Annual Peak-Flow Frequency Analysis

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

Streamgage number and name:
> 06482933 Chanarambie Creek near Edgerton, 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	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.26
Standard error of generalized skew	0.4266
Low-outlier method	Single Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.4716	0.4426	-1.026

Low-outlier information:
Number of low outliers	1
Low-outlier threshold	48

Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.4823	0.4377	-0.497

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	14.2	1.04	33.1	−−	−−	−−
0.9900	20.3	2.09	42.8	−−	−−	−−
0.9500	50.8	13.60	87.2	−−	−−	−−
0.9000	80.0	31.90	127.0	−−	−−	−−
0.8000	134.0	72.50	201.0	−−	−−	−−
0.6667	211.0	133.00	305.0	−−	−−	−−
0.5000	330.0	223.00	469.0	354	267	468
0.4292	393.0	270.00	558.0	−−	−−	−−
0.2000	720.0	509.00	1,060.0	851	642	1,130
0.1000	1,030.0	728.00	1,650.0	1,270	930	1,730
0.0400	1,480.0	1,010.00	2,750.0	1,860	1,290	2,680
0.0200	1,820.0	1,200.00	3,850.0	2,500	1,630	3,840
0.0100	2,180.0	1,360.00	5,250.0	3,010	1,840	4,940
0.0050	2,550.0	1,500.00	7,000.0	−−	−−	−−
0.0020	3,040.0	1,640.00	10,000.0	5,020	2,640	9,560

Peak-flow data used in the analysis:

Explanation of symbols and codes

<	Less than
−−	none
NA	Missing peak value
∗	Less than low-outlier threshold

Water year	Peak flow	Peak-flow code
1979	470	−−
1980	485	−−
1981	19	∗
1982	140	−−
1983	275	−−
1984	450	−−
1985	245	−−
1986	580	−−
1987	250	−−
1988	170	−−
1989	48	−−
1990	55	−−
1991	62	−−
1992	250	−−
1993	NA	NA
1994	662	−−
1995	430	−−
1996	457	−−
1997	850	−−
1998	293	−−
1999	285	−−
2000	540	−−
2001	928	−−
2002	260	−−
2003	<169	−−
2004	820	−−
2005	353	−−
2006	544	−−
2007	NA	NA
2008	<202	−−
2009	160	−−
2010	NA	NA
2011	780	−−