

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

Station - 04027000 BAD RIVER NEAR ODANAH, 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	=	59
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	59
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.142
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
WCF162I-SYSTEMATIC PEAKS EXCEEDED HIGH-OUTLIER CRITERION.	1	25604.6
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		2229.8

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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	3.8783	0.1872	0.502
BULL.17B ESTIMATE	0.0	1.0000	3.8783	0.1872	0.317

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	2829.0	3047.0	2733.0	2309.0	3308.0
0.9900	3067.0	3255.0	2982.0	2535.0	3555.0
0.9500	3873.0	3974.0	3817.0	3313.0	4386.0
0.9000	4422.0	4473.0	4380.0	3851.0	4949.0
0.8000	5230.0	5223.0	5204.0	4646.0	5786.0
0.5000	7386.0	7290.0	7386.0	6723.0	8106.0
0.2000	10770.0	10710.0	10840.0	9745.0	12110.0
0.1000	13290.0	13370.0	13470.0	11850.0	15320.0
0.0400	16810.0	17220.0	17220.0	14660.0	20030.0
0.0200	19670.0	20470.0	20370.0	16870.0	24010.0
0.0100	22740.0	24060.0	23850.0	19190.0	28410.0
0.0050	26060.0	28050.0	27730.0	21650.0	33280.0
0.0020	30860.0	34010.0	33540.0	25130.0	40540.0
0.6667	6169.3	(1.50-year flood)			
0.4292	7966.9	(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
1915	3900.0		1972	9250.0	
1916	12200.0		1973	8000.0	
1917	4060.0		1974	8190.0	
1918	8590.0		1975	6550.0	
1919	6680.0		1976	9910.0	
1920	8230.0		1977	7380.0	
1921	8010.0		1978	7170.0	
1949	16500.0		1979	8180.0	
1950	11700.0		1980	5580.0	
1951	12200.0		1981	7580.0	
1952	11500.0		1982	8480.0	
1953	13800.0		1983	7150.0	
1954	14600.0		1984	6350.0	
1955	6770.0		1985	6170.0	
1956	5500.0		1986	11500.0	
1957	5930.0		1987	3510.0	
1958	6410.0		1988	6360.0	
1959	3480.0		1989	4060.0	
1960	27700.0		1990	5800.0	
1961	6670.0		1991	6260.0	
1962	4970.0		1992	20100.0	
1963	7190.0		1993	4020.0	
1964	9660.0		1994	4760.0	
1965	6520.0		1995	5090.0	
1966	7110.0		1996	13000.0	
1967	11000.0		1997	11200.0	
1968	4840.0		1998	10100.0	
1969	8240.0		1999	5870.0	
1970	3990.0		2000	5540.0	
1971	10700.0				

