

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

Station - 04087233 ROOT RIVER CANAL 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	=	37
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	37
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
WCF198I-LOW OUTLIERS BELOW FLOOD BASE WERE DROPPED.	1	205.8
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		1933.0

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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	2.8585	0.2057	-1.834
BULL.17B ESTIMATE	205.8	0.9730	2.8755	0.1563	-0.362

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	--	100.0	--	--	--
0.9900	--	136.5	--	--	--
0.9500	401.2	282.1	389.8	333.5	459.7
0.9000	467.9	387.3	459.7	400.3	527.1
0.8000	559.1	533.8	554.3	492.3	620.5
0.5000	767.3	826.7	767.3	695.3	848.1
0.2000	1021.0	1052.0	1028.0	919.3	1162.0
0.1000	1172.0	1125.0	1186.0	1043.0	1363.0
0.0400	1345.0	1172.0	1374.0	1180.0	1605.0
0.0200	1464.0	1189.0	1506.0	1271.0	1776.0
0.0100	1574.0	1198.0	1633.0	1355.0	1939.0
0.0050	1679.0	1204.0	1756.0	1433.0	2095.0
0.0020	1809.0	1207.0	1915.0	1528.0	2294.0
0.6667	655.0	(1.50-year flood)			
0.4292	818.3	(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
1964	309.0		1983	1140.0	
1965	500.0		1984	583.0	
1966	774.0		1985	942.0	
1967	574.0		1986	1120.0	
1968	470.0		1987	901.0	
1969	461.0		1988	788.0	
1970	696.0		1989	760.0	
1971	760.0		1990	1080.0	
1972	704.0		1991	1050.0	
1973	740.0		1992	635.0	
1974	1440.0		1993	1260.0	
1975	482.0		1994	1000.0	
1976	1200.0		1995	750.0	
1977	108.0		1996	721.0	
1978	990.0		1997	704.0	
1979	1060.0		1998	659.0	
1980	437.0		1999	830.0	
1981	673.0		2000	1300.0	
1982	552.0				

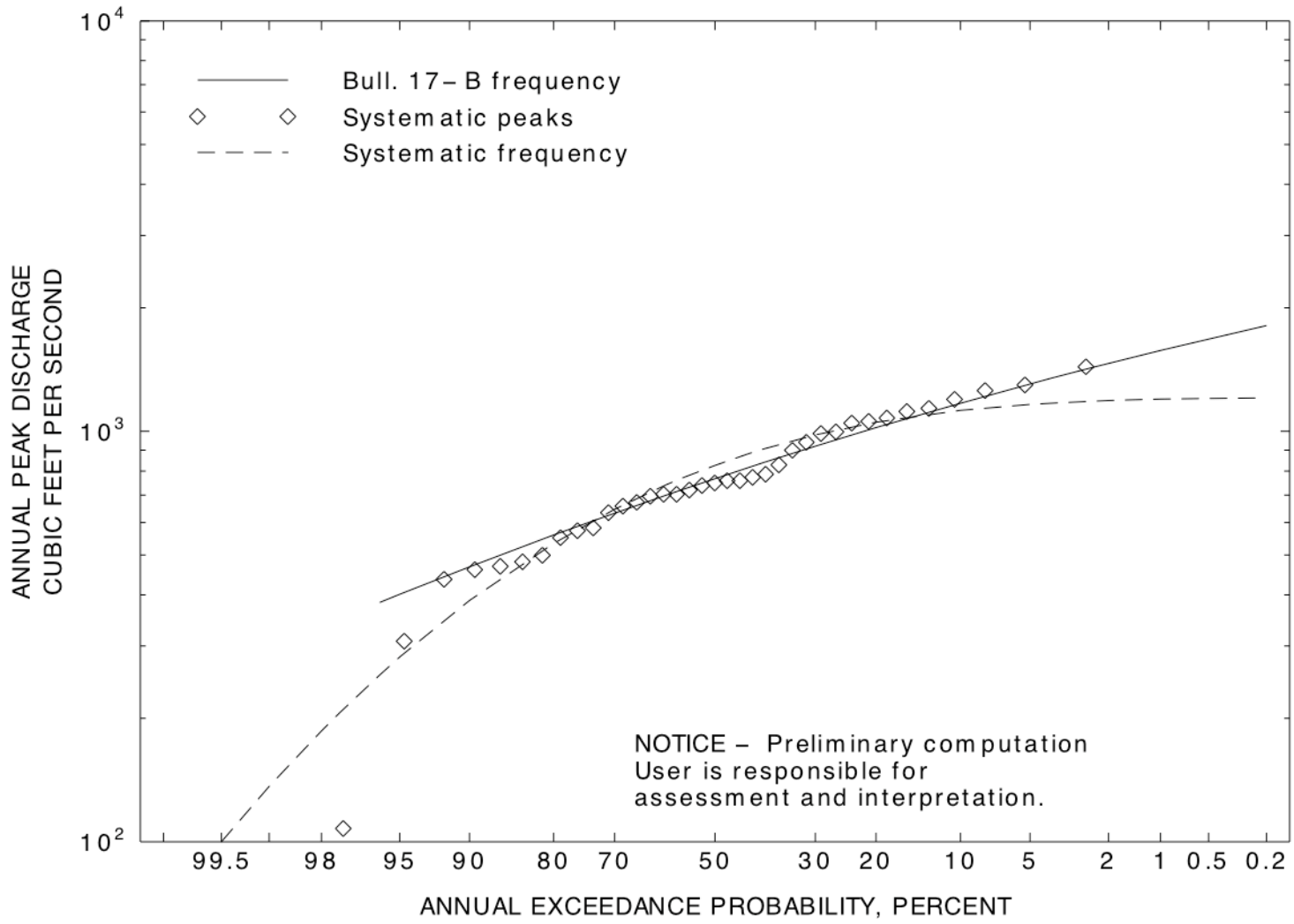
Explanation of peak discharge qualification codes

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
1974	1440.0	0.0263	0.0263
2000	1300.0	0.0526	0.0526
1993	1260.0	0.0789	0.0789
1976	1200.0	0.1053	0.1053
1983	1140.0	0.1316	0.1316
1986	1120.0	0.1579	0.1579
1990	1080.0	0.1842	0.1842
1979	1060.0	0.2105	0.2105
1991	1050.0	0.2368	0.2368
1994	1000.0	0.2632	0.2632
1978	990.0	0.2895	0.2895
1985	942.0	0.3158	0.3158
1987	901.0	0.3421	0.3421
1999	830.0	0.3684	0.3684
1988	788.0	0.3947	0.3947
1966	774.0	0.4211	0.4211
1971	760.0	0.4474	0.4474
1989	760.0	0.4737	0.4737
1995	750.0	0.5000	0.5000
1973	740.0	0.5263	0.5263
1996	721.0	0.5526	0.5526
1972	704.0	0.5789	0.5789
1997	704.0	0.6053	0.6053
1970	696.0	0.6316	0.6316
1981	673.0	0.6579	0.6579
1998	659.0	0.6842	0.6842
1992	635.0	0.7105	0.7105
1984	583.0	0.7368	0.7368
1967	574.0	0.7632	0.7632
1982	552.0	0.7895	0.7895
1965	500.0	0.8158	0.8158
1975	482.0	0.8421	0.8421
1968	470.0	0.8684	0.8684
1969	461.0	0.8947	0.8947
1980	437.0	0.9211	0.9211
1964	309.0	0.9474	0.9474
1977	108.0	0.9737	0.9737



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