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

Station - 05371800 BUFFALO RIVER TRIBUTARY NEAR OSSEO, WI
2002 MAR 13 09:02:57

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	=	-0.345
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. 16.9
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. 257.5

Station - 05371800 BUFFALO RIVER TRIBUTARY NEAR OSSEO, WI
2002 MAR 13 09:02:57

ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	0.0	1.0000	1.8192	0.2198	-0.184
BULL.17B ESTIMATE	0.0	1.0000	1.8192	0.2198	-0.234

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	16.0	16.4	14.5	11.3	20.6
0.9900	18.6	19.0	17.3	13.5	23.5
0.9500	27.8	28.0	26.8	21.8	33.3
0.9000	34.1	34.2	33.4	27.8	40.0
0.8000	43.4	43.3	42.9	36.6	49.9
0.5000	67.3	67.0	67.3	59.0	76.8
0.2000	101.4	101.4	102.3	88.1	120.3
0.1000	124.4	124.8	126.5	106.3	152.1
0.0400	153.3	154.8	157.9	128.3	194.5
0.0200	174.8	177.2	182.0	144.0	227.1
0.0100	196.0	199.8	206.6	159.2	260.5
0.0050	217.2	222.5	231.9	174.2	294.5
0.0020	245.3	252.8	266.7	193.5	340.8
0.6667	53.9	(1.50-year flood)			
0.4292	73.6	(2.33-year flood)			

Station - 05371800 BUFFALO RIVER TRIBUTARY NEAR OSSEO, WI
2002 MAR 13 09:02:57

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

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1960	125.0		1981	70.0	
1961	92.0		1982	28.0	
1962	30.0		1983	87.0	
1963	40.0		1984	72.0	
1964	30.0		1985	82.0	
1965	58.0		1986	106.0	
1966	50.0		1987	140.0	
1967	58.0		1988	45.0	
1968	70.0		1989	50.0	
1969	84.0		1990	62.0	
1970	58.0		1991	65.0	
1971	80.0		1992	82.0	
1972	92.0		1993	154.0	
1973	78.0		1994	85.0	
1974	44.0		1995	110.0	
1975	42.0		1996	76.0	
1976	56.0		1997	51.0	
1977	22.0		1998	48.0	
1978	188.0		1999	24.0	
1979	54.0		2000	136.0	
1980	126.0				

