

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

Station - 05365707 NORTH FORK EAU CLAIRE RIVER NEAR THORP, WI  
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I N P U T   D A T A   S U M M A R Y

|                                      |   |          |
|--------------------------------------|---|----------|
| Number of peaks in record            | = | 15       |
| Peaks not used in analysis           | = | 0        |
| Systematic peaks in analysis         | = | 15       |
| Historic peaks in analysis           | = | 0        |
| Years of historic record             | = | 0        |
| Generalized skew                     | = | -0.298   |
| 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.      | 363.5   |
| WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. | 10514.7 |

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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                 | 3.2911      | 0.3252             | 0.315  |
| BULL.17B ESTIMATE | 0.0        | 1.0000                 | 3.2911      | 0.3252             | -0.014 |

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                        | 281.4             | 354.6               | 192.6                           | 108.4  | 482.4   |
| 0.9900                        | 339.9             | 408.0               | 253.9                           | 141.5  | 561.3   |
| 0.9500                        | 568.8             | 612.3               | 498.4                           | 290.2  | 856.1   |
| 0.9000                        | 748.0             | 770.7               | 689.5                           | 421.7  | 1080.0  |
| 0.8000                        | 1042.0            | 1032.0              | 999.6                           | 653.5  | 1451.0  |
| 0.5000                        | 1958.0            | 1880.0              | 1958.0                          | 1402.0   | 2737.0  |
| 0.2000                        | 3673.0            | 3620.0              | 3826.0                          | 2637.0   | 5856.0  |
| 0.1000                        | 5098.0            | 5215.0              | 5524.0                          | 3531.0   | 9036.0  |
| 0.0400                        | 7225.0            | 7836.0              | 8379.0                          | 4743.0   | 14560.0 |
| 0.0200                        | 9048.0            | 10290.0             | 11180.0                         | 5708.0   | 19910.0 |
| 0.0100                        | 11070.0           | 13240.0             | 14730.0                         | 6725.0   | 26430.0 |
| 0.0050                        | 13320.0           | 16770.0             | 19270.0                         | 7801.0   | 34290.0 |
| 0.0020                        | 16660.0           | 22480.0             | 27360.0                         | 9321.0   | 47080.0 |
| 0.6667                        | 1418.4            | ( 1.50-year flood ) |                                 |  |         |
| 0.4292                        | 2237.8            | ( 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 |
|------------|-----------|-------|------------|-----------|-------|
| 1986       | 9050.0    |       | 1994       | 1660.0    |       |
| 1987       | 1400.0    |       | 1995       | 680.0     |       |
| 1988       | 2030.0    |       | 1996       | 1400.0    |       |
| 1989       | 2760.0    |       | 1997       | 2570.0    |       |
| 1990       | 5600.0    |       | 1998       | 1910.0    |       |
| 1991       | 908.0     |       | 1999       | 560.0     |       |
| 1992       | 2320.0    |       | 2000       | 1520.0    |       |
| 1993       | 4210.0    |       |            |           |       |

