

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

Station - 05357360 BEAR RIVER NEAR POWELL, WI
2002 MAR 13 09:02:47

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

Number of peaks in record	=	31
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	31
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.138
Standard error of generalized skew	=	0.550
Skew option	=	WEIGHTED
Gage base discharge	=	225.0
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. *****

WCF133I-SYSTEMATIC PEAKS BELOW GAGE BASE WERE NOTED.	3	225.0
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		155.4
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		1206.4

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE	LOGARITHMIC		
	EXCEEDANCE DISCHARGE	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	225.0	0.9032	2.6096	0.1905 -0.291
BULL.17B ESTIMATE	225.0	0.9032	2.6096	0.1905 -0.233

ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

ANNUAL EXCEEDANCE PROBABILITY	BULL.17B ESTIMATE	SYSTEMATIC RECORD	'EXPECTED PROBABILITY'	95-PCT CONFIDENCE LIMITS FOR BULL. 17B ESTIMATES	
				LOWER	UPPER
0.9000	229.7	229.3	229.1	186.1	268.7
0.8000	283.0	283.5	279.6	238.2	325.0
0.5000	414.0	415.8	414.0	362.9	473.1
0.2000	591.2	591.7	597.3	514.6	703.7
0.1000	705.6	703.2	719.5	604.6	867.4
0.0400	846.1	838.1	875.6	710.0	1080.0
0.0200	947.8	934.4	993.4	783.7	1242.0
0.0100	1047.0	1027.0	1113.0	853.9	1404.0
0.0050	1145.0	1118.0	1236.0	921.7	1567.0
0.0020	1272.0	1234.0	1403.0	1008.0	1787.0
0.6667	341.8	(1.50-year flood)			
0.4292	447.8	(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
1970	270.0		1986	565.0	
1971	700.0		1987	240.0	
1972	560.0		1988	265.0	
1973	625.0		1989	300.0	
1974	305.0		1990	296.0	
1975	205.0		1991	370.0	
1976	605.0		1992	460.0	
1977	235.0		1993	430.0	
1978	715.0		1994	620.0	
1979	650.0		1995	440.0	
1980	225.0	L	1996	730.0	
1981	400.0		1997	650.0	
1982	720.0		1998	315.0	
1983	470.0		1999	205.0	L
1984	235.0		2000	253.0	
1985	650.0				

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
1996	730.0	0.0312	0.0312
1982	720.0	0.0625	0.0625
1978	715.0	0.0938	0.0938
1971	700.0	0.1250	0.1250
1979	650.0	0.1562	0.1562
1985	650.0	0.1875	0.1875
1997	650.0	0.2188	0.2188
1973	625.0	0.2500	0.2500
1994	620.0	0.2812	0.2812
1976	605.0	0.3125	0.3125
1986	565.0	0.3438	0.3438
1972	560.0	0.3750	0.3750
1983	470.0	0.4062	0.4062
1992	460.0	0.4375	0.4375
1995	440.0	0.4688	0.4688
1993	430.0	0.5000	0.5000
1981	400.0	0.5312	0.5312
1991	370.0	0.5625	0.5625
1998	315.0	0.5938	0.5938
1974	305.0	0.6250	0.6250
1989	300.0	0.6562	0.6562
1990	296.0	0.6875	0.6875
1970	270.0	0.7188	0.7188
1988	265.0	0.7500	0.7500
2000	253.0	0.7812	0.7812
1987	240.0	0.8125	0.8125
1977	235.0	0.8438	0.8438
1984	235.0	0.8750	0.8750
1980	225.0	--	--
1975	205.0	--	--
1999	205.0	--	--

