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

Station - 05332500 NAMEKAGON RIVER NEAR TREGO, WI
2002 JUL 10 11:20:42

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

| | | |
|---|---|---|
| Number of peaks in record | = | 56 |
| Peaks not used in analysis | = | 0 |
| Systematic peaks in analysis | = | 56 |
| Historic peaks in analysis | = | 0 |
| Years of historic record | = | 0 |
| Generalized skew | = | 0.000 |
| Standard error of generalized skew | = | 0.550 |
| Skew option | = | STATION SKEW |
| 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 | |
| WCF162I-SYSTEMATIC PEAKS EXCEEDED HIGH-OUTLIER CRITERION. | 1 | | 4085.7 | |
| WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION. | | | 434.3 | |
| *WCF151I-17B WEIGHTED SKEW REPLACED BY USER OPTION. | | 0.591 | 0.927 | -1 |

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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 | 3.1245 | 0.1732 | 0.927 |
| BULL.17B ESTIMATE | 0.0 | 1.0000 | 3.1245 | 0.1732 | 0.927 |

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 | 669.5 | 669.5 | 660.4 | 571.0 | 758.2 |
| 0.9900 | 692.7 | 692.7 | 684.0 | 593.7 | 781.8 |
| 0.9500 | 779.8 | 779.8 | 773.0 | 679.8 | 870.6 |
| 0.9000 | 844.9 | 844.9 | 839.8 | 744.5 | 937.1 |
| 0.8000 | 947.8 | 947.8 | 944.4 | 846.7 | 1043.0 |
| 0.5000 | 1254.0 | 1254.0 | 1254.0 | 1145.0 | 1369.0 |
| 0.2000 | 1808.0 | 1808.0 | 1821.0 | 1646.0 | 2016.0 |
| 0.1000 | 2272.0 | 2272.0 | 2309.0 | 2036.0 | 2606.0 |
| 0.0400 | 2987.0 | 2987.0 | 3082.0 | 2605.0 | 3568.0 |
| 0.0200 | 3624.0 | 3624.0 | 3799.0 | 3093.0 | 4467.0 |
| 0.0100 | 4362.0 | 4362.0 | 4660.0 | 3642.0 | 5547.0 |
| 0.0050 | 5219.0 | 5219.0 | 5705.0 | 4263.0 | 6846.0 |
| 0.0020 | 6569.0 | 6569.0 | 7428.0 | 5212.0 | 8972.0 |
| 0.6667 | 1076.6 | ( 1.50-year flood ) | | | |
| 0.4292 | 1339.2 | ( 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 |
|---|---|---|---|---|---|
| 1928 | 1360.0 | K | 1956 | 1630.0 | K |
| 1929 | 1150.0 | K | 1957 | 1120.0 | K |
| 1930 | 844.0 | K | 1958 | 2380.0 | K |
| 1931 | 855.0 | K | 1959 | 886.0 | K |
| 1932 | 727.0 | K | 1960 | 1420.0 | K |
| 1933 | 751.0 | K | 1961 | 1480.0 | K |
| 1934 | 867.0 | K | 1962 | 1200.0 | K |
| 1935 | 957.0 | K | 1963 | 657.0 | K |
| 1936 | 1340.0 | K | 1964 | 1280.0 | K |
| 1937 | 893.0 | K | 1965 | 1640.0 | K |
| 1938 | 1300.0 | K | 1966 | 1280.0 | K |
| 1939 | 1020.0 | K | 1967 | 1740.0 | K |
| 1940 | 773.0 | K | 1968 | 1380.0 | K |
| 1941 | 5200.0 | K | 1969 | 1740.0 | K |
| 1942 | 1280.0 | K | 1970 | 927.0 | K |
| 1943 | 1190.0 | K | 1988 | 1200.0 | K |
| 1944 | 2210.0 | K | 1989 | 1130.0 | K |
| 1945 | 1760.0 | K | 1990 | 1320.0 | K |
| 1946 | 1120.0 | K | 1991 | 1790.0 | K |
| 1947 | 959.0 | K | 1992 | 2910.0 | K |
| 1948 | 957.0 | K | 1993 | 1080.0 | K |
| 1949 | 1170.0 | K | 1994 | 3060.0 | K |
| 1950 | 2160.0 | K | 1995 | 1100.0 | K |
| 1951 | 1500.0 | K | 1996 | 2160.0 | K |
| 1952 | 1480.0 | K | 1997 | 2610.0 | K |
| 1953 | 1330.0 | K | 1998 | 1830.0 | K |
| 1954 | 2140.0 | K | 1999 | 1120.0 | K |
| 1955 | 1120.0 | K | 2000 | 1020.0 | K |

