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

Station - 04029990 MONTREAL RIVER AT SAXON FALLS NEAR SAXON, WI
2002 MAR 13 09:02:14

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

Number of peaks in record	=	46
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	46
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.129
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. 862.0
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. 11553.9

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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	3.4991	0.2060	-0.190
BULL.17B ESTIMATE	0.0	1.0000	3.4991	0.2060	-0.172

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	861.4	854.6	796.0	638.1	1073.0
0.9900	986.2	980.2	927.7	749.4	1208.0
0.9500	1414.0	1411.0	1375.0	1146.0	1660.0
0.9000	1705.0	1703.0	1675.0	1424.0	1964.0
0.8000	2127.0	2128.0	2109.0	1833.0	2408.0
0.5000	3199.0	3204.0	3199.0	2847.0	3597.0
0.2000	4721.0	4722.0	4756.0	4167.0	5483.0
0.1000	5741.0	5735.0	5826.0	4992.0	6853.0
0.0400	7035.0	7013.0	7218.0	5994.0	8677.0
0.0200	7997.0	7960.0	8284.0	6717.0	10090.0
0.0100	8956.0	8900.0	9378.0	7423.0	11530.0
0.0050	9917.0	9839.0	10510.0	8118.0	13010.0
0.0020	11200.0	11080.0	12070.0	9026.0	15030.0
0.6667	2602.0	(1.50-year flood)			
0.4292	3481.9	(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
1939	4200.0		1962	1650.0	
1940	4650.0		1963	2970.0	
1941	4650.0		1964	5250.0	
1942	5700.0		1965	2710.0	
1943	3680.0		1966	2420.0	
1944	3750.0		1967	4920.0	
1945	2800.0		1968	1740.0	
1946	5250.0		1969	4120.0	
1947	2140.0		1970	1930.0	
1948	2300.0		1987	1080.0	
1949	3460.0		1988	2630.0	
1950	3460.0		1989	2040.0	
1951	5100.0		1990	3850.0	
1952	4650.0		1991	2060.0	
1953	4500.0		1992	9880.0	
1954	4500.0		1993	3260.0	
1955	3100.0		1994	1450.0	
1956	3160.0		1995	1450.0	
1957	2920.0		1996	5210.0	
1958	3260.0		1997	5300.0	
1959	1700.0		1998	3850.0	
1960	6600.0		1999	2380.0	
1961	2490.0		2000	1300.0	

