Annual Peak-Flow Frequency Analysis
For more information on the contents of this documentation, see Kessler and others (2013).

Streamgage number and name:

05305200 Spring Creek near Montevideo, Minn.

Peak-flow information:

Number of systematic peak flows in record	42
Systematic period begins	1959
Systematic period ends	2000
Length of systematic record	42
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.22
Standard error of generalized skew	0.4266
Low-outlier method	Multiple Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.9864	0.4940	-0.302

Low-outlier information:

Number of low outliers	0
Low-outlier threshold	Not determined

Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.9866	0.4936	-0.264

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	3.92	0.56	8.65	––	––	––
0.9900	5.54	1.08	11.20	––	––	––
0.9500	13.80	5.33	23.00	––	––	––
0.9000	22.00	10.80	34.40	––	––	––
0.8000	37.90	22.60	56.30	––	––	––
0.6667	62.00	40.50	89.70	––	––	––
0.5000	102.00	69.80	146.00	101	72.4	141
0.4292	125.00	86.20	179.00	––	––	––
0.2000	255.00	178.00	387.00	249	178.0	350
0.1000	401.00	274.00	672.00	388	268.0	562
0.0400	637.00	415.00	1,280.00	606	394.0	934
0.0200	849.00	525.00	1,990.00	801	490.0	1,310
0.0100	1,090.00	633.00	2,980.00	1,020	590.0	1,760
0.0050	1,370.00	736.00	4,370.00	––	––	––
0.0020	1,780.00	864.00	7,020.00	1,630	817.0	3,260

Peak-flow data used in the analysis:

Explanation of symbols and codes

<	Less than
−−	none

Water year	Peak flow	Peak-flow code	Water year	Peak flow	Peak-flow code
1959	62.0	−−	1980	36.0	−−
1960	427.0	−−	1981	116.0	−−
1961	21.0	−−	1982	130.0	−−
1962	492.0	−−	1983	8.4	−−
1963	99.0	−−	1984	310.0	−−
1964	69.0	−−	1985	128.0	−−
1965	203.0	−−	1986	172.0	−−
1966	79.0	−−	1987	55.0	−−
1967	197.0	−−	1988	38.0	−−
1968	17.0	−−	1989	128.0	−−
1969	463.0	−−	1990	120.0	−−
1970	86.0	−−	1991	470.0	−−
1971	185.0	−−	1992	660.0	−−
1972	108.0	−−	1993	377.0	−−
1973	118.0	−−	1994	82.0	−−
1974	30.0	−−	1995	98.0	−−
1975	40.0	−−	1996	54.0	−−
1976	15.0	−−	1997	475.0	−−
1977	164.0	−−	1998	24.0	−−
1978	116.0	−−	1999	34.0	−−
1979	480.0	−−	2000	<16.0	−−