Explanation of peak discharge qualification codes

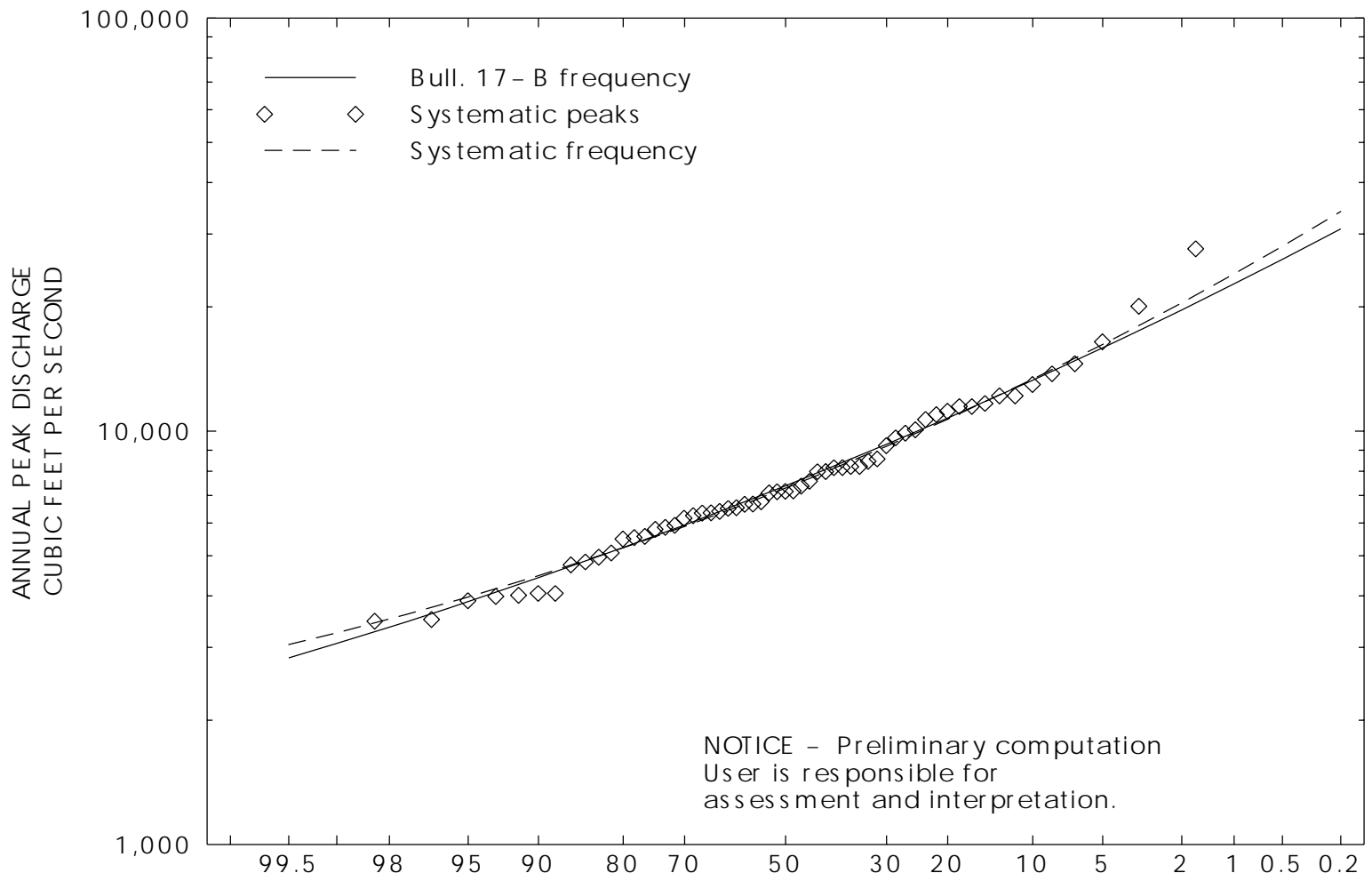
PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1960	27700.0	0.0167	0.0167
1992	20100.0	0.0333	0.0333
1949	16500.0	0.0500	0.0500
1954	14600.0	0.0667	0.0667
1953	13800.0	0.0833	0.0833
1996	13000.0	0.1000	0.1000
1916	12200.0	0.1167	0.1167
1951	12200.0	0.1333	0.1333
1950	11700.0	0.1500	0.1500
1952	11500.0	0.1667	0.1667
1986	11500.0	0.1833	0.1833
1997	11200.0	0.2000	0.2000
1967	11000.0	0.2167	0.2167
1971	10700.0	0.2333	0.2333
1998	10100.0	0.2500	0.2500
1976	9910.0	0.2667	0.2667
1964	9660.0	0.2833	0.2833
1972	9250.0	0.3000	0.3000
1918	8590.0	0.3167	0.3167
1982	8480.0	0.3333	0.3333
1969	8240.0	0.3500	0.3500
1920	8230.0	0.3667	0.3667
1974	8190.0	0.3833	0.3833
1979	8180.0	0.4000	0.4000
1921	8010.0	0.4167	0.4167
1973	8000.0	0.4333	0.4333
1981	7580.0	0.4500	0.4500
1977	7380.0	0.4667	0.4667
1963	7190.0	0.4833	0.4833
1978	7170.0	0.5000	0.5000
1983	7150.0	0.5167	0.5167
1966	7110.0	0.5333	0.5333
1955	6770.0	0.5500	0.5500
1919	6680.0	0.5667	0.5667
1961	6670.0	0.5833	0.5833
1975	6550.0	0.6000	0.6000
1965	6520.0	0.6167	0.6167
1958	6410.0	0.6333	0.6333
1988	6360.0	0.6500	0.6500
1984	6350.0	0.6667	0.6667
1991	6260.0	0.6833	0.6833
1985	6170.0	0.7000	0.7000
1957	5930.0	0.7167	0.7167
1999	5870.0	0.7333	0.7333
1990	5800.0	0.7500	0.7500
1980	5580.0	0.7667	0.7667
2000	5540.0	0.7833	0.7833
1956	5500.0	0.8000	0.8000

1995	5090.0	0.8167	0.8167
1962	4970.0	0.8333	0.8333
1968	4840.0	0.8500	0.8500
1994	4760.0	0.8667	0.8667
1917	4060.0	0.8833	0.8833
1989	4060.0	0.9000	0.9000
1993	4020.0	0.9167	0.9167
1970	3990.0	0.9333	0.9333
1915	3900.0	0.9500	0.9500
1987	3510.0	0.9667	0.9667
1959	3480.0	0.9833	0.9833



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ANNUAL EXCEEDANCE PROBABILITY, PERCENT
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