

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

Station - 04025500 BOIS BRULE RIVER AT BRULE, WI
 2002 MAR 13 09:01:59

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

Number of peaks in record	=	56
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	56
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.172
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.	189.7
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	1962.6

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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	2.7855	0.1805	0.153
BULL.17B ESTIMATE	0.0	1.0000	2.7855	0.1805	0.071

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	215.1	222.1	205.5	173.0	253.7
0.9900	237.2	243.2	228.8	193.8	276.7
0.9500	310.7	313.8	305.3	264.8	352.2
0.9000	359.4	360.9	355.5	312.7	402.1
0.8000	429.5	428.9	427.1	382.0	474.5
0.5000	607.2	603.8	607.2	553.5	666.0
0.2000	864.4	862.7	869.5	782.6	971.6
0.1000	1043.0	1046.0	1055.0	931.3	1199.0
0.0400	1276.0	1291.0	1304.0	1118.0	1511.0
0.0200	1456.0	1482.0	1500.0	1258.0	1759.0
0.0100	1640.0	1681.0	1707.0	1399.0	2021.0
0.0050	1830.0	1890.0	1927.0	1541.0	2297.0
0.0020	2092.0	2181.0	2240.0	1734.0	2686.0
0.6667	508.3	(1.50-year flood)			
0.4292	653.7	(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
1943	450.0		1971	943.0	
1944	1520.0		1972	822.0	
1945	501.0		1973	391.0	
1946	415.0		1974	563.0	
1947	387.0		1975	519.0	
1948	565.0		1976	714.0	
1949	870.0		1977	398.0	
1950	1270.0		1978	766.0	
1951	779.0		1979	969.0	
1952	1020.0		1980	296.0	
1953	1320.0		1981	522.0	
1954	1120.0		1984	580.0	
1955	394.0		1985	803.0	
1956	482.0		1986	976.0	
1957	513.0		1987	320.0	
1958	832.0		1988	547.0	
1959	339.0		1989	459.0	
1960	1020.0		1990	404.0	
1961	923.0		1991	521.0	
1962	779.0		1992	857.0	
1963	305.0		1993	456.0	
1964	487.0		1994	628.0	
1965	855.0		1995	342.0	
1966	549.0		1996	934.0	
1967	963.0		1997	590.0	
1968	428.0		1998	433.0	
1969	903.0		1999	676.0	
1970	482.0		2000	317.0	

