1998	3070.0	0.5490	0.5490
1980	3060.0	0.5686	0.5686
1994	3050.0	0.5882	0.5882
1958	2790.0	0.6078	0.6078
1976	2720.0	0.6275	0.6275
1971	2660.0	0.6471	0.6471
1974	2630.0	0.6667	0.6667
1970	2510.0	0.6863	0.6863
1968	2420.0	0.7059	0.7059
1996	2400.0	0.7255	0.7255
1962	2390.0	0.7451	0.7451
1985	2030.0	0.7647	0.7647
1978	1930.0	0.7843	0.7843
1977	1900.0	0.8039	0.8039
1999	1730.0	0.8235	0.8235
1972	1720.0	0.8431	0.8431
1984	1480.0	0.8627	0.8627
1957	1390.0	0.8824	0.8824
1955	1250.0	0.9020	0.9020
1987	1180.0	0.9216	0.9216
1988	1140.0	0.9412	0.9412

1964	1020.0	0.9608	0.9608
1959	854.0	0.9804	0.9804
1934	-99999.0	--	--



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