

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

Station - 05406500 BLACK EARTH CREEK AT BLACK EARTH, WI
 2002 MAR 13 09:03:11

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

Number of peaks in record	=	47
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	47
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.397
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
WCF198I-LOW OUTLIERS BELOW FLOOD BASE WERE DROPPED.	1	66.9
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		2376.2

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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	2.6256	0.2916	-0.469
BULL.17B ESTIMATE	66.9	0.9787	2.6355	0.2712	-0.239

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	--	55.9	--	--	--
0.9900	--	70.6	--	--	--
0.9500	148.5	128.9	143.1	112.9	183.2
0.9000	191.3	173.9	187.0	151.4	230.1
0.8000	257.6	245.0	254.7	212.4	302.8
0.5000	442.9	445.0	442.9	380.6	516.0
0.2000	735.0	750.4	742.0	624.7	893.1
0.1000	944.8	958.6	962.1	787.7	1188.0
0.0400	1222.0	1219.0	1262.0	993.8	1602.0
0.0200	1436.0	1409.0	1499.0	1147.0	1934.0
0.0100	1653.0	1593.0	1748.0	1299.0	2283.0
0.0050	1876.0	1773.0	2010.0	1452.0	2649.0
0.0020	2177.0	2003.0	2380.0	1654.0	3161.0
0.6667	337.1	(1.50-year flood)			
0.4292	495.2	(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
1954	1750.0		1978	681.0	
1955	654.0		1979	260.0	
1956	408.0		1980	441.0	
1957	1030.0		1981	396.0	
1958	266.0		1982	380.0	
1959	1120.0		1983	194.0	
1960	1020.0		1984	342.0	
1961	693.0		1985	710.0	
1962	216.0		1986	236.0	
1963	454.0		1987	123.0	
1964	64.0		1988	140.0	
1965	623.0		1989	433.0	
1966	619.0		1990	401.0	
1967	631.0		1991	312.0	
1968	148.0		1992	243.0	
1969	457.0		1993	1320.0	
1970	141.0		1994	686.0	
1971	196.0		1995	238.0	
1972	451.0		1996	503.0	
1973	577.0		1997	412.0	
1974	585.0		1998	661.0	
1975	514.0		1999	519.0	
1976	834.0		2000	808.0	
1977	367.0				

