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

Station - 04086500 CEDAR CREEK NEAR CEDARBURG, WI
2002 MAR 13 09:02:40

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

Number of peaks in record	=	62
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	62
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.384
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. 98.2
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. 8298.6

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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	2.9555	0.3382	-0.063
BULL.17B ESTIMATE	0.0	1.0000	2.9555	0.3382	-0.136

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	110.0	115.9	100.3	73.1	150.3
0.9900	136.5	142.2	127.1	93.9	182.2
0.9500	243.5	247.2	235.5	182.5	306.1
0.9000	329.2	331.0	322.5	256.9	402.9
0.8000	471.3	469.8	466.5	383.2	562.7
0.5000	918.5	910.0	918.5	779.4	1083.0
0.2000	1746.0	1742.0	1762.0	1462.0	2150.0
0.1000	2419.0	2435.0	2463.0	1980.0	3091.0
0.0400	3400.0	3468.0	3510.0	2700.0	4547.0
0.0200	4219.0	4350.0	4409.0	3280.0	5821.0
0.0100	5110.0	5326.0	5412.0	3893.0	7254.0
0.0050	6075.0	6404.0	6529.0	4543.0	8857.0
0.0020	7471.0	7995.0	8203.0	5460.0	11250.0
0.6667	654.9	(1.50-year flood)			
0.4292	1055.6	(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
1931	177.0		1962	2530.0	
1932	450.0		1963	1540.0	
1933	1470.0		1964	945.0	
1934	352.0		1965	2000.0	
1935	1100.0		1966	917.0	
1936	710.0		1967	613.0	
1937	1350.0		1968	296.0	
1938	1520.0		1969	720.0	
1939	702.0		1970	277.0	
1940	3180.0		1974	2000.0	
1941	410.0		1975	2690.0	
1942	850.0		1976	1760.0	
1943	1100.0		1977	326.0	
1944	440.0		1978	960.0	
1945	406.0		1979	1530.0	
1946	3140.0		1980	845.0	
1947	580.0		1981	322.0	
1948	1610.0		1984	1000.0	
1949	386.0		1985	780.0	
1950	3230.0		1986	1600.0	
1951	1470.0		1987	695.0	
1952	3500.0		1991	475.0	
1953	1540.0		1992	532.0	
1954	1000.0		1993	1620.0	
1955	1920.0		1994	560.0	
1956	433.0		1995	310.0	
1957	273.0		1996	1620.0	
1958	180.0		1997	670.0	
1959	3400.0		1998	958.0	
1960	3600.0		1999	1170.0	
1961	525.0		2000	997.0	

