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

Streamgage number and name:

05096000 North Branch Two Rivers near Lancaster, Minn.

Peak-flow information:

Number of systematic peak flows in record	24
Systematic period begins	1930
Systematic period ends	1955
Length of systematic record	26
Years without information	2
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.498
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
1.8771	0.6134	-0.529

Outlier criteria and number of peak flows exceeding:

Low	2.3	0
High	2456.4	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.8771	0.6134	-0.511

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	1.0	0.2	2.6	––	––	––
0.9900	1.7	0.4	4.0	––	––	––
0.9500	6.1	2.3	11.8	––	––	––
0.9000	11.6	5.2	20.5	––	––	––
0.8000	24.1	12.7	39.7	––	––	––
0.6667	45.5	26.6	73.2	––	––	––
0.5000	84.9	52.4	140.0	123	81.6	187
0.4292	108.0	67.5	183.0	––	––	––
0.2000	253.0	153.0	487.0	303	201.0	456
0.1000	419.0	241.0	901.0	463	298.0	720
0.0400	685.0	372.0	1,670.0	699	421.0	1,160
0.0200	919.0	479.0	2,410.0	889	506.0	1,560
0.0100	1,180.0	592.0	3,310.0	1,090	586.0	2,020
0.0050	1,460.0	709.0	4,350.0	––	––	––
0.0020	1,860.0	871.0	5,940.0	1,560	737.0	3,290

Peak-flow data used in the analysis:

Explanation of symbols and codes

−− none

Water year	Peak flow	Peak-flow code
1930	226	−−
1931	38	−−
1932	59	−−
1933	126	−−
1934	15	−−
1935	12	−−
1936	8	−−
1937	277	−−
1938	8	−−
Gap in systematic record		
1941	290	−−
1942	253	−−
1943	175	−−
1944	203	−−
1945	124	−−
1946	56	−−
1947	217	−−
1948	281	−−
1949	50	−−
1950	912	−−
1951	173	−−
1952	21	−−
1953	4	−−
1954	50	−−
1955	151	−−