

Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

Streamgauge number and name:

06482960 Mound Creek tributary at Hardwick, Minn.

Peak-flow information:

| | |
|---|------|
| Number of systematic peak flows in record | 27 |
| Systematic period begins | 1959 |
| Systematic period ends | 1996 |
| Length of systematic record | 38 |
| Years without information | 11 |
| Peak flows not used in analysis | 1 |
| Number of historical peak flows in record | 0 |

Frequency analysis options:

| | |
|------------------------------------|-------------------------------|
| Method | Bulletin 17B |
| Skew option | Weighted |
| Generalized skew | -0.254 |
| Standard error of generalized skew | 0.426 |
| Low-outlier method | Bulletin 17B Grubbs-Beck test |

Bulletin 17B systematic record analysis results:

Moments of the common logarithms of the peak flows:

| | Mean | Standard deviation | Skewness |
|--|--------|--------------------|----------|
| | 1.5245 | 0.6141 | -0.788 |

Outlier criteria and number of peak flows exceeding:

| | | |
|------|--------|---|
| Low | 0.9 | 0 |
| High | 1178.7 | 1 |

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

| | Standard | |
|--------|-----------|----------|
| Mean | deviation | Skewness |
| 1.5245 | 0.6141 | -0.473 |

Annual frequency curve at selected exceedance probabilities:

[WIE, Weighted independent estimate; --, not computed]

| Exceedance probability | Peak estimate | Lower-95 level | Upper 95 level | WIE estimate | Lower-95 WIE level | Upper 95 WIE level |
|------------------------|---------------|----------------|----------------|--------------|--------------------|--------------------|
| 0.9950 | 0.5 | 0.1 | 1.1 | -- | -- | -- |
| 0.9900 | 0.8 | 0.2 | 1.7 | -- | -- | -- |
| 0.9500 | 2.7 | 1.1 | 5.1 | -- | -- | -- |
| 0.9000 | 5.2 | 2.4 | 8.9 | -- | -- | -- |
| 0.8000 | 10.6 | 5.8 | 17.1 | -- | -- | -- |
| 0.6667 | 20.0 | 12.1 | 31.4 | -- | -- | -- |
| 0.5000 | 37.4 | 23.7 | 59.6 | 30.6 | 21.9 | 42.9 |
| 0.4292 | 47.8 | 30.5 | 77.9 | -- | -- | -- |
| 0.2000 | 112.0 | 69.6 | 207.0 | 80.1 | 56.8 | 113.0 |
| 0.1000 | 188.0 | 111.0 | 384.0 | 134.0 | 91.3 | 196.0 |
| 0.0400 | 311.0 | 174.0 | 714.0 | 252.0 | 162.0 | 395.0 |
| 0.0200 | 422.0 | 226.0 | 1,040.0 | 304.0 | 180.0 | 514.0 |
| 0.0100 | 546.0 | 282.0 | 1,440.0 | 456.0 | 249.0 | 834.0 |
| 0.0050 | 683.0 | 341.0 | 1,900.0 | -- | -- | -- |
| 0.0020 | 882.0 | 424.0 | 2,630.0 | 657.0 | 303.0 | 1,430.0 |

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

NA Missing peak value

| Water | Peak | Peak-flow |
|--------------------------|-------|-----------|
| year | flow | code |
| 1959 | 260.0 | -- |
| 1960 | 60.0 | -- |
| 1961 | 38.0 | -- |
| 1962 | 63.0 | -- |
| 1963 | 2.0 | -- |
| 1964 | 70.0 | -- |
| 1965 | 172.0 | -- |
| 1966 | 66.0 | -- |
| 1967 | 23.0 | -- |
| 1968 | 9.2 | -- |
| 1969 | 382.0 | -- |
| 1970 | 6.6 | -- |
| 1971 | 28.0 | -- |
| 1972 | 31.0 | -- |
| 1973 | 24.0 | -- |
| 1974 | 3.0 | -- |
| 1975 | 12.0 | -- |
| 1976 | 47.0 | -- |
| 1977 | 122.0 | -- |
| 1978 | 1.0 | -- |
| 1979 | 104.0 | -- |
| 1980 | 71.0 | -- |
| 1981 | 28.0 | -- |
| 1982 | 63.0 | -- |
| 1983 | 56.0 | -- |
| 1984 | 86.0 | -- |
| 1985 | 17.0 | -- |
| Gap in systematic record | | |
| 1996 | NA | -- |