

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05317845 East Branch Blue Earth River near Walters, Minn.

Peak-flow information:

Number of systematic peak flows in record	33
Systematic period begins	1979
Systematic period ends	2011
Length of systematic record	33
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.194
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
	2.6018	0.2150	-0.131

Outlier criteria and number of peak flows exceeding:

Low	110.2	0
High	1451.0	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.6018	0.2150	-0.160

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	104	70.7	135	--	--	--
0.9900	119	84.0	152	--	--	--
0.9500	173	133.0	210	--	--	--
0.9000	210	167.0	250	--	--	--
0.8000	265	219.0	308	--	--	--
0.6667	327	278.0	376	--	--	--
0.5000	405	351.0	468	406	342	483
0.4292	442	384.0	514	--	--	--
0.2000	608	523.0	735	620	516	744
0.1000	747	630.0	936	773	629	952
0.0400	925	762.0	1,210	985	767	1,270
0.0200	1,060	857.0	1,420	1,150	864	1,540
0.0100	1,190	950.0	1,650	1,340	964	1,860
0.0050	1,330	1,040.0	1,880	--	--	--
0.0020	1,510	1,160.0	2,200	1,810	1,180	2,780

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1979	380	--
1980	465	--
1981	500	--
1982	325	--
1983	340	--
1984	450	--
1985	290	--
1986	425	--
1987	265	--
1988	133	--
1989	295	--
1990	400	--
1991	500	--
1992	222	--
1993	657	--
1994	465	--
1995	290	--
1996	145	--
1997	285	--
1998	510	--
1999	506	--
2000	426	--
2001	626	--
2002	622	--
2003	323	--
2004	1,440	--
2005	335	--
2006	477	--
2007	677	--
2008	409	--
2009	159	--
2010	747	--
2011	757	--