

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05129650 Little Fork River at Cook, Minn.

Peak-flow information:

| | |
|---|------|
| Number of systematic peak flows in record | 17 |
| Systematic period begins | 1968 |
| Systematic period ends | 1984 |
| Length of systematic record | 17 |
| Years without information | 0 |
| Number of historical peak flows in record | 0 |

Frequency analysis options:

| | |
|------------------------------------|-------------------------------|
| Method | Bulletin 17B |
| Skew option | Weighted |
| Generalized skew | 0.02 |
| 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:

| | Standard | |
|--------|-----------|----------|
| Mean | deviation | Skewness |
| 2.7342 | 0.2422 | 1.000 |

Outlier criteria and number of peak flows exceeding:

| | | |
|------|--------|---|
| Low | 149.6 | 0 |
| High | 1965.7 | 1 |

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

| | Standard | | |
|--------|-----------|----------|--|
| Mean | deviation | Skewness | |
| 2.7342 | 0.2422 | 0.316 | |

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 | 152 | 84.9 | 216 | -- | -- | -- |
| 0.9900 | 169 | 97.9 | 235 | -- | -- | -- |
| 0.9500 | 228 | 147.0 | 302 | -- | -- | -- |
| 0.9000 | 271 | 185.0 | 350 | -- | -- | -- |
| 0.8000 | 337 | 244.0 | 426 | -- | -- | -- |
| 0.6667 | 417 | 318.0 | 521 | -- | -- | -- |
| 0.5000 | 527 | 416.0 | 663 | 513 | 400 | 658 |
| 0.4292 | 582 | 464.0 | 740 | -- | -- | -- |
| 0.2000 | 858 | 680.0 | 1,180 | 828 | 611 | 1,120 |
| 0.1000 | 1,130 | 868.0 | 1,670 | 1,080 | 752 | 1,540 |
| 0.0400 | 1,530 | 1,120.0 | 2,510 | 1,420 | 919 | 2,190 |
| 0.0200 | 1,870 | 1,330.0 | 3,310 | 1,690 | 1,030 | 2,760 |
| 0.0100 | 2,260 | 1,550.0 | 4,280 | 1,980 | 1,140 | 3,440 |
| 0.0050 | 2,690 | 1,780.0 | 5,460 | -- | -- | -- |
| 0.0020 | 3,350 | 2,120.0 | 7,380 | 2,710 | 1,380 | 5,320 |

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

| Water | Peak | Peak-flow |
|-------|-------|-----------|
| year | flow | code |
| 1968 | 431 | -- |
| 1969 | 900 | -- |
| 1970 | 2,200 | -- |
| 1971 | 745 | -- |
| 1972 | 523 | -- |
| 1973 | 250 | -- |
| 1974 | 502 | -- |
| 1975 | 747 | -- |
| 1976 | 350 | -- |
| 1977 | 1,030 | -- |
| 1978 | 360 | -- |
| 1979 | 992 | -- |
| 1980 | 305 | -- |
| 1981 | 354 | -- |
| 1982 | 463 | -- |
| 1983 | 380 | -- |
| 1984 | 398 | -- |