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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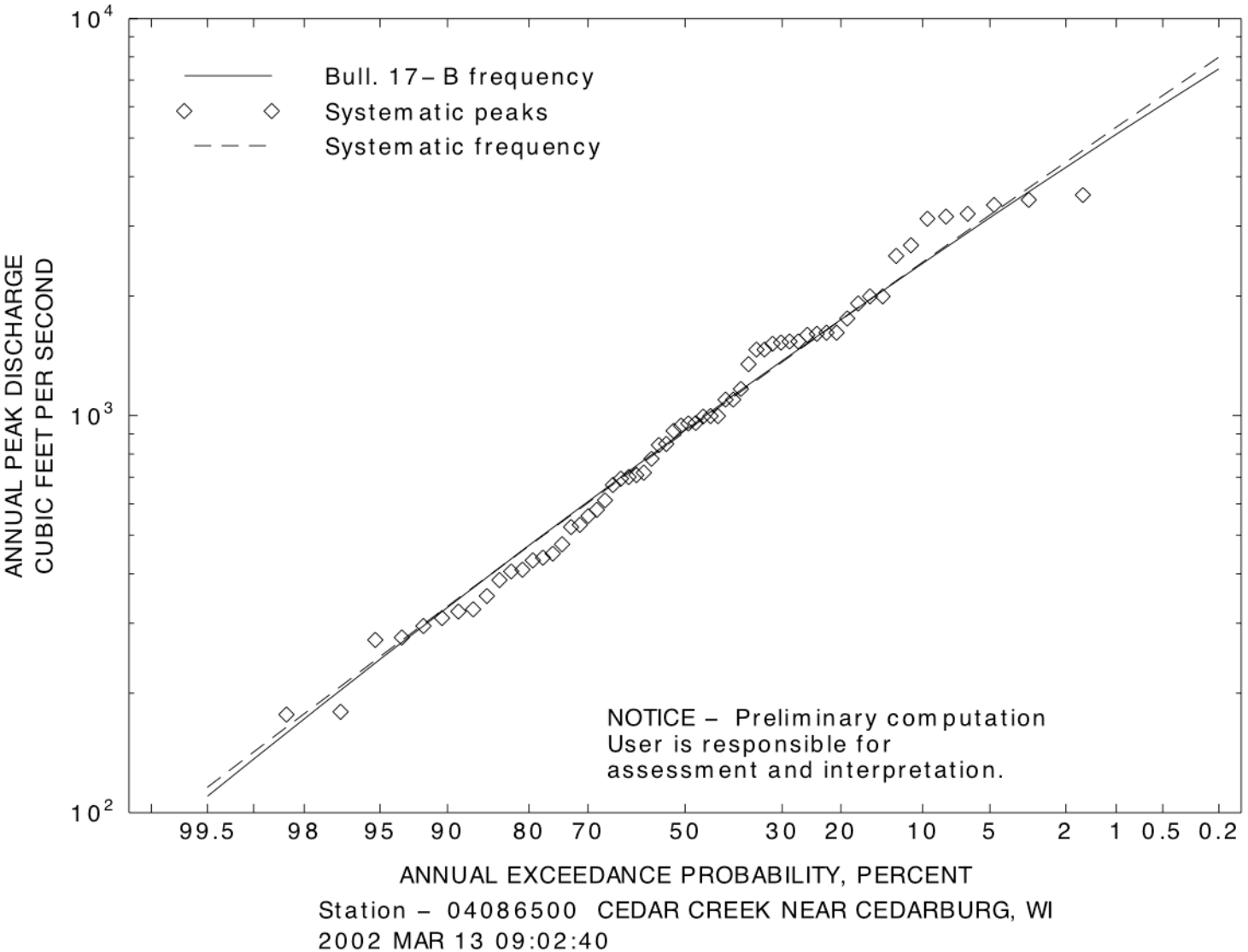
EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1960	3600.0	0.0159	0.0159
1952	3500.0	0.0317	0.0317
1959	3400.0	0.0476	0.0476
1950	3230.0	0.0635	0.0635
1940	3180.0	0.0794	0.0794
1946	3140.0	0.0952	0.0952
1975	2690.0	0.1111	0.1111
1962	2530.0	0.1270	0.1270
1965	2000.0	0.1429	0.1429
1974	2000.0	0.1587	0.1587
1955	1920.0	0.1746	0.1746
1976	1760.0	0.1905	0.1905
1993	1620.0	0.2063	0.2063
1996	1620.0	0.2222	0.2222
1948	1610.0	0.2381	0.2381
1986	1600.0	0.2540	0.2540
1953	1540.0	0.2698	0.2698
1963	1540.0	0.2857	0.2857
1979	1530.0	0.3016	0.3016
1938	1520.0	0.3175	0.3175
1933	1470.0	0.3333	0.3333
1951	1470.0	0.3492	0.3492
1937	1350.0	0.3651	0.3651
1999	1170.0	0.3810	0.3810
1935	1100.0	0.3968	0.3968
1943	1100.0	0.4127	0.4127
1954	1000.0	0.4286	0.4286
1984	1000.0	0.4444	0.4444
2000	997.0	0.4603	0.4603
1978	960.0	0.4762	0.4762
1998	958.0	0.4921	0.4921
1964	945.0	0.5079	0.5079
1966	917.0	0.5238	0.5238
1942	850.0	0.5397	0.5397
1980	845.0	0.5556	0.5556
1985	780.0	0.5714	0.5714
1969	720.0	0.5873	0.5873
1936	710.0	0.6032	0.6032
1939	702.0	0.6190	0.6190
1987	695.0	0.6349	0.6349
1997	670.0	0.6508	0.6508
1967	613.0	0.6667	0.6667
1947	580.0	0.6825	0.6825
1994	560.0	0.6984	0.6984
1992	532.0	0.7143	0.7143
1961	525.0	0.7302	0.7302
1991	475.0	0.7460	0.7460
1932	450.0	0.7619	0.7619

1944	440.0	0.7778	0.7778
1956	433.0	0.7937	0.7937
1941	410.0	0.8095	0.8095
1945	406.0	0.8254	0.8254
1949	386.0	0.8413	0.8413
1934	352.0	0.8571	0.8571
1977	326.0	0.8730	0.8730
1981	322.0	0.8889	0.8889
1995	310.0	0.9048	0.9048
1968	296.0	0.9206	0.9206
1970	277.0	0.9365	0.9365
1957	273.0	0.9524	0.9524
1958	180.0	0.9683	0.9683
1931	177.0	0.9841	0.9841


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
10^4
10^3
10^2
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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