

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05205200 Boy River near Remer, 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	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.16
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:

	Standard	
Mean	deviation	Skewness
2.4984	0.2195	-0.109

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:

	Standard	
Mean	deviation	Skewness
2.4983	0.2197	-0.135

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	80.2	27.8	118	--	--	--
0.9900	92.3	37.8	131	--	--	--
0.9500	134.0	79.0	176	--	--	--
0.9000	164.0	110.0	208	--	--	--
0.8000	207.0	154.0	256	--	--	--
0.6667	256.0	201.0	314	--	--	--
0.5000	319.0	257.0	392	333	275	404
0.4292	349.0	283.0	431	--	--	--
0.2000	484.0	393.0	628	502	408	619
0.1000	598.0	479.0	836	626	494	793
0.0400	746.0	582.0	1,190	789	594	1,050
0.0200	858.0	653.0	1,530	914	660	1,260
0.0100	972.0	717.0	1,930	1,040	722	1,510
0.0050	1,090.0	776.0	2,420	--	--	--
0.0020	1,240.0	847.0	3,220	1,360	849	2,180

Peak-flow data used in the analysis:

Explanation of symbols and codes

< Less than

-- none

Water year	Peak flow	Peak-flow code
1986	530	--
1987	660	--
1988	600	--
1989	350	--
1990	220	--
1991	340	--
1992	170	--
1993	185	--
1994	240	--
1995	600	--
1996	660	--
1997	590	--
1998	250	--
1999	435	--
2000	288	--
2001	432	--
2002	254	--
2003	<213	--
2004	<315	--
2005	288	--
2006	259	--
2007	130	--
2008	160	--
2009	435	--
2010	512	--
2011	<395	--