

Annual Peak-Flow Frequency Analysis

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

Streamgage number and name:

05268000 Platte River at Royalton, Minn.

Peak-flow information:

Number of systematic peak flows in record	47
Systematic period begins	1930
Systematic period ends	2011
Length of systematic record	82
Years without information	35
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.179
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
3.1404	0.3349	-0.763

Outlier criteria and number of peak flows exceeding:

Low	166.5	0
High	11465.6	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
3.1404	0.3349	-0.480

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	134	79.6	197	--	--	--
0.9900	176	110.0	249	--	--	--
0.9500	353	250.0	460	--	--	--
0.9000	499	373.0	627	--	--	--
0.8000	740	584.0	903	--	--	--
0.6667	1,050	854.0	1,260	--	--	--
0.5000	1,470	1,220.0	1,780	1,470	1,180	1,820
0.4292	1,680	1,400.0	2,050	--	--	--
0.2000	2,670	2,190.0	3,400	2,630	2,130	3,260
0.1000	3,540	2,830.0	4,680	3,480	2,760	4,390
0.0400	4,660	3,630.0	6,420	4,550	3,450	6,010
0.0200	5,490	4,210.0	7,780	5,320	3,850	7,330
0.0100	6,310	4,760.0	9,170	6,090	4,200	8,810
0.0050	7,120	5,300.0	10,600	--	--	--
0.0020	8,180	5,990.0	12,500	7,800	4,810	12,700

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1930	1,280	--	1988	600	--
1931	1,330	--	1989	1,880	--
1932	543	--	1990	1,220	--
1933	167	--	1991	2,150	--
1934	272	--	1992	890	--
1935	228	--	1993	1,700	--
1936	1,450	--	1994	1,320	--
Gap in systematic record			1995	2,050	--
1972	6,850	--	1996	1,620	--
1973	2,280	--	1997	3,800	--
1974	1,800	--	1998	569	--
1975	2,710	--	1999	2,410	--
1976	2,100	--	2000	1,990	--
1977	850	--	2001	3,520	--
1978	620	--	2002	972	--
1979	2,080	--	2003	2,760	--
1980	800	--	2004	802	--
1981	750	--	2005	1,640	--
1982	2,850	--	2006	1,540	--
1983	2,600	--	2007	1,020	--
1984	1,160	--	2008	1,550	--
1985	2,500	--	2009	3,110	--
1986	2,390	--	2010	3,950	--
1987	360	--	2011	1,950	--