

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

Station - 05413500 GRANT RIVER AT BURTON, 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	=	66
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	66
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
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.	427.7
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	63410.0

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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	3.7167	0.3781	-0.394
BULL.17B ESTIMATE	0.0	1.0000	3.7167	0.3781	-0.395

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	401.1	401.6	356.5	250.1	576.7
0.9900	535.8	536.3	489.6	349.3	746.2
0.9500	1136.0	1136.0	1092.0	825.5	1464.0
0.9000	1656.0	1656.0	1616.0	1264.0	2065.0
0.8000	2558.0	2558.0	2529.0	2049.0	3098.0
0.5000	5515.0	5514.0	5515.0	4619.0	6600.0
0.2000	10960.0	10960.0	11060.0	9035.0	13730.0
0.1000	15220.0	15220.0	15470.0	12270.0	19760.0
0.0400	21110.0	21120.0	21700.0	16560.0	28560.0
0.0200	25760.0	25780.0	26720.0	19830.0	35800.0
0.0100	30560.0	30590.0	32030.0	23140.0	43520.0
0.0050	35510.0	35560.0	37590.0	26480.0	51680.0
0.0020	42250.0	42320.0	45370.0	30940.0	63080.0
0.6667	3758.4	(1.50-year flood)			
0.4292	6443.7	(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
1935	6820.0		1968	1080.0	
1936	5420.0		1969	1430.0	
1937	6260.0		1970	2260.0	
1938	7350.0		1971	2140.0	
1939	2060.0		1972	10900.0	
1940	23800.0		1973	6770.0	
1941	2490.0		1974	7830.0	
1942	3990.0		1975	8520.0	
1943	12300.0		1976	7080.0	
1944	9820.0		1977	4840.0	
1945	6010.0		1978	11200.0	
1946	11600.0		1979	5320.0	
1947	22300.0		1980	2160.0	
1948	10200.0		1981	2450.0	
1949	14100.0		1982	3290.0	
1950	25000.0		1983	1830.0	
1951	11700.0		1984	2680.0	
1952	7280.0		1985	6800.0	
1953	12300.0		1986	2420.0	
1954	23800.0		1987	1800.0	
1955	8000.0		1988	830.0	
1956	6000.0		1989	2800.0	
1957	3240.0		1990	3020.0	
1958	1200.0		1991	9920.0	
1959	11000.0		1992	1390.0	
1960	10700.0		1993	6950.0	
1961	13400.0		1994	3500.0	
1962	8120.0		1995	996.0	
1963	8000.0		1996	640.0	
1964	5510.0		1997	2300.0	
1965	7000.0		1998	3850.0	
1966	12500.0		1999	4980.0	
1967	14000.0		2000	8810.0	

