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

Station - 05358100 SMITH CREEK NEAR PARK FALLS, WI
2002 MAR 13 09:02:50

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

Number of peaks in record	=	24
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	24
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.174
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. 61.3
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. 435.1

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2002 MAR 13 09:02:50

ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	0.0	1.0000	2.2131	0.1725	-0.249
BULL.17B ESTIMATE	0.0	1.0000	2.2131	0.1725	-0.217

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	54.2	53.5	47.2	36.9	69.4
0.9900	60.9	60.3	54.8	42.9	76.4
0.9500	83.0	82.7	79.2	63.7	99.4
0.9000	97.4	97.3	94.6	77.8	114.2
0.8000	117.5	117.6	115.8	97.9	135.3
0.5000	165.7	166.1	165.7	144.5	190.3
0.2000	229.0	229.1	231.8	198.7	275.2
0.1000	269.0	268.5	275.3	229.9	335.0
0.0400	317.5	316.0	330.9	265.7	412.3
0.0200	352.3	349.8	372.9	290.5	470.5
0.0100	386.1	382.4	415.8	313.8	528.8
0.0050	419.0	414.0	459.9	336.2	587.5
0.0020	461.7	454.7	520.8	364.6	665.8
0.6667	139.3	(1.50-year flood)			
0.4292	177.9	(2.33-year flood)			

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2002 MAR 13 09:02:50

I N P U T D A T A L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1970	270.0		1982	212.0	
1971	200.0		1983	172.0	
1972	320.0		1984	90.0	
1973	184.0		1985	330.0	
1974	134.0		1986	278.0	
1975	200.0		1987	65.0	
1976	135.0		1988	136.0	
1977	140.0		1989	91.0	
1978	152.0		1990	125.0	
1979	169.0		1991	185.0	
1980	188.0		1992	146.0	
1981	110.0		1993	186.0	

Explanation of peak discharge qualification codes

PEAKFQ CODE	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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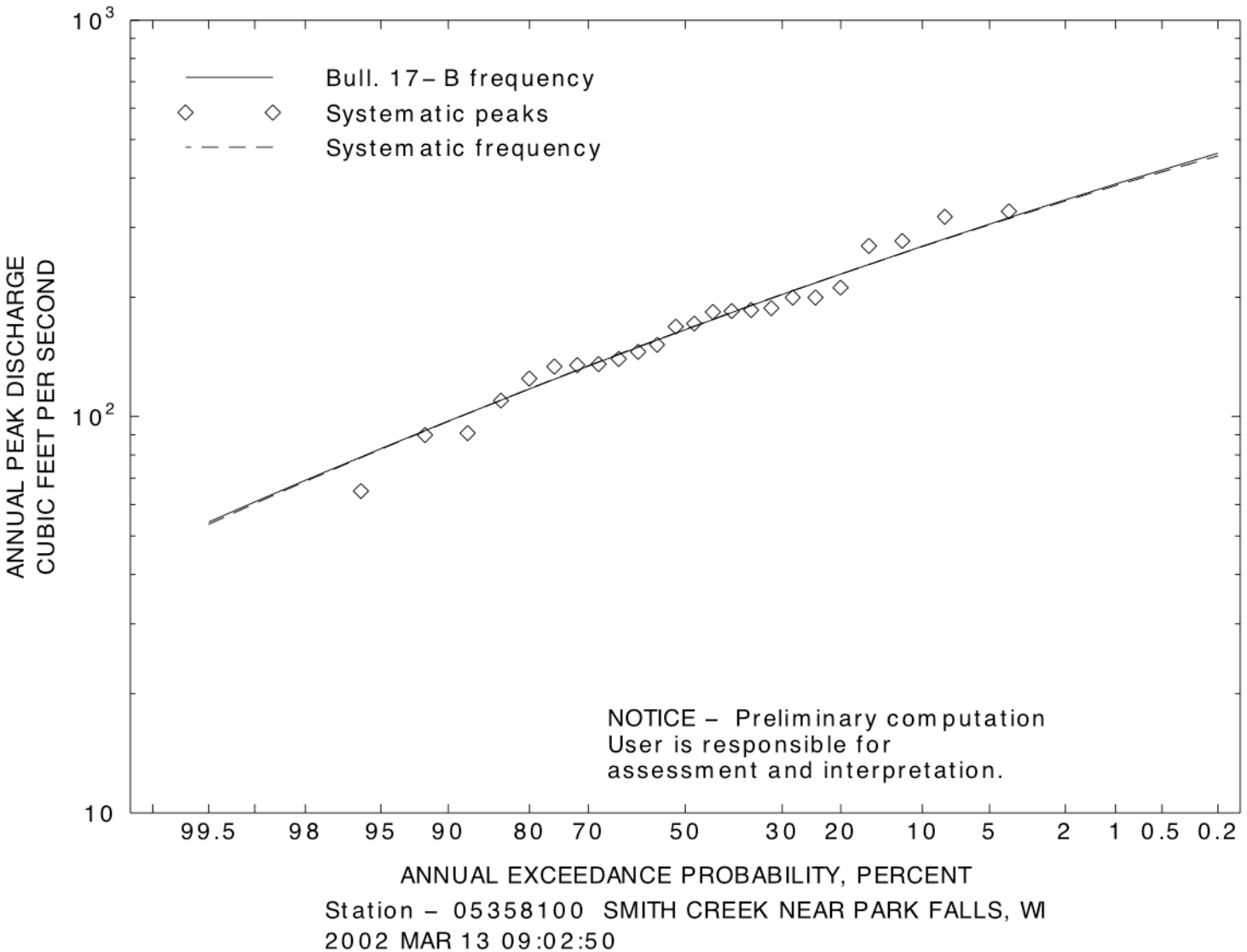
2002 MAR 13 09:02:50

EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1985	330.0	0.0400	0.0400
1972	320.0	0.0800	0.0800
1986	278.0	0.1200	0.1200
1970	270.0	0.1600	0.1600
1982	212.0	0.2000	0.2000
1971	200.0	0.2400	0.2400
1975	200.0	0.2800	0.2800
1980	188.0	0.3200	0.3200
1993	186.0	0.3600	0.3600
1991	185.0	0.4000	0.4000
1973	184.0	0.4400	0.4400
1983	172.0	0.4800	0.4800
1979	169.0	0.5200	0.5200
1978	152.0	0.5600	0.5600
1992	146.0	0.6000	0.6000
1977	140.0	0.6400	0.6400
1988	136.0	0.6800	0.6800
1976	135.0	0.7200	0.7200
1974	134.0	0.7600	0.7600
1990	125.0	0.8000	0.8000
1981	110.0	0.8400	0.8400
1989	91.0	0.8800	0.8800
1984	90.0	0.9200	0.9200
1987	65.0	0.9600	0.9600


Bull. 17–B frequency
Systematic peaks
Systematic frequency
NOTICE – Preliminary computation
User is responsible for
assessment and interpretation.
ANNUAL PEAK DISCHARGE
CUBIC FEET PER SECOND
10^3
10^2
10
99.5 98 95 90 80 70 50 30 20 10 5 2 1 0.5 0.2
ANNUAL EXCEEDANCE PROBABILITY, PERCENT
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2002 MAR 13 09:02:50