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

Streamgage number and name:

05337400 Knife River near Mora, Minn.

Peak-flow information:

Number of systematic peak flows in record	27
Systematic period begins	1975
Systematic period ends	2001
Length of systematic record	27
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.292
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
2.8847	0.3618	-0.579

Outlier criteria and number of peak flows exceeding:

Low	94.0	0
High	6252.6	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.8847	0.3618	-0.416

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	64.9	29.5	109	−−	−−	−−
0.9900	86.0	42.2	138	−−	−−	−−
0.9500	178.0	105.0	256	−−	−−	−−
0.9000	256.0	165.0	352	−−	−−	−−
0.8000	389.0	273.0	514	−−	−−	−−
0.6667	563.0	418.0	733	−−	−−	−−
0.5000	812.0	621.0	1,070	757	567	1,010
0.4292	940.0	722.0	1,250	−−	−−	−−
0.2000	1,560.0	1,180.0	2,240	1,430	1,060	1,920
0.1000	2,130.0	1,560.0	3,260	1,920	1,400	2,660
0.0400	2,910.0	2,060.0	4,760	2,550	1,750	3,710
0.0200	3,510.0	2,420.0	6,010	2,980	1,950	4,550
0.0100	4,120.0	2,770.0	7,340	3,430	2,130	5,520
0.0050	4,740.0	3,130.0	8,760	−−	−−	−−
0.0020	5,570.0	3,590.0	10,800	4,400	2,430	7,980

Peak-flow data used in the analysis:

Explanation of symbols and codes

−− none

Water year	Peak flow	Peak-flow code
1975	1,470	−−
1976	897	−−
1977	261	−−
1978	1,280	−−
1979	1,840	−−
1980	279	−−
1981	529	−−
1982	1,440	−−
1983	1,030	−−
1984	1,100	−−
1985	1,430	−−
1986	1,780	−−
1987	138	−−
1988	142	−−
1989	546	−−
1990	569	−−
1991	1,020	−−
1992	653	−−
1993	489	−−
1994	682	−−
1995	1,580	−−
1996	1,130	−−
1997	1,870	−−
1998	203	−−
1999	1,270	−−
2000	386	−−
2001	3,450	−−