

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05261520 Nokasippi River near Fort Ripley, Minn.

Peak-flow information:

Number of systematic peak flows in record	26
Systematic period begins	1986
Systematic period ends	2011
Length of systematic record	26
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.149
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:

	Standard	
Mean	deviation	Skewness
2.6740	0.2616	-0.284

Outlier criteria and number of peak flows exceeding:

Low	104.6	0
High	2130.6	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.6740	0.2616	-0.211

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	88.8	51.1	128	--	--	--
0.9900	106.0	64.0	148	--	--	--
0.9500	169.0	116.0	220	--	--	--
0.9000	216.0	156.0	272	--	--	--
0.8000	286.0	220.0	352	--	--	--
0.6667	371.0	297.0	450	--	--	--
0.5000	482.0	395.0	590	489	391	612
0.4292	536.0	441.0	661	--	--	--
0.2000	788.0	640.0	1,030	790	622	1,000
0.1000	1,010.0	800.0	1,380	1,010	773	1,320
0.0400	1,300.0	998.0	1,890	1,300	943	1,790
0.0200	1,520.0	1,140.0	2,300	1,510	1,050	2,170
0.0100	1,740.0	1,290.0	2,750	1,740	1,150	2,610
0.0050	1,980.0	1,430.0	3,220	--	--	--
0.0020	2,290.0	1,620.0	3,890	2,260	1,350	3,800

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1986	828	--
1987	150	--
1988	170	--
1989	560	--
1990	490	--
1991	357	--
1992	173	--
1993	515	--
1994	640	--
1995	760	--
1996	530	--
1997	1,030	--
1998	296	--
1999	1,100	--
2000	400	--
2001	1,110	--
2002	391	--
2003	1,160	--
2004	220	--
2005	494	--
2006	247	--
2007	299	--
2008	410	--
2009	941	--
2010	555	--
2011	605	--