

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05293371 Pomme de Terre River below Elbow Lake, 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	-0.138
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	
2.3856	0.2675	0.369	

Outlier criteria and number of peak flows exceeding:

Low	52.0	0
High	1134.7	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.3856	0.2675	0.089	

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	52.3	31.2	73.7	--	--	--
0.9900	60.4	37.4	83.1	--	--	--
0.9500	89.6	61.5	116.0	--	--	--
0.9000	111.0	80.2	141.0	--	--	--
0.8000	144.0	110.0	178.0	--	--	--
0.6667	185.0	147.0	226.0	--	--	--
0.5000	241.0	196.0	295.0	247	195	313
0.4292	269.0	220.0	332.0	--	--	--
0.2000	407.0	330.0	533.0	434	332	567
0.1000	538.0	424.0	747.0	597	438	812
0.0400	728.0	552.0	1,090.0	856	590	1,240
0.0200	886.0	654.0	1,390.0	1,080	708	1,660
0.0100	1,060.0	761.0	1,750.0	1,360	843	2,200
0.0050	1,250.0	874.0	2,160.0	--	--	--
0.0020	1,530.0	1,030.0	2,790.0	2,120	1,160	3,900

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1986	159	--
1987	130	--
1988	75	--
1989	200	--
1990	110	--
1991	195	--
1992	105	--
1993	420	--
1994	200	--
1995	206	--
1996	288	--
1997	550	--
1998	140	--
1999	247	--
2000	135	--
2001	600	--
2002	440	--
2003	238	--
2004	206	--
2005	252	--
2006	234	--
2007	301	--
2008	214	--
2009	744	--
2010	356	--
2011	910	--