Explanation of peak discharge qualification codes

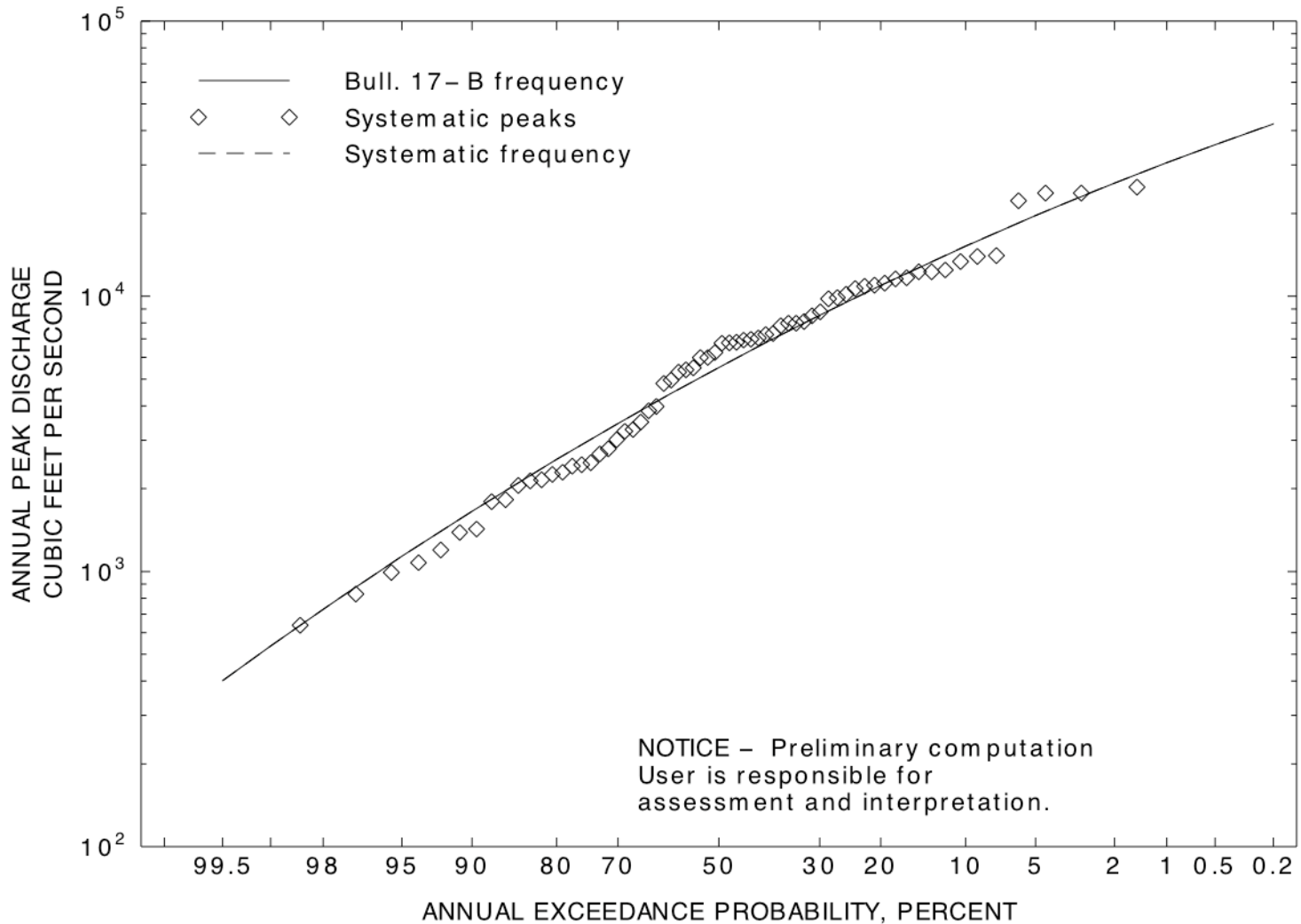
PEAKFQ	WATSTORE	DEFINITION
CODE	CODE	
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1950	25000.0	0.0149	0.0149
1940	23800.0	0.0299	0.0299
1954	23800.0	0.0448	0.0448
1947	22300.0	0.0597	0.0597
1949	14100.0	0.0746	0.0746
1967	14000.0	0.0896	0.0896
1961	13400.0	0.1045	0.1045
1966	12500.0	0.1194	0.1194
1943	12300.0	0.1343	0.1343
1953	12300.0	0.1493	0.1493
1951	11700.0	0.1642	0.1642
1946	11600.0	0.1791	0.1791
1978	11200.0	0.1940	0.1940
1959	11000.0	0.2090	0.2090
1972	10900.0	0.2239	0.2239
1960	10700.0	0.2388	0.2388
1948	10200.0	0.2537	0.2537
1991	9920.0	0.2687	0.2687
1944	9820.0	0.2836	0.2836
2000	8810.0	0.2985	0.2985
1975	8520.0	0.3134	0.3134
1962	8120.0	0.3284	0.3284
1955	8000.0	0.3433	0.3433
1963	8000.0	0.3582	0.3582
1974	7830.0	0.3731	0.3731
1938	7350.0	0.3881	0.3881
1952	7280.0	0.4030	0.4030
1976	7080.0	0.4179	0.4179
1965	7000.0	0.4328	0.4328
1993	6950.0	0.4478	0.4478
1935	6820.0	0.4627	0.4627
1985	6800.0	0.4776	0.4776
1973	6770.0	0.4925	0.4925
1937	6260.0	0.5075	0.5075
1945	6010.0	0.5224	0.5224
1956	6000.0	0.5373	0.5373
1964	5510.0	0.5522	0.5522
1936	5420.0	0.5672	0.5672
1979	5320.0	0.5821	0.5821
1999	4980.0	0.5970	0.5970
1977	4840.0	0.6119	0.6119
1942	3990.0	0.6269	0.6269
1998	3850.0	0.6418	0.6418
1994	3500.0	0.6567	0.6567
1982	3290.0	0.6716	0.6716
1957	3240.0	0.6866	0.6866
1990	3020.0	0.7015	0.7015
1989	2800.0	0.7164	0.7164

1984	2680.0	0.7313	0.7313
1941	2490.0	0.7463	0.7463
1981	2450.0	0.7612	0.7612
1986	2420.0	0.7761	0.7761
1997	2300.0	0.7910	0.7910
1970	2260.0	0.8060	0.8060
1980	2160.0	0.8209	0.8209
1971	2140.0	0.8358	0.8358
1939	2060.0	0.8507	0.8507
1983	1830.0	0.8657	0.8657
1987	1800.0	0.8806	0.8806
1969	1430.0	0.8955	0.8955
1992	1390.0	0.9104	0.9104
1958	1200.0	0.9254	0.9254
1968	1080.0	0.9403	0.9403
1995	996.0	0.9552	0.9552
1988	830.0	0.9701	0.9701
1996	640.0	0.9851	0.9851



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