

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

Station - 05410490 KICKAPOO RIVER AT STEUBEN, WI
2002 MAR 13 09:03:13

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

Number of peaks in record	=	67
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	67
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.399
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.	19059.4
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.	411.7

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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	3.4473	0.2895	0.432
BULL.17B ESTIMATE	0.0	1.0000	3.4473	0.2895	0.218

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	576.7	658.9	547.3	426.9	729.2
0.9900	661.6	735.9	634.3	499.6	824.8
0.9500	976.8	1022.0	956.1	778.3	1173.0
0.9000	1213.0	1237.0	1196.0	992.9	1430.0
0.8000	1589.0	1584.0	1578.0	1340.0	1841.0
0.5000	2734.0	2670.0	2734.0	2387.0	3129.0
0.2000	4868.0	4819.0	4909.0	4207.0	5766.0
0.1000	6674.0	6747.0	6788.0	5645.0	8182.0
0.0400	9443.0	9872.0	9744.0	7747.0	12110.0
0.0200	11890.0	12780.0	12430.0	9532.0	15750.0
0.0100	14680.0	16250.0	15590.0	11510.0	20050.0
0.0050	17860.0	20390.0	19310.0	13720.0	25140.0
0.0020	22760.0	27090.0	25250.0	17010.0	33240.0
0.6667	2063.9	(1.50-year flood)			
0.4292	3075.9	(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
1934	5830.0		1968	2420.0	
1935	8600.0		1969	1740.0	
1936	3650.0		1970	1150.0	
1937	4340.0		1971	1230.0	
1938	3400.0		1972	2520.0	
1939	1860.0		1973	5070.0	
1940	2230.0		1974	3040.0	
1941	1800.0		1975	2900.0	
1942	2540.0		1976	2100.0	
1943	2570.0		1977	911.0	
1944	3050.0		1978	16500.0	
1945	3370.0		1979	2070.0	
1946	7630.0		1980	2340.0	
1947	2570.0		1981	3780.0	
1948	5640.0		1982	1290.0	
1949	1790.0		1983	2390.0	
1950	6160.0		1984	3420.0	
1951	10300.0		1985	3420.0	
1952	4470.0		1986	2330.0	
1953	1430.0		1987	1260.0	
1954	2570.0		1988	1160.0	
1955	1670.0		1989	1920.0	
1956	6310.0		1990	2180.0	
1957	972.0		1991	1240.0	
1958	1030.0		1992	5320.0	
1959	6940.0		1993	2960.0	
1960	3070.0		1994	1510.0	
1961	10800.0		1995	1510.0	
1962	4170.0		1996	3400.0	
1963	3440.0		1997	1230.0	
1964	947.0		1998	2050.0	
1965	6500.0		1999	1360.0	
1966	10400.0		2000	4280.0	
1967	3400.0				