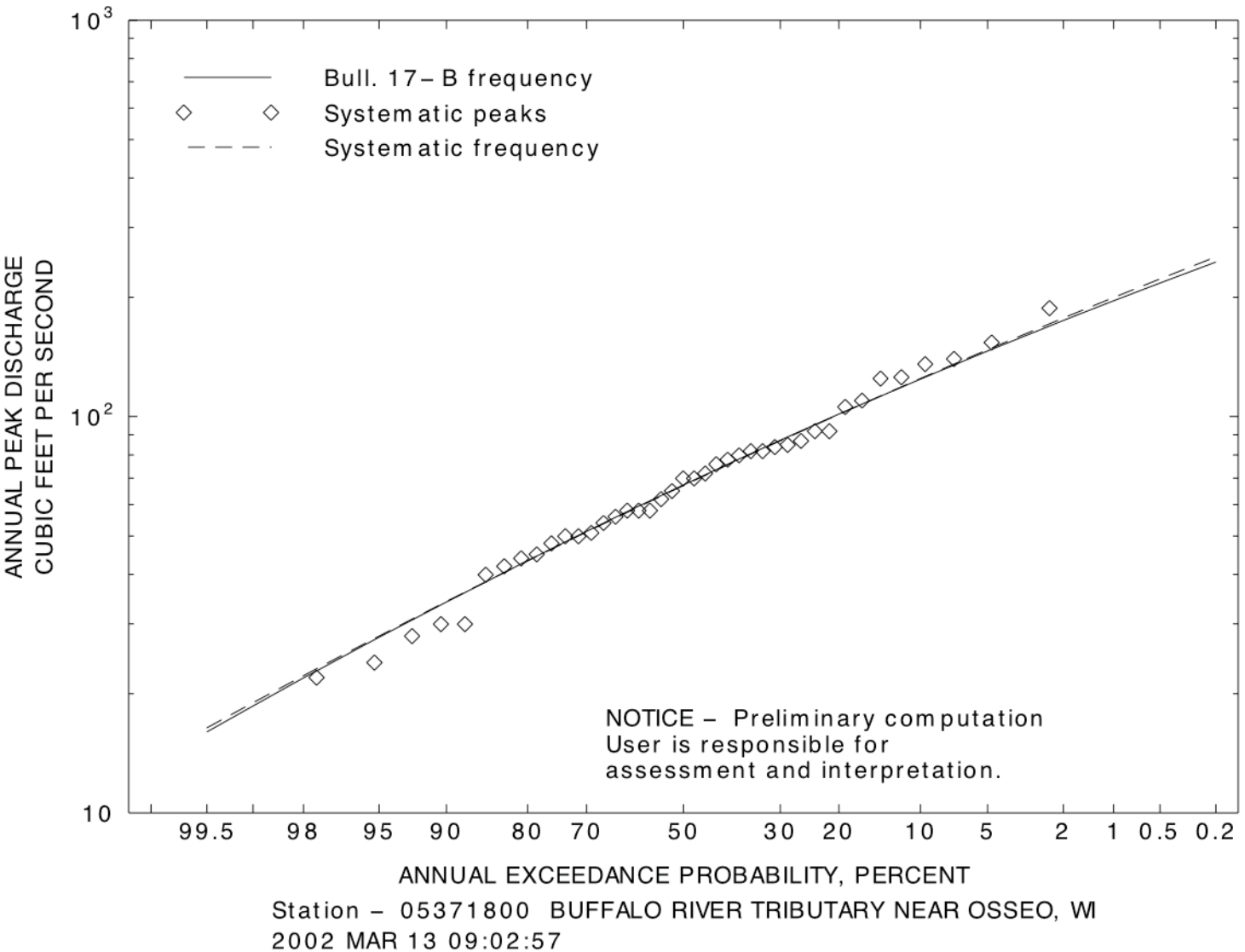
Explanation of peak discharge qualification codes

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

Station - 05371800 BUFFALO RIVER TRIBUTARY NEAR OSSEO, WI
2002 MAR 13 09:02:57

EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1978	188.0	0.0238	0.0238
1993	154.0	0.0476	0.0476
1987	140.0	0.0714	0.0714
2000	136.0	0.0952	0.0952
1980	126.0	0.1190	0.1190
1960	125.0	0.1429	0.1429
1995	110.0	0.1667	0.1667
1986	106.0	0.1905	0.1905
1961	92.0	0.2143	0.2143
1972	92.0	0.2381	0.2381
1983	87.0	0.2619	0.2619
1994	85.0	0.2857	0.2857
1969	84.0	0.3095	0.3095
1985	82.0	0.3333	0.3333
1992	82.0	0.3571	0.3571
1971	80.0	0.3810	0.3810
1973	78.0	0.4048	0.4048
1996	76.0	0.4286	0.4286
1984	72.0	0.4524	0.4524
1968	70.0	0.4762	0.4762
1981	70.0	0.5000	0.5000
1991	65.0	0.5238	0.5238
1990	62.0	0.5476	0.5476
1965	58.0	0.5714	0.5714
1967	58.0	0.5952	0.5952
1970	58.0	0.6190	0.6190
1976	56.0	0.6429	0.6429
1979	54.0	0.6667	0.6667
1997	51.0	0.6905	0.6905
1966	50.0	0.7143	0.7143
1989	50.0	0.7381	0.7381
1998	48.0	0.7619	0.7619
1988	45.0	0.7857	0.7857
1974	44.0	0.8095	0.8095
1975	42.0	0.8333	0.8333
1963	40.0	0.8571	0.8571
1962	30.0	0.8810	0.8810
1964	30.0	0.9048	0.9048
1982	28.0	0.9286	0.9286
1999	24.0	0.9524	0.9524
1977	22.0	0.9762	0.9762


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 09:02:57