Explanation of peak discharge qualification codes

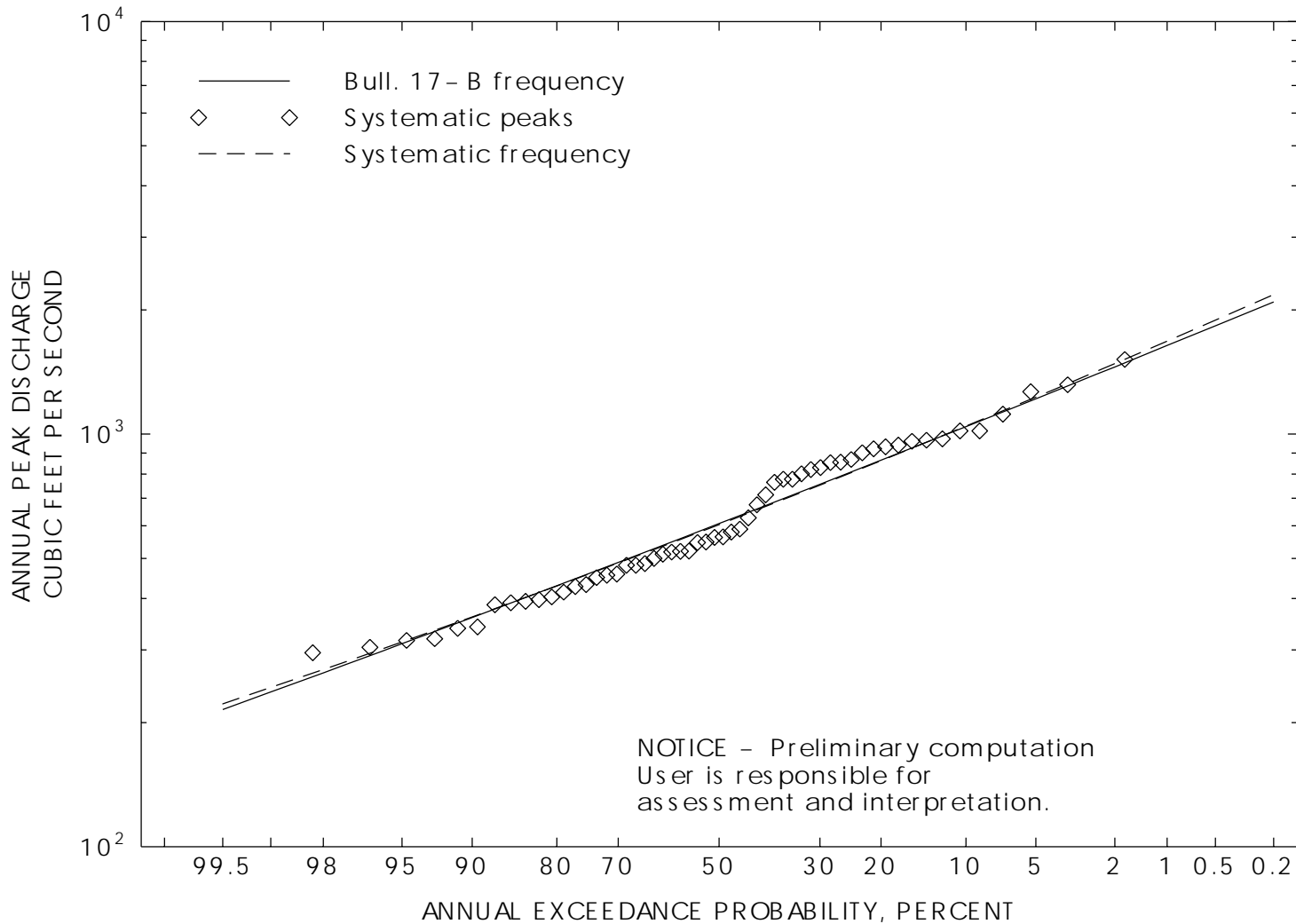
PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1944	1520.0	0.0175	0.0175
1953	1320.0	0.0351	0.0351
1950	1270.0	0.0526	0.0526
1954	1120.0	0.0702	0.0702
1952	1020.0	0.0877	0.0877
1960	1020.0	0.1053	0.1053
1986	976.0	0.1228	0.1228
1979	969.0	0.1404	0.1404
1967	963.0	0.1579	0.1579
1971	943.0	0.1754	0.1754
1996	934.0	0.1930	0.1930
1961	923.0	0.2105	0.2105
1969	903.0	0.2281	0.2281
1949	870.0	0.2456	0.2456
1992	857.0	0.2632	0.2632
1965	855.0	0.2807	0.2807
1958	832.0	0.2982	0.2982
1972	822.0	0.3158	0.3158
1985	803.0	0.3333	0.3333
1951	779.0	0.3509	0.3509
1962	779.0	0.3684	0.3684
1978	766.0	0.3860	0.3860
1976	714.0	0.4035	0.4035
1999	676.0	0.4211	0.4211
1994	628.0	0.4386	0.4386
1997	590.0	0.4561	0.4561
1984	580.0	0.4737	0.4737
1948	565.0	0.4912	0.4912
1974	563.0	0.5088	0.5088
1966	549.0	0.5263	0.5263
1988	547.0	0.5439	0.5439
1981	522.0	0.5614	0.5614
1991	521.0	0.5789	0.5789
1975	519.0	0.5965	0.5965
1957	513.0	0.6140	0.6140
1945	501.0	0.6316	0.6316
1964	487.0	0.6491	0.6491
1956	482.0	0.6667	0.6667
1970	482.0	0.6842	0.6842
1989	459.0	0.7018	0.7018
1993	456.0	0.7193	0.7193
1943	450.0	0.7368	0.7368
1998	433.0	0.7544	0.7544
1968	428.0	0.7719	0.7719
1946	415.0	0.7895	0.7895
1990	404.0	0.8070	0.8070
1977	398.0	0.8246	0.8246
1955	394.0	0.8421	0.8421

1973	391.0	0.8596	0.8596
1947	387.0	0.8772	0.8772
1995	342.0	0.8947	0.8947
1959	339.0	0.9123	0.9123
1987	320.0	0.9298	0.9298
2000	317.0	0.9474	0.9474
1963	305.0	0.9649	0.9649
1980	296.0	0.9825	0.9825



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