Explanation of peak discharge qualification codes

| PEAKFQ CODE | WATSTORE 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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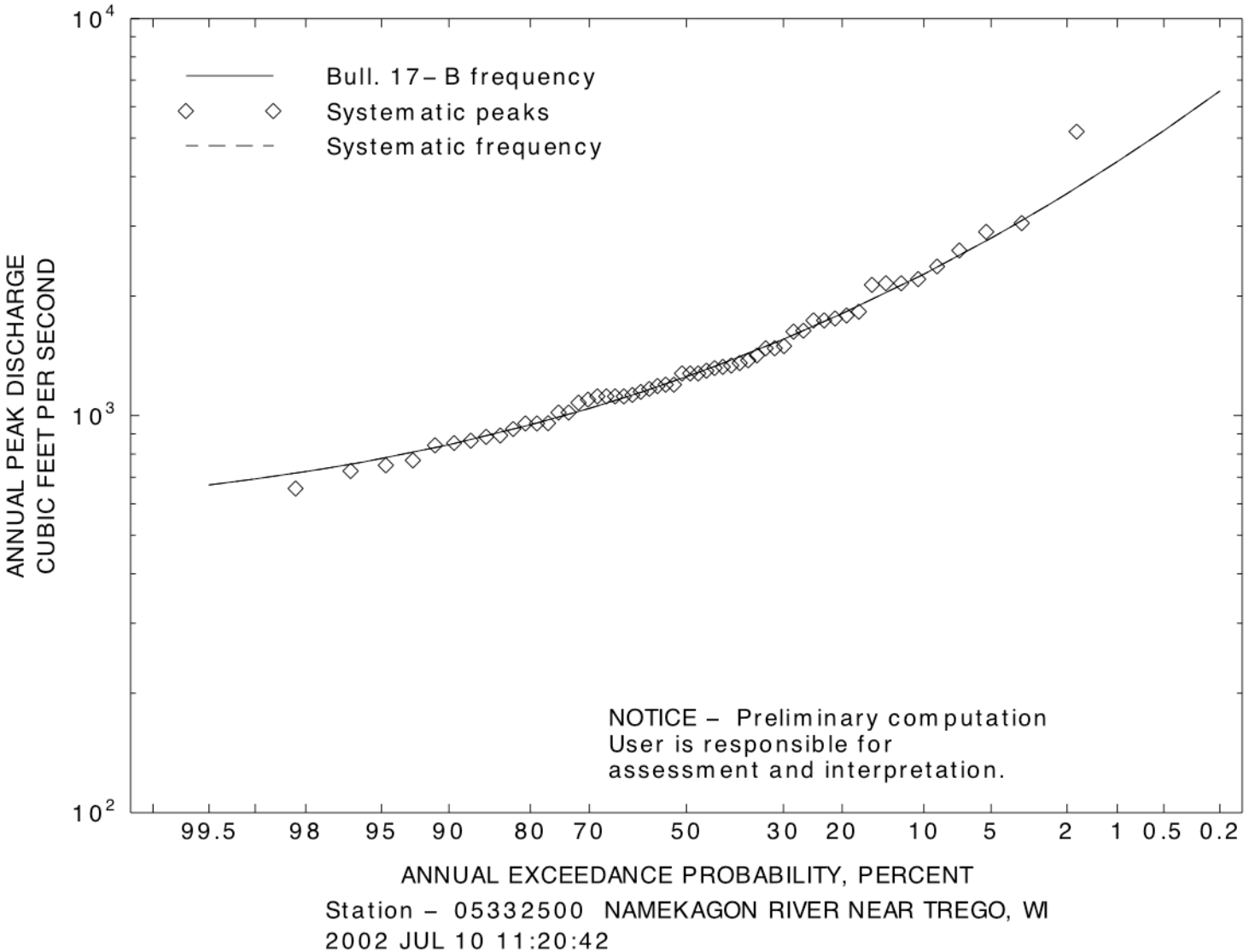
EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