Explanation of peak discharge qualification codes

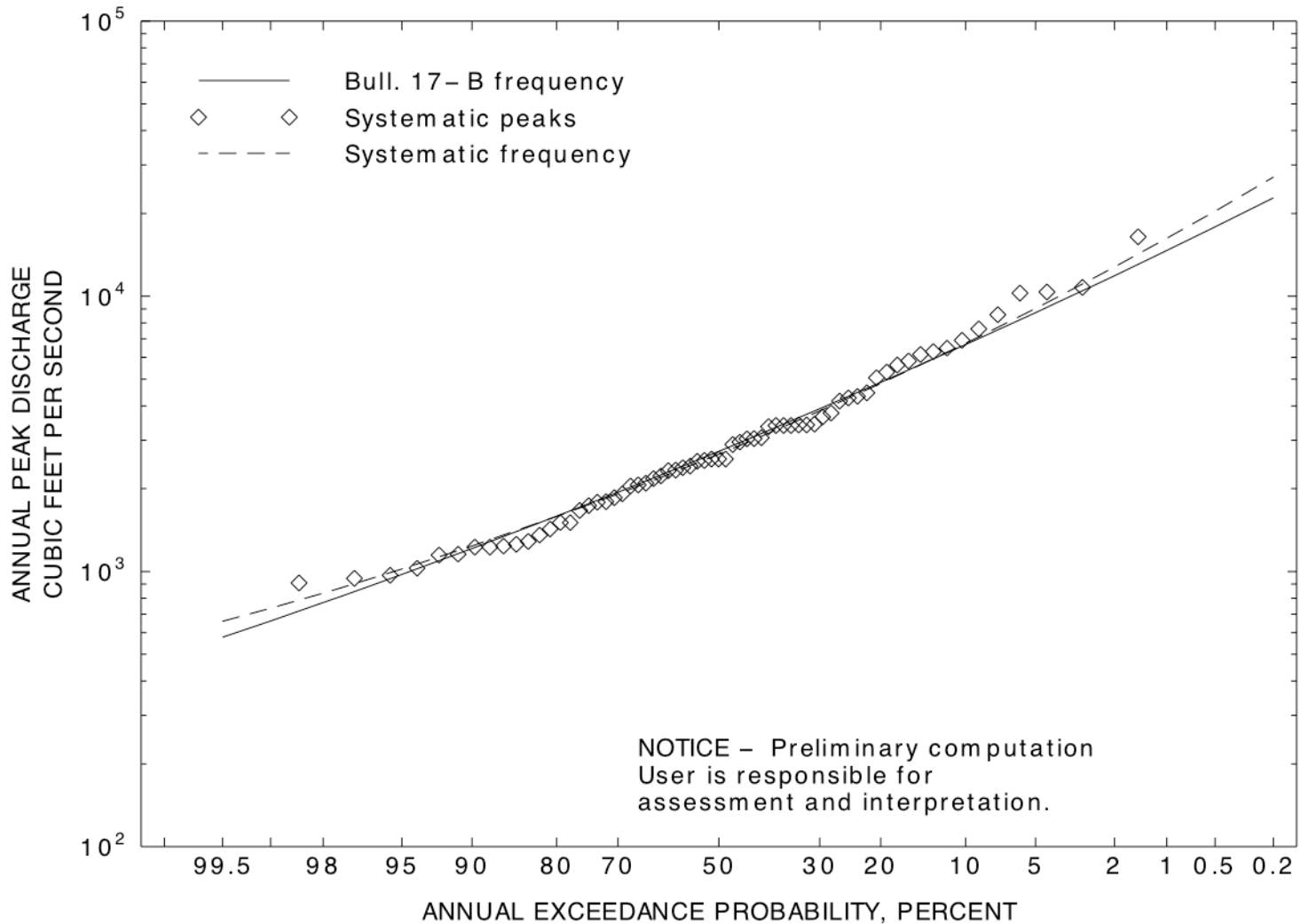
PEAKFQ CODE	WATSTORE CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1978	16500.0	0.0147	0.0147
1961	10800.0	0.0294	0.0294
1966	10400.0	0.0441	0.0441
1951	10300.0	0.0588	0.0588
1935	8600.0	0.0735	0.0735
1946	7630.0	0.0882	0.0882
1959	6940.0	0.1029	0.1029
1965	6500.0	0.1176	0.1176
1956	6310.0	0.1324	0.1324
1950	6160.0	0.1471	0.1471
1934	5830.0	0.1618	0.1618
1948	5640.0	0.1765	0.1765
1992	5320.0	0.1912	0.1912
1973	5070.0	0.2059	0.2059
1952	4470.0	0.2206	0.2206
1937	4340.0	0.2353	0.2353
2000	4280.0	0.2500	0.2500
1962	4170.0	0.2647	0.2647
1981	3780.0	0.2794	0.2794
1936	3650.0	0.2941	0.2941
1963	3440.0	0.3088	0.3088
1984	3420.0	0.3235	0.3235
1985	3420.0	0.3382	0.3382
1938	3400.0	0.3529	0.3529
1967	3400.0	0.3676	0.3676
1996	3400.0	0.3824	0.3824
1945	3370.0	0.3971	0.3971
1960	3070.0	0.4118	0.4118
1944	3050.0	0.4265	0.4265
1974	3040.0	0.4412	0.4412
1993	2960.0	0.4559	0.4559
1975	2900.0	0.4706	0.4706
1943	2570.0	0.4853	0.4853
1947	2570.0	0.5000	0.5000
1954	2570.0	0.5147	0.5147
1942	2540.0	0.5294	0.5294
1972	2520.0	0.5441	0.5441
1968	2420.0	0.5588	0.5588
1983	2390.0	0.5735	0.5735
1980	2340.0	0.5882	0.5882
1986	2330.0	0.6029	0.6029
1940	2230.0	0.6176	0.6176
1990	2180.0	0.6324	0.6324
1976	2100.0	0.6471	0.6471
1979	2070.0	0.6618	0.6618
1998	2050.0	0.6765	0.6765
1989	1920.0	0.6912	0.6912
1939	1860.0	0.7059	0.7059

1941	1800.0	0.7206	0.7206
1949	1790.0	0.7353	0.7353
1969	1740.0	0.7500	0.7500
1955	1670.0	0.7647	0.7647
1994	1510.0	0.7794	0.7794
1995	1510.0	0.7941	0.7941
1953	1430.0	0.8088	0.8088
1999	1360.0	0.8235	0.8235
1982	1290.0	0.8382	0.8382
1987	1260.0	0.8529	0.8529
1991	1240.0	0.8676	0.8676
1971	1230.0	0.8824	0.8824
1997	1230.0	0.8971	0.8971
1988	1160.0	0.9118	0.9118
1970	1150.0	0.9265	0.9265
1958	1030.0	0.9412	0.9412
1957	972.0	0.9559	0.9559
1964	947.0	0.9706	0.9706
1977	911.0	0.9853	0.9853



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ANNUAL EXCEEDANCE PROBABILITY, PERCENT
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