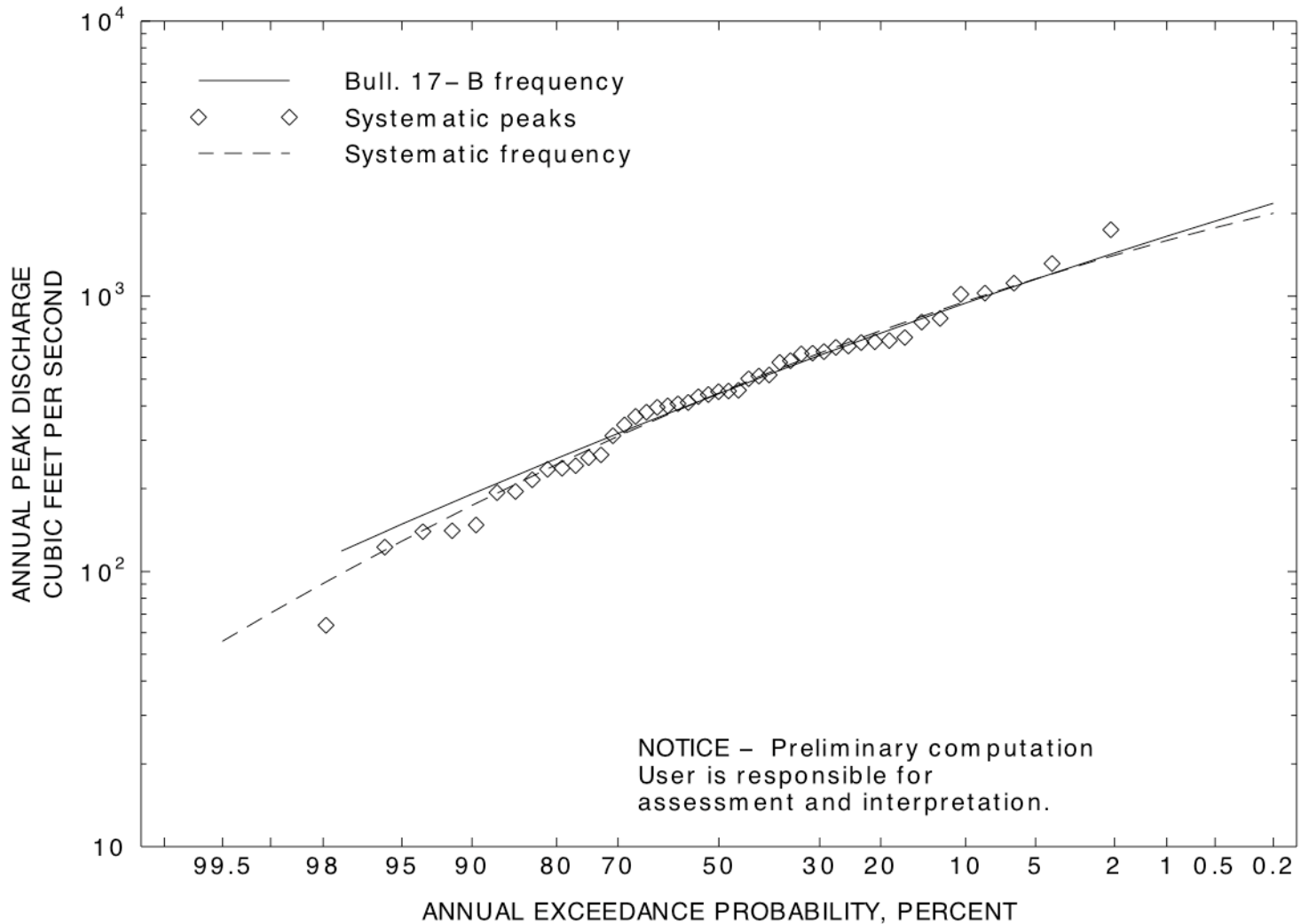
Explanation of peak discharge qualification codes

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
1954	1750.0	0.0208	0.0208
1993	1320.0	0.0417	0.0417
1959	1120.0	0.0625	0.0625
1957	1030.0	0.0833	0.0833
1960	1020.0	0.1042	0.1042
1976	834.0	0.1250	0.1250
2000	808.0	0.1458	0.1458
1985	710.0	0.1667	0.1667
1961	693.0	0.1875	0.1875
1994	686.0	0.2083	0.2083
1978	681.0	0.2292	0.2292
1998	661.0	0.2500	0.2500
1955	654.0	0.2708	0.2708
1967	631.0	0.2917	0.2917
1965	623.0	0.3125	0.3125
1966	619.0	0.3333	0.3333
1974	585.0	0.3542	0.3542
1973	577.0	0.3750	0.3750
1999	519.0	0.3958	0.3958
1975	514.0	0.4167	0.4167
1996	503.0	0.4375	0.4375
1969	457.0	0.4583	0.4583
1963	454.0	0.4792	0.4792
1972	451.0	0.5000	0.5000
1980	441.0	0.5208	0.5208
1989	433.0	0.5417	0.5417
1997	412.0	0.5625	0.5625
1956	408.0	0.5833	0.5833
1990	401.0	0.6042	0.6042
1981	396.0	0.6250	0.6250
1982	380.0	0.6458	0.6458
1977	367.0	0.6667	0.6667
1984	342.0	0.6875	0.6875
1991	312.0	0.7083	0.7083
1958	266.0	0.7292	0.7292
1979	260.0	0.7500	0.7500
1992	243.0	0.7708	0.7708
1995	238.0	0.7917	0.7917
1986	236.0	0.8125	0.8125
1962	216.0	0.8333	0.8333
1971	196.0	0.8542	0.8542
1983	194.0	0.8750	0.8750
1968	148.0	0.8958	0.8958
1970	141.0	0.9167	0.9167
1988	140.0	0.9375	0.9375
1987	123.0	0.9583	0.9583
1964	64.0	0.9792	0.9792



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