Annual Peak-Flow Frequency Analysis

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

Streamgage number and name:
  05131878 Bowerman Brook near Craigville, 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	-0.228
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
2.3510	0.3274	-0.248

Outlier criteria and number of peak flows exceeding:

Low	31.5	0
High	1598.2	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.3510	0.3274	-0.238

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	27.2	15.0	41.0	−−	−−	−−
0.9900	34.1	19.8	49.7	−−	−−	−−
0.9500	61.8	41.0	83.2	−−	−−	−−
0.9000	83.9	59.2	109.0	−−	−−	−−
0.8000	120.0	90.3	151.0	−−	−−	−−
0.6667	166.0	130.0	206.0	−−	−−	−−
0.5000	231.0	186.0	289.0	232	182	297
0.4292	264.0	213.0	333.0	−−	−−	−−
0.2000	426.0	338.0	569.0	428	330	555
0.1000	577.0	446.0	812.0	582	435	778
0.0400	788.0	588.0	1,180.0	799	565	1,130
0.0200	957.0	697.0	1,500.0	973	657	1,440
0.0100	1,140.0	807.0	1,840.0	1,160	745	1,810
0.0050	1,320.0	920.0	2,220.0	−−	−−	−−
0.0020	1,580.0	1,070.0	2,770.0	1,650	939	2,900

Peak-flow data used in the analysis:

Explanation of symbols and codes

−−   none

Water year	Peak flow	Peak-flow code
1979	650	−−
1980	152	−−
1981	84	−−
1982	580	−−
1983	330	−−
1984	288	−−
1985	540	−−
1986	440	−−
1987	360	−−
1988	110	−−
1989	620	−−
1990	210	−−
1991	160	−−
1992	141	−−
1993	190	−−
1994	120	−−
1995	108	−−
1996	290	−−
1997	450	−−
1998	100	−−
1999	276	−−
2000	75	−−
2001	326	−−
2002	937	−−
2003	40	−−
2004	153	−−
2005	410	−−
2006	226	−−
2007	60	−−
2008	188	−−
2009	260	−−
2010	184	−−
2011	488	−−