| WATER YEAR | RANKED DISCHARGE | SYSTEMATIC RECORD | BULL.17B ESTIMATE |
|---|---|---|---|
| 1941 | 5200.0 | 0.0175 | 0.0175 |
| 1994 | 3060.0 | 0.0351 | 0.0351 |
| 1992 | 2910.0 | 0.0526 | 0.0526 |
| 1997 | 2610.0 | 0.0702 | 0.0702 |
| 1958 | 2380.0 | 0.0877 | 0.0877 |
| 1944 | 2210.0 | 0.1053 | 0.1053 |
| 1950 | 2160.0 | 0.1228 | 0.1228 |
| 1996 | 2160.0 | 0.1404 | 0.1404 |
| 1954 | 2140.0 | 0.1579 | 0.1579 |
| 1998 | 1830.0 | 0.1754 | 0.1754 |
| 1991 | 1790.0 | 0.1930 | 0.1930 |
| 1945 | 1760.0 | 0.2105 | 0.2105 |
| 1967 | 1740.0 | 0.2281 | 0.2281 |
| 1969 | 1740.0 | 0.2456 | 0.2456 |
| 1965 | 1640.0 | 0.2632 | 0.2632 |
| 1956 | 1630.0 | 0.2807 | 0.2807 |
| 1951 | 1500.0 | 0.2982 | 0.2982 |
| 1952 | 1480.0 | 0.3158 | 0.3158 |
| 1961 | 1480.0 | 0.3333 | 0.3333 |
| 1960 | 1420.0 | 0.3509 | 0.3509 |
| 1968 | 1380.0 | 0.3684 | 0.3684 |
| 1928 | 1360.0 | 0.3860 | 0.3860 |
| 1936 | 1340.0 | 0.4035 | 0.4035 |
| 1953 | 1330.0 | 0.4211 | 0.4211 |
| 1990 | 1320.0 | 0.4386 | 0.4386 |
| 1938 | 1300.0 | 0.4561 | 0.4561 |
| 1942 | 1280.0 | 0.4737 | 0.4737 |
| 1964 | 1280.0 | 0.4912 | 0.4912 |
| 1966 | 1280.0 | 0.5088 | 0.5088 |
| 1962 | 1200.0 | 0.5263 | 0.5263 |
| 1988 | 1200.0 | 0.5439 | 0.5439 |
| 1943 | 1190.0 | 0.5614 | 0.5614 |
| 1949 | 1170.0 | 0.5789 | 0.5789 |
| 1929 | 1150.0 | 0.5965 | 0.5965 |
| 1989 | 1130.0 | 0.6140 | 0.6140 |
| 1946 | 1120.0 | 0.6316 | 0.6316 |
| 1955 | 1120.0 | 0.6491 | 0.6491 |
| 1957 | 1120.0 | 0.6667 | 0.6667 |
| 1999 | 1120.0 | 0.6842 | 0.6842 |
| 1995 | 1100.0 | 0.7018 | 0.7018 |
| 1993 | 1080.0 | 0.7193 | 0.7193 |
| 1939 | 1020.0 | 0.7368 | 0.7368 |
| 2000 | 1020.0 | 0.7544 | 0.7544 |
| 1947 | 959.0 | 0.7719 | 0.7719 |
| 1935 | 957.0 | 0.7895 | 0.7895 |
| 1948 | 957.0 | 0.8070 | 0.8070 |
| 1970 | 927.0 | 0.8246 | 0.8246 |
| 1937 | 893.0 | 0.8421 | 0.8421 |

| | | | |
|---|---|---|---|
| 1959 | 886.0 | 0.8596 | 0.8596 |
| 1934 | 867.0 | 0.8772 | 0.8772 |
| 1931 | 855.0 | 0.8947 | 0.8947 |
| 1930 | 844.0 | 0.9123 | 0.9123 |
| 1940 | 773.0 | 0.9298 | 0.9298 |
| 1933 | 751.0 | 0.9474 | 0.9474 |
| 1932 | 727.0 | 0.9649 | 0.9649 |
| 1963 | 657.0 | 0.9825 | 0.9825 |


Bull. 17–B frequency
Systematic peaks
Systematic frequency
NOTICE – Preliminary computation
User is responsible for
assessment and interpretation.
ANNUAL PEAK DISCHARGE
CUBIC FEET PER SECOND
$10^4$
$10^3$
$10^2$
99.5 98 95 90 80 70 50 30 20 10 5 2 1 0.5 0.2
ANNUAL EXCEEDANCE PROBABILITY, PERCENT
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