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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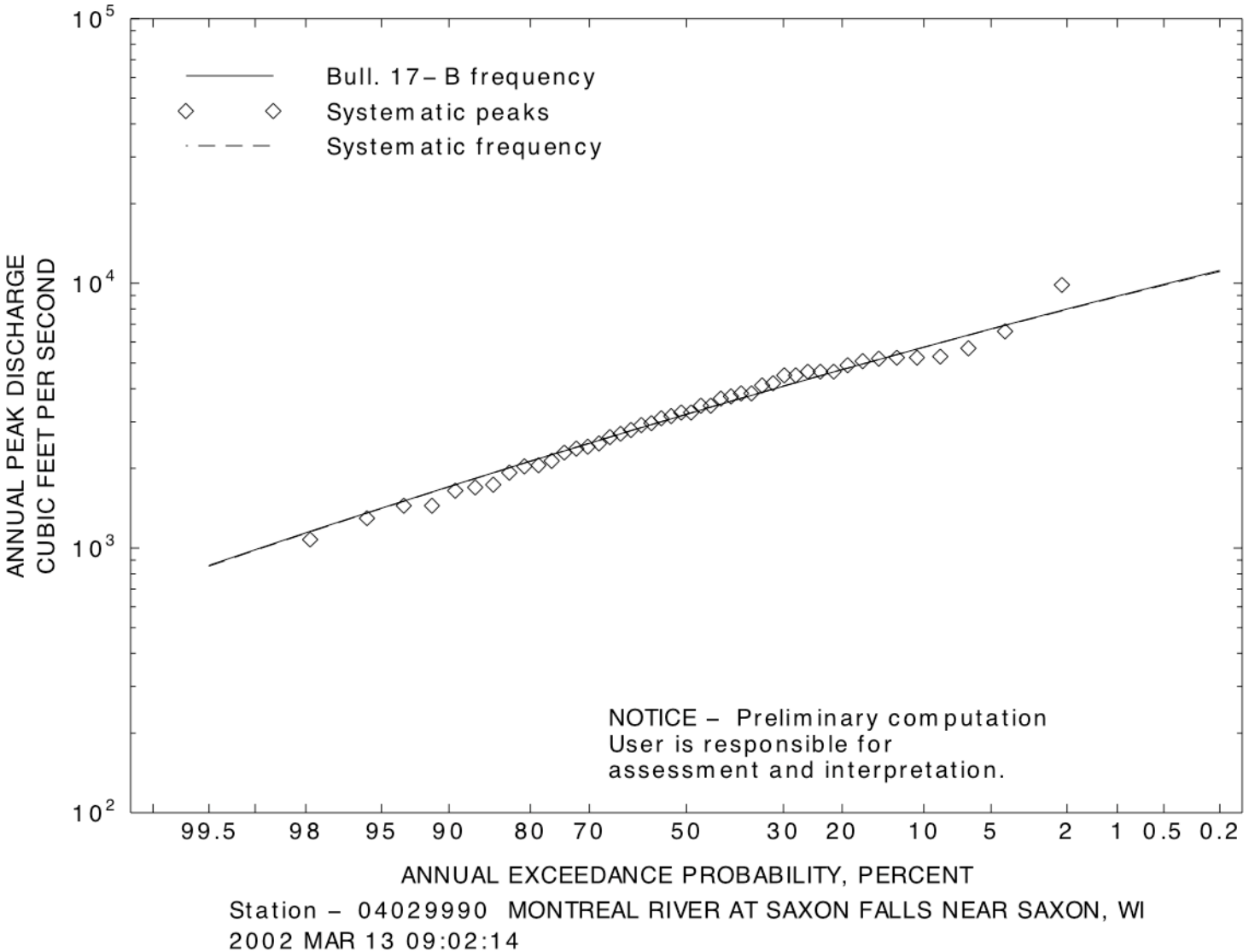
EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1992	9880.0	0.0213	0.0213
1960	6600.0	0.0426	0.0426
1942	5700.0	0.0638	0.0638
1997	5300.0	0.0851	0.0851
1946	5250.0	0.1064	0.1064
1964	5250.0	0.1277	0.1277
1996	5210.0	0.1489	0.1489
1951	5100.0	0.1702	0.1702
1967	4920.0	0.1915	0.1915
1940	4650.0	0.2128	0.2128
1941	4650.0	0.2340	0.2340
1952	4650.0	0.2553	0.2553
1953	4500.0	0.2766	0.2766
1954	4500.0	0.2979	0.2979
1939	4200.0	0.3191	0.3191
1969	4120.0	0.3404	0.3404
1990	3850.0	0.3617	0.3617
1998	3850.0	0.3830	0.3830
1944	3750.0	0.4043	0.4043
1943	3680.0	0.4255	0.4255
1949	3460.0	0.4468	0.4468
1950	3460.0	0.4681	0.4681
1958	3260.0	0.4894	0.4894
1993	3260.0	0.5106	0.5106
1956	3160.0	0.5319	0.5319
1955	3100.0	0.5532	0.5532
1963	2970.0	0.5745	0.5745
1957	2920.0	0.5957	0.5957
1945	2800.0	0.6170	0.6170
1965	2710.0	0.6383	0.6383
1988	2630.0	0.6596	0.6596
1961	2490.0	0.6809	0.6809
1966	2420.0	0.7021	0.7021
1999	2380.0	0.7234	0.7234
1948	2300.0	0.7447	0.7447
1947	2140.0	0.7660	0.7660
1991	2060.0	0.7872	0.7872
1989	2040.0	0.8085	0.8085
1970	1930.0	0.8298	0.8298
1968	1740.0	0.8511	0.8511
1959	1700.0	0.8723	0.8723
1962	1650.0	0.8936	0.8936
1994	1450.0	0.9149	0.9149
1995	1450.0	0.9362	0.9362
2000	1300.0	0.9574	0.9574
1987	1080.0	0.9787	0.9787


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
10^5
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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