

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05270150 Ashley Creek near Sauk Centre, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	24
Systematic period begins	1986
Systematic period ends	2011
Length of systematic record	26
Years without information	2
Peak flows not used in analysis	2
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.11
Standard error of generalized skew	0.4266
Low-outlier method	Multiple Grubbs-Beck test

**EMA systematic record analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard		
	Mean	deviation	Skewness
	2.5820	0.1795	0.680

**Low-outlier information:**

Number of low outliers	2
Low-outlier threshold	250

**Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
2.5760	0.1891	0.105

**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	128	34.8	181	--	--	--
0.9900	142	45.5	191	--	--	--
0.9500	187	86.7	229	--	--	--
0.9000	217	115.0	259	--	--	--
0.8000	261	154.0	307	--	--	--
0.6667	310	226.0	369	--	--	--
0.5000	374	305.0	454	368	312	435
0.4292	404	334.0	496	--	--	--
0.2000	542	446.0	713	539	445	654
0.1000	661	533.0	947	664	529	832
0.0400	820	640.0	1,360	832	629	1,100
0.0200	944	716.0	1,790	965	699	1,330
0.0100	1,070	790.0	2,350	1,110	767	1,600
0.0050	1,210	861.0	3,100	--	--	--
0.0020	1,390	950.0	4,420	1,480	921	2,370

### Peak-flow data used in the analysis:

Explanation of symbols and codes

- < Less than
- none
- \* Less than low-outlier threshold

Water	Peak	Peak-flow
year	flow	code
1986	600	--
1987	91	*
1988	100	*
1989	290	--
1990	356	--
1991	342	--
1992	320	--
1993	290	--
1994	330	--
1995	490	--
1996	500	--
1997	740	--
1998	330	--
1999	390	--
2000	330	--
2001	1,020	--
2002	416	--
2003	686	--
2004	<331	--
2005	<373	--
2006	<331	--
2007	438	--
2008	250	--
2009	649	--
2010	643	--
2011	620	--