

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

Station - 05545100 SUGAR CREEK AT ELKHORN, WI
2002 MAR 13 09:03:25

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

Number of peaks in record	=	39
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	39
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.400
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
WCF162I-SYSTEMATIC PEAKS EXCEEDED HIGH-OUTLIER CRITERION.	1	665.4
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		25.0

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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	2.1108	0.2667	0.481
BULL.17B ESTIMATE	0.0	1.0000	2.1108	0.2667	0.166

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	29.2	35.0	26.7	19.8	38.6
0.9900	33.4	38.5	31.1	23.2	43.3
0.9500	48.4	51.5	46.8	36.3	60.1
0.9000	59.4	61.1	58.1	46.2	72.3
0.8000	76.6	76.3	75.8	61.9	91.3
0.5000	126.9	122.9	126.9	107.6	149.5
0.2000	215.2	212.2	218.0	180.9	265.9
0.1000	286.4	290.6	294.0	235.1	370.0
0.0400	391.3	415.7	410.8	310.5	535.4
0.0200	480.8	530.4	515.4	371.8	685.0
0.0100	580.1	666.1	637.1	437.8	859.1
0.0050	690.6	826.5	779.6	508.9	1061.0
0.0020	855.5	1083.0	1006.0	611.8	1376.0
0.6667	97.8	(1.50-year flood)			
0.4292	141.5	(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
1962	125.0		1982	295.0	
1963	55.0		1983	220.0	
1964	37.0		1984	100.0	
1965	56.0		1985	160.0	
1966	145.0		1986	190.0	
1967	122.0		1987	95.0	
1968	73.0		1988	145.0	
1969	125.0		1989	65.0	
1970	95.0		1990	75.0	
1971	150.0		1991	75.0	
1972	225.0		1992	45.0	
1973	900.0		1993	235.0	
1974	315.0		1994	185.0	
1975	87.0		1995	83.0	
1976	190.0		1996	215.0	
1977	65.0		1997	134.0	
1978	165.0		1998	117.0	
1979	185.0		1999	235.0	
1980	92.0		2000	153.0	
1981	170.0				

