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

Streamgage number and name:

05292500 Minnesota River near Odessa, Minn.

Peak-flow information:

Number of systematic peak flows in record	20
Systematic period begins	1910
Systematic period ends	1963
Length of systematic record	54
Years without information	34
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Streamgage
Low-outlier method	Single Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.7385	0.3785	-0.413

Low-outlier information:

Number of low outliers	0
Low-outlier threshold	83

Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.7385	0.3785	-0.413

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	41.5	1.25	97
0.9900	55.6	2.72	117
0.9500	119.0	16.40	204
0.9000	174.0	37.00	282
0.8000	269.0	122.00	423
0.6667	396.0	232.00	618
0.5000	581.0	370.00	909
0.4292	677.0	437.00	1,060
0.2000	1,150.0	752.00	1,830
0.1000	1,600.0	1,040.00	3,240
0.0400	2,210.0	1,450.00	7,250
0.0200	2,690.0	1,660.00	10,500
0.0100	3,180.0	1,780.00	14,400
0.0050	3,690.0	1,830.00	20,000
0.0020	4,380.0	1,830.00	31,400

Peak-flow data used in the analysis:

Explanation of symbols and codes

−−	none
K	Peak affected by regulation

Water year	Peak flow	Peak-flow code
1910	850	−−
1911	238	−−
Gap in systematic record		
1944	603	K
1945	592	K
1946	1,020	K
1947	1,540	K
1948	845	K
1949	262	K
1950	813	K
1951	945	K
1952	3,070	K
1953	544	K
1954	655	K
1955	274	K
1956	151	K
1957	703	K
1958	636	K
1959	83	K
1960	567	K
1961	139	K
1962	1,390	K
1963	335	K