Annual Peak-Flow Frequency Analysis

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

Streamgage number and name:
    04015200 Encampment River tributary at Silver Creek, Minn.

Peak-flow information:

Number of systematic peak flows in record	31
Systematic period begins	1960
Systematic period ends	1990
Length of systematic record	31
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.5
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
1.7415	0.2562	0.816

Outlier criteria and number of peak flows exceeding:

Low	12.1	0
High	252.1	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.7415	0.2562	0.637

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	17.1	11.8	22.2	−−	−−	−−
0.9900	18.5	13.0	23.7	−−	−−	−−
0.9500	23.5	17.4	29.3	−−	−−	−−
0.9000	27.3	20.8	33.4	−−	−−	−−
0.8000	33.3	26.3	40.1	−−	−−	−−
0.6667	40.9	33.3	48.7	−−	−−	−−
0.5000	51.8	43.2	61.8	52.0	42.3	63.9
0.4292	57.6	48.2	69.0	−−	−−	−−
0.2000	88.2	73.3	111.0	90.1	68.8	118.0
0.1000	121.0	97.7	161.0	126.0	89.9	176.0
0.0400	174.0	135.0	251.0	188.0	122.0	289.0
0.0200	224.0	167.0	343.0	249.0	151.0	411.0
0.0100	284.0	205.0	461.0	327.0	185.0	577.0
0.0050	357.0	248.0	612.0	−−	−−	−−
0.0020	476.0	316.0	878.0	586.0	286.0	1,200.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

−− none

Water year	Peak flow	Peak-flow code
1960	72	−−
1961	85	−−
1962	26	−−
1963	20	−−
1964	41	−−
1965	29	−−
1966	47	−−
1967	45	−−
1968	245	−−
1969	46	−−
1970	31	−−
1971	45	−−
1972	225	−−
1973	48	−−
1974	149	−−
1975	41	−−
1976	22	−−
1977	60	−−
1978	60	−−
1979	112	−−
1980	60	−−
1981	82	−−
1982	62	−−
1983	36	−−
1984	35	−−
1985	74	−−
1986	81	−−
1987	45	−−
1988	63	−−
1989	48	−−
1990	42	−−