

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

Station - 05544200 MUKWONAGO RIVER AT MUKWONAGO, WI
2002 MAR 13 09:03:25

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

Number of peaks in record	=	25
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	25
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.	122.3
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.	361.8

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 2002 MAR 13 09:03:25

ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE		LOGARITHMIC		
	DISCHARGE	EXCEEDANCE PROBABILITY	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	0.0	1.0000	2.3229	0.0948	-0.586
BULL.17B ESTIMATE	0.0	1.0000	2.3229	0.0948	-0.501

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	108.3	106.5	99.0	86.7	124.9
0.9900	117.0	115.5	109.4	95.8	133.3
0.9500	142.8	142.2	138.8	123.5	157.7
0.9000	157.6	157.4	154.9	139.6	171.8
0.8000	176.3	176.6	174.9	160.1	190.2
0.5000	214.2	214.8	214.2	199.1	230.9
0.2000	253.6	253.6	255.0	234.9	279.9
0.1000	274.2	273.4	277.1	252.2	307.8
0.0400	296.1	293.9	301.3	269.8	338.5
0.0200	309.9	306.7	317.1	280.7	358.5
0.0100	322.2	317.8	331.6	290.1	376.5
0.0050	333.1	327.5	345.0	298.5	392.8
0.0020	346.1	338.8	361.2	308.2	412.3
0.6667	194.5	(1.50-year flood)			
0.4292	222.7	(2.33-year flood)			

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2002 MAR 13 09:03:25

I N P U T D A T A L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1974	292.0		1989	240.0	
1977	140.0		1990	261.0	
1978	235.0		1991	193.0	
1979	274.0		1992	204.0	
1980	184.0		1993	268.0	
1981	219.0		1994	199.0	
1982	225.0		1995	210.0	
1983	173.0		1996	224.0	
1984	145.0		1997	270.0	
1985	209.0		1998	130.0	
1986	278.0		1999	236.0	
1987	201.0		2000	200.0	
1988	165.0				

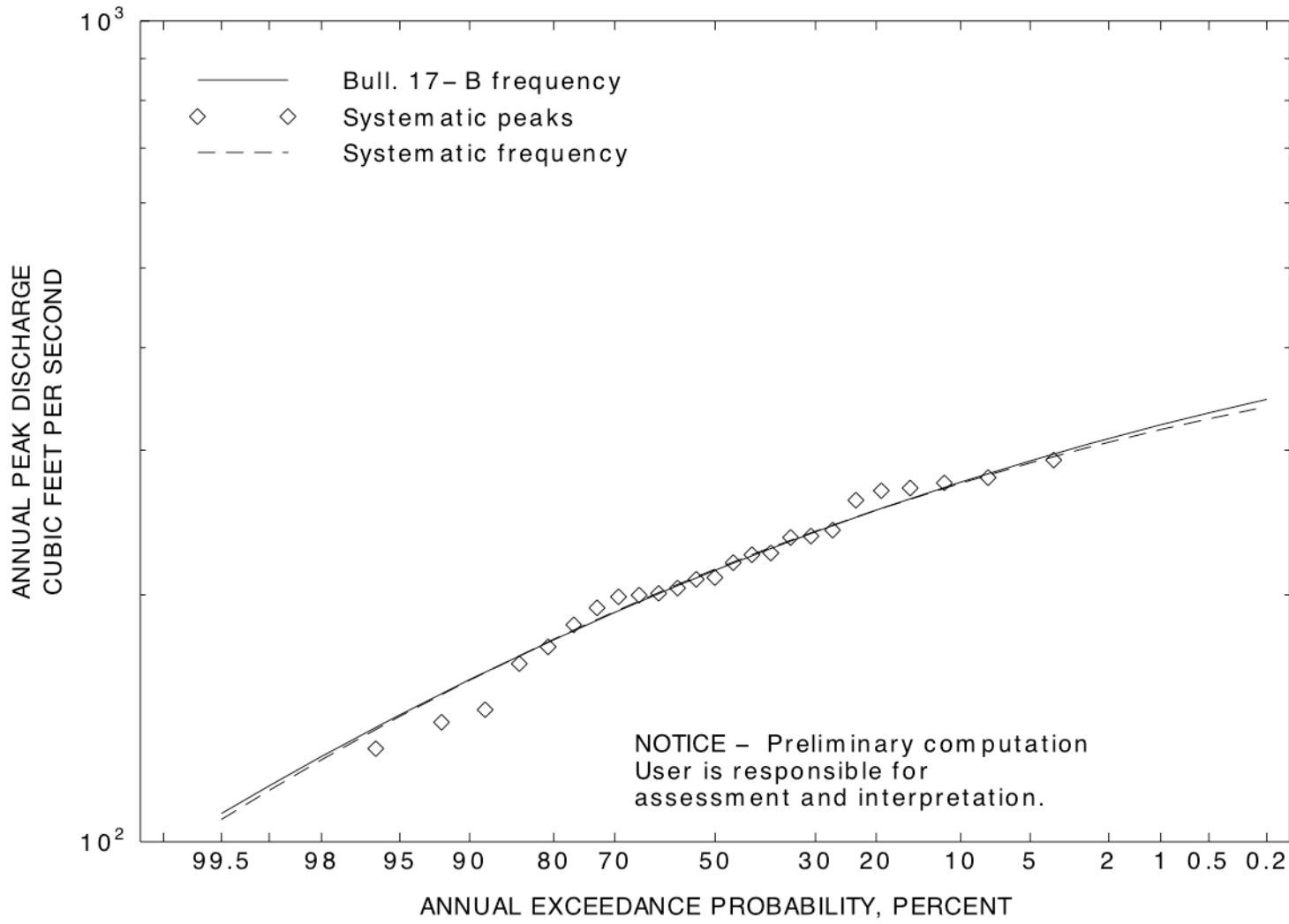
Explanation of peak discharge qualification codes

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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2002 MAR 13 09:03:25

EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1974	292.0	0.0385	0.0385
1986	278.0	0.0769	0.0769
1979	274.0	0.1154	0.1154
1997	270.0	0.1538	0.1538
1993	268.0	0.1923	0.1923
1990	261.0	0.2308	0.2308
1989	240.0	0.2692	0.2692
1999	236.0	0.3077	0.3077
1978	235.0	0.3462	0.3462
1982	225.0	0.3846	0.3846
1996	224.0	0.4231	0.4231
1981	219.0	0.4615	0.4615
1995	210.0	0.5000	0.5000
1985	209.0	0.5385	0.5385
1992	204.0	0.5769	0.5769
1987	201.0	0.6154	0.6154
2000	200.0	0.6538	0.6538
1994	199.0	0.6923	0.6923
1991	193.0	0.7308	0.7308
1980	184.0	0.7692	0.7692
1983	173.0	0.8077	0.8077
1988	165.0	0.8462	0.8462
1984	145.0	0.8846	0.8846
1977	140.0	0.9231	0.9231
1998	130.0	0.9615	0.9615



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