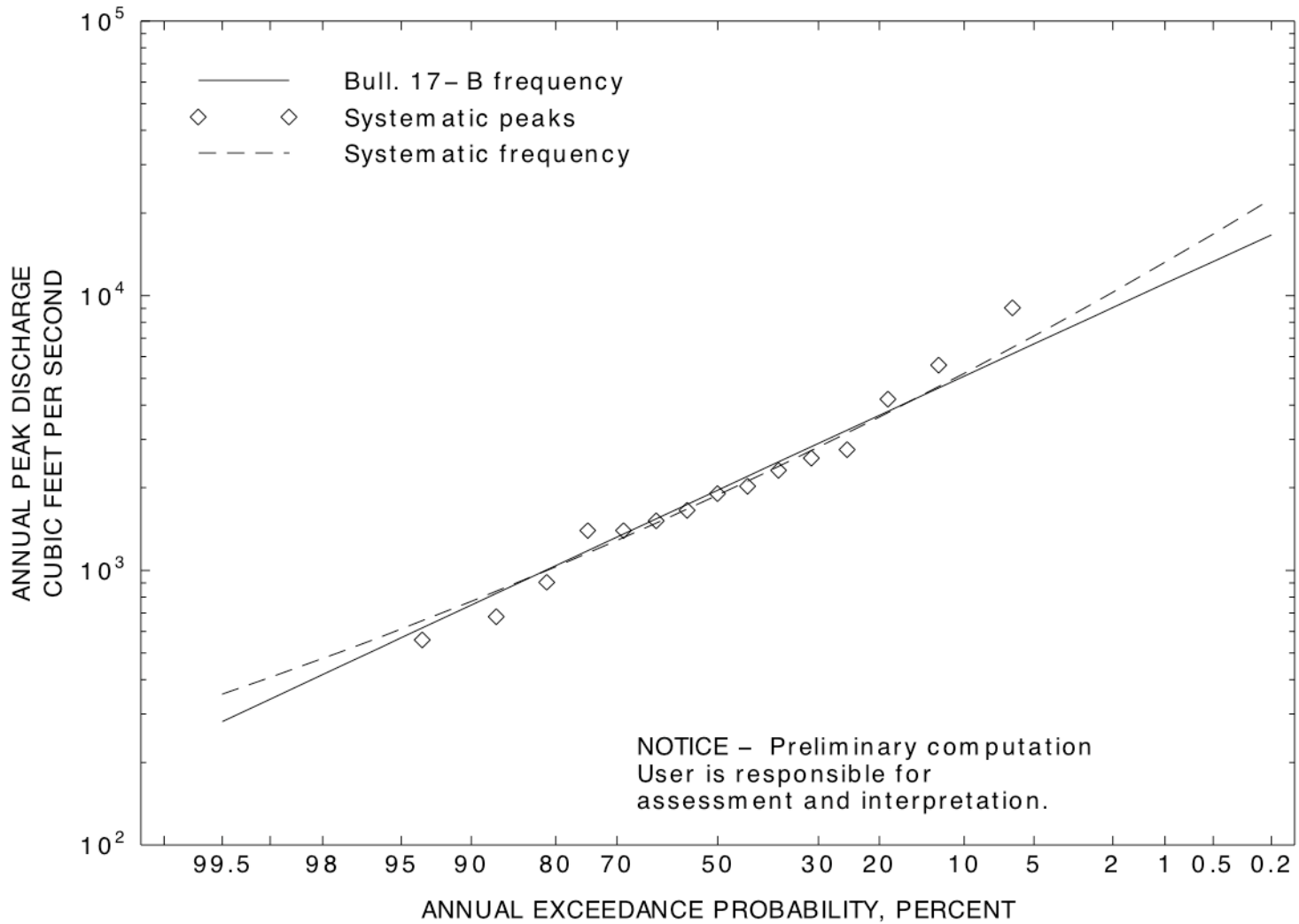
Explanation of peak discharge qualification codes

| 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<br>YEAR | RANKED<br>DISCHARGE | SYSTEMATIC<br>RECORD | BULL.17B<br>ESTIMATE |
|---------------|---------------------|----------------------|----------------------|
| 1986          | 9050.0              | 0.0625               | 0.0625               |
| 1990          | 5600.0              | 0.1250               | 0.1250               |
| 1993          | 4210.0              | 0.1875               | 0.1875               |
| 1989          | 2760.0              | 0.2500               | 0.2500               |
| 1997          | 2570.0              | 0.3125               | 0.3125               |
| 1992          | 2320.0              | 0.3750               | 0.3750               |
| 1988          | 2030.0              | 0.4375               | 0.4375               |
| 1998          | 1910.0              | 0.5000               | 0.5000               |
| 1994          | 1660.0              | 0.5625               | 0.5625               |
| 2000          | 1520.0              | 0.6250               | 0.6250               |
| 1987          | 1400.0              | 0.6875               | 0.6875               |
| 1996          | 1400.0              | 0.7500               | 0.7500               |
| 1991          | 908.0               | 0.8125               | 0.8125               |
| 1995          | 680.0               | 0.8750               | 0.8750               |
| 1999          | 560.0               | 0.9375               | 0.9375               |



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