

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

Station - 04087220 ROOT RIVER NEAR FRANKLIN, WI
 2002 MAR 13 09:02:45

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

Number of peaks in record	=	38
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	38
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.400
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
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	5343.9
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.	197.2

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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	3.0114	0.2692	0.678
BULL.17B ESTIMATE	0.0	1.0000	3.0114	0.2692	0.261

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	242.0	307.3	222.5	164.2	319.5
0.9900	273.5	331.7	255.6	190.4	355.4
0.9500	388.5	422.8	375.3	289.8	483.7
0.9000	472.9	491.8	462.5	365.4	576.9
0.8000	605.4	603.4	598.5	486.6	723.7
0.5000	999.4	957.6	999.4	843.4	1182.0
0.2000	1714.0	1678.0	1738.0	1435.0	2128.0
0.1000	2307.0	2345.0	2374.0	1885.0	3003.0
0.0400	3206.0	3462.0	3382.0	2525.0	4439.0
0.0200	3992.0	4536.0	4311.0	3059.0	5777.0
0.0100	4884.0	5856.0	5420.0	3643.0	7373.0
0.0050	5897.0	7479.0	6753.0	4284.0	9268.0
0.0020	7444.0	10200.0	8937.0	5232.0	12310.0
0.6667	770.2	(1.50-year flood)			
0.4292	1114.7	(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
1960	5130.0		1982	556.0	
1964	792.0		1983	1080.0	
1965	1600.0		1984	550.0	
1966	1300.0		1985	698.0	
1967	808.0		1986	708.0	
1968	910.0		1987	579.0	
1969	2650.0		1988	530.0	
1970	1220.0		1989	442.0	
1971	1020.0		1990	880.0	
1972	2270.0		1991	587.0	
1973	3700.0		1992	641.0	
1974	1680.0		1993	1180.0	
1975	1420.0		1994	600.0	
1976	2160.0		1995	430.0	
1977	534.0		1996	1020.0	
1978	980.0		1997	1750.0	
1979	1300.0		1998	558.0	
1980	860.0		1999	2050.0	
1981	474.0		2000	2420.0	

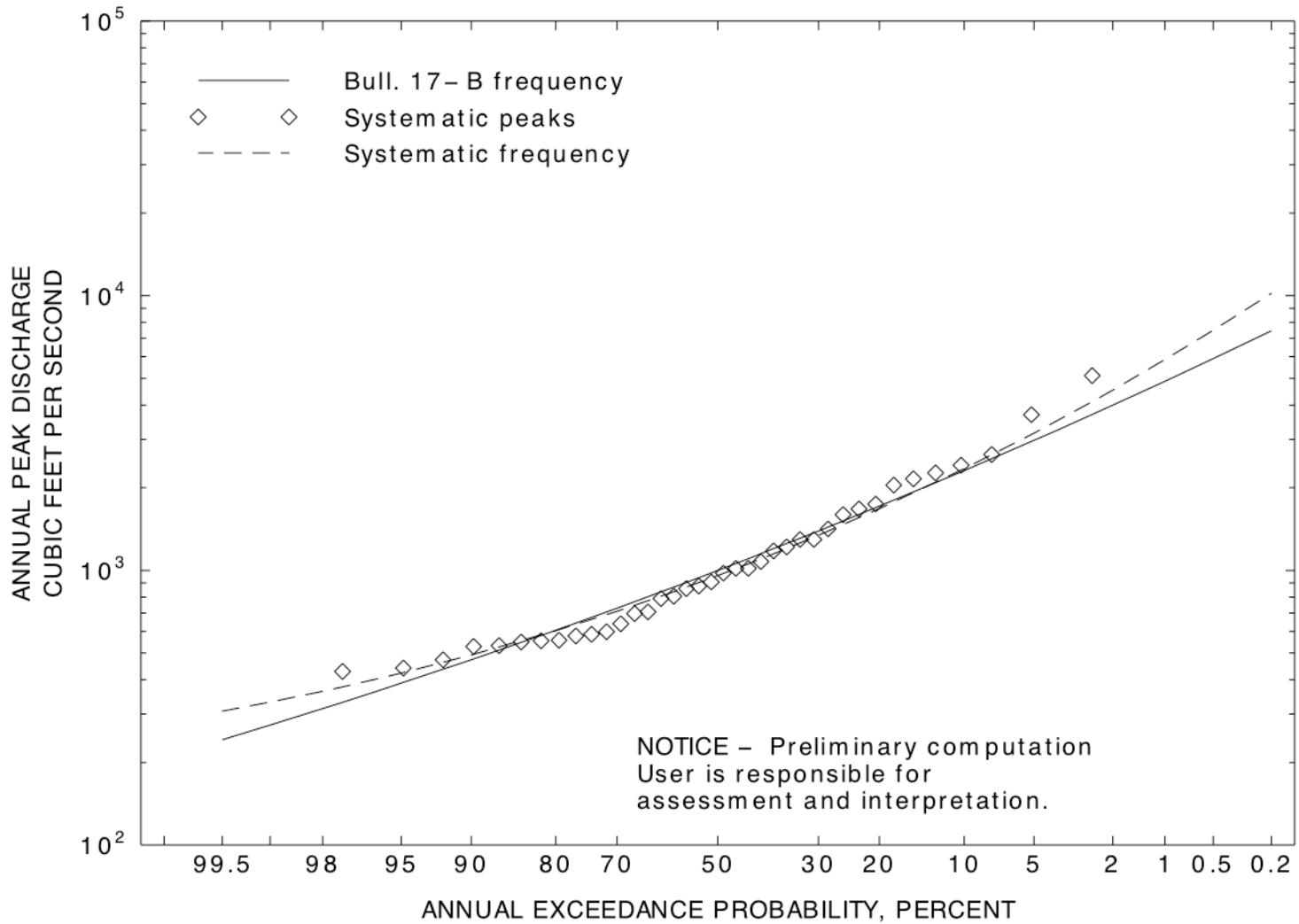
Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	
CODE	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	5130.0	0.0256	0.0256
1973	3700.0	0.0513	0.0513
1969	2650.0	0.0769	0.0769
2000	2420.0	0.1026	0.1026
1972	2270.0	0.1282	0.1282
1976	2160.0	0.1538	0.1538
1999	2050.0	0.1795	0.1795
1997	1750.0	0.2051	0.2051
1974	1680.0	0.2308	0.2308
1965	1600.0	0.2564	0.2564
1975	1420.0	0.2821	0.2821
1966	1300.0	0.3077	0.3077
1979	1300.0	0.3333	0.3333
1970	1220.0	0.3590	0.3590
1993	1180.0	0.3846	0.3846
1983	1080.0	0.4103	0.4103
1971	1020.0	0.4359	0.4359
1996	1020.0	0.4615	0.4615
1978	980.0	0.4872	0.4872
1968	910.0	0.5128	0.5128
1990	880.0	0.5385	0.5385
1980	860.0	0.5641	0.5641
1967	808.0	0.5897	0.5897
1964	792.0	0.6154	0.6154
1986	708.0	0.6410	0.6410
1985	698.0	0.6667	0.6667
1992	641.0	0.6923	0.6923
1994	600.0	0.7179	0.7179
1991	587.0	0.7436	0.7436
1987	579.0	0.7692	0.7692
1998	558.0	0.7949	0.7949
1982	556.0	0.8205	0.8205
1984	550.0	0.8462	0.8462
1977	534.0	0.8718	0.8718
1988	530.0	0.8974	0.8974
1981	474.0	0.9231	0.9231
1989	442.0	0.9487	0.9487
1995	430.0	0.9744	0.9744



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