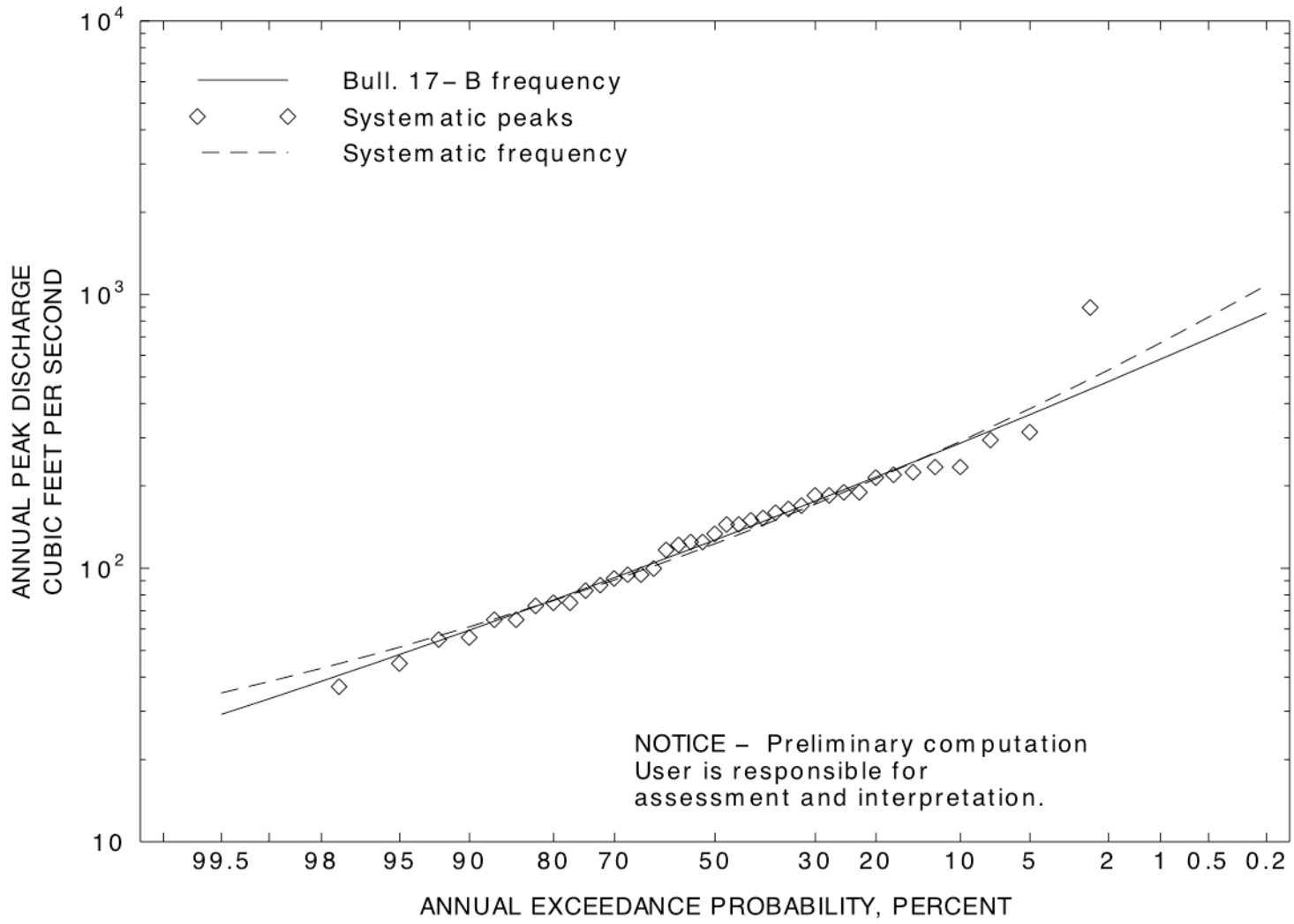
Explanation of peak discharge qualification codes

PEAKFQ	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
1973	900.0	0.0250	0.0250
1974	315.0	0.0500	0.0500
1982	295.0	0.0750	0.0750
1993	235.0	0.1000	0.1000
1999	235.0	0.1250	0.1250
1972	225.0	0.1500	0.1500
1983	220.0	0.1750	0.1750
1996	215.0	0.2000	0.2000
1976	190.0	0.2250	0.2250
1986	190.0	0.2500	0.2500
1979	185.0	0.2750	0.2750
1994	185.0	0.3000	0.3000
1981	170.0	0.3250	0.3250
1978	165.0	0.3500	0.3500
1985	160.0	0.3750	0.3750
2000	153.0	0.4000	0.4000
1971	150.0	0.4250	0.4250
1966	145.0	0.4500	0.4500
1988	145.0	0.4750	0.4750
1997	134.0	0.5000	0.5000
1962	125.0	0.5250	0.5250
1969	125.0	0.5500	0.5500
1967	122.0	0.5750	0.5750
1998	117.0	0.6000	0.6000
1984	100.0	0.6250	0.6250
1970	95.0	0.6500	0.6500
1987	95.0	0.6750	0.6750
1980	92.0	0.7000	0.7000
1975	87.0	0.7250	0.7250
1995	83.0	0.7500	0.7500
1990	75.0	0.7750	0.7750
1991	75.0	0.8000	0.8000
1968	73.0	0.8250	0.8250
1977	65.0	0.8500	0.8500
1989	65.0	0.8750	0.8750
1965	56.0	0.9000	0.9000
1963	55.0	0.9250	0.9250
1992	45.0	0.9500	0.9500
1964	37.0	0.9750	0.9750



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