

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

Station - 05431014 JACKSON CREEK AT PETRIE ROAD NEAR ELKHORN, WI  
 2002 MAR 13 09:03:23

I N P U T   D A T A   S U M M A R Y

|                                      |   |          |
|--------------------------------------|---|----------|
| Number of peaks in record            | = | 12       |
| Peaks not used in analysis           | = | 0        |
| Systematic peaks in analysis         | = | 12       |
| 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.      | 50.4               |
| WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE. | 608.5              |
| **WCF233W-EXPECTED PROB OUT OF RANGE AT TAB PROB.           | 0.00008    0.00200 |
| WCF002J-CALCS COMPLETED. RETURN CODE = 2                    |                    |

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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                 | 2.2435      | 0.2534             | 0.232  |
| BULL.17B ESTIMATE | 0.0        | 1.0000                 | 2.2435      | 0.2534             | -0.134 |

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                        | 36.2              | 44.3                | 23.5                            | 14.5   | 58.3   |
| 0.9900                        | 42.6              | 49.8                | 30.7                            | 18.4   | 66.1   |
| 0.9500                        | 65.7              | 69.8                | 57.0                            | 35.0   | 93.5   |
| 0.9000                        | 82.3              | 84.3                | 75.5                            | 48.5   | 113.0  |
| 0.8000                        | 107.7             | 106.6               | 103.2                           | 70.6   | 143.3  |
| 0.5000                        | 177.5             | 171.3               | 177.5                           | 132.3  | 239.1  |
| 0.2000                        | 287.3             | 284.1               | 298.5                           | 215.7  | 439.5  |
| 0.1000                        | 366.8             | 374.9               | 395.5                           | 267.8  | 618.1  |
| 0.0400                        | 473.4             | 509.0               | 543.3                           | 331.6  | 893.5  |
| 0.0200                        | 556.6             | 623.6               | 676.2                           | 378.1  | 1134.0 |
| 0.0100                        | 642.6             | 751.3               | 833.8                           | 424.0  | 1403.0 |
| 0.0050                        | 731.7             | 893.8               | 1023.0                          | 469.7  | 1702.0 |
| 0.0020                        | 854.7             | 1108.0              | --                              | 530.3  | 2149.0 |
| 0.6667                        | 137.8             | ( 1.50-year flood ) |                                 |  |        |
| 0.4292                        | 197.0             | ( 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 |
|------------|-----------|-------|------------|-----------|-------|
| 1984       | 177.0     |       | 1990       | 142.0     |       |
| 1985       | 103.0     |       | 1991       | 150.0     |       |
| 1986       | 359.0     |       | 1992       | 248.0     |       |
| 1987       | 125.0     |       | 1993       | 448.0     |       |
| 1988       | 64.0      |       | 1994       | 378.0     |       |
| 1989       | 124.0     |       | 1995       | 144.0     |       |

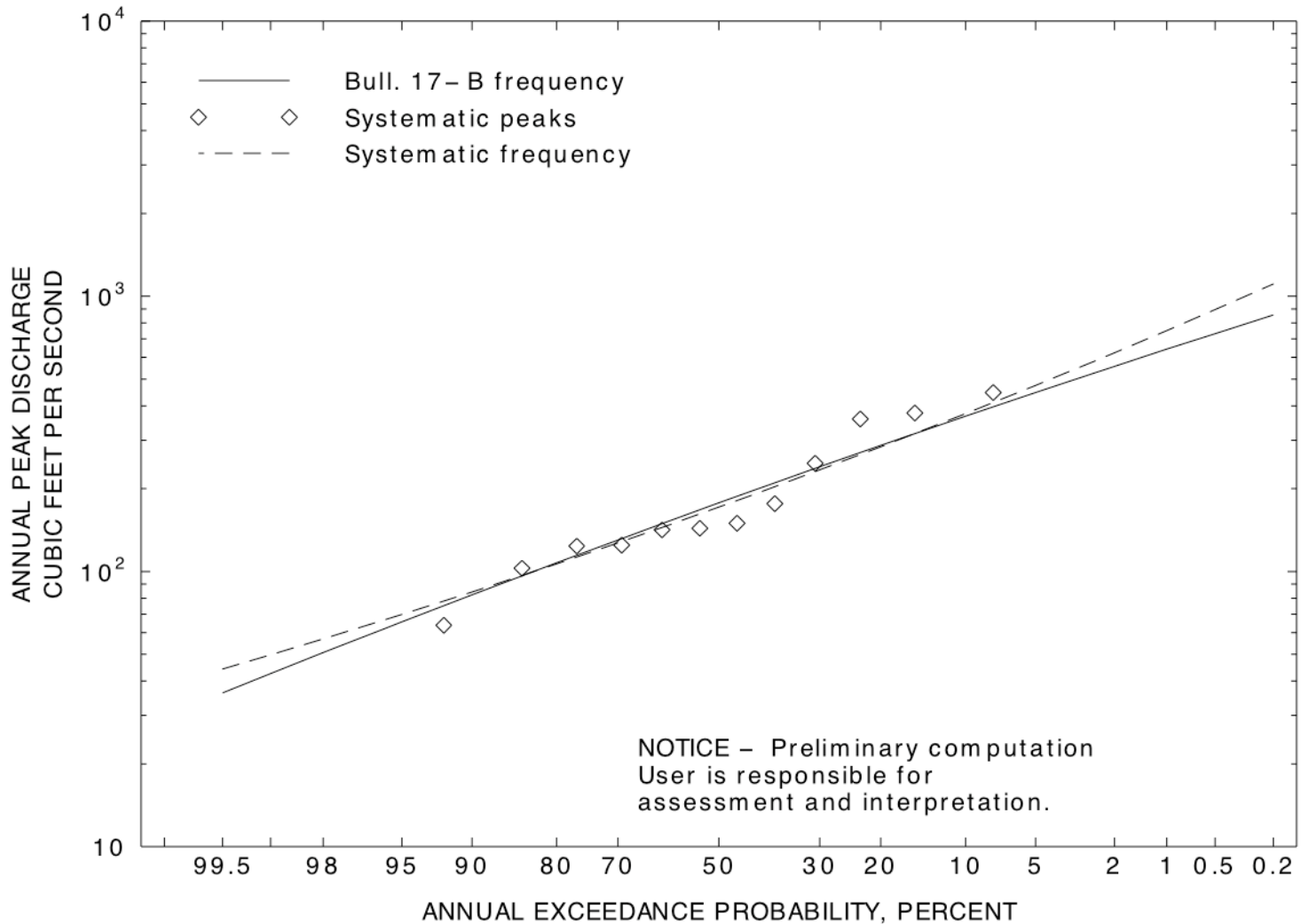
Explanation of peak discharge qualification codes

| 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 |
|---------------|---------------------|----------------------|----------------------|
| 1993          | 448.0               | 0.0769               | 0.0769               |
| 1994          | 378.0               | 0.1538               | 0.1538               |
| 1986          | 359.0               | 0.2308               | 0.2308               |
| 1992          | 248.0               | 0.3077               | 0.3077               |
| 1984          | 177.0               | 0.3846               | 0.3846               |
| 1991          | 150.0               | 0.4615               | 0.4615               |
| 1995          | 144.0               | 0.5385               | 0.5385               |
| 1990          | 142.0               | 0.6154               | 0.6154               |
| 1987          | 125.0               | 0.6923               | 0.6923               |
| 1989          | 124.0               | 0.7692               | 0.7692               |
| 1985          | 103.0               | 0.8462               | 0.8462               |
| 1988          | 64.0                | 0.9231               | 0.9231               |



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