

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05327000 High Island Creek near Henderson, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	38
Systematic period begins	1974
Systematic period ends	2011
Length of systematic record	38
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	-0.14
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:**

	Standard	
Mean	deviation	Skewness
2.9910	0.3413	-1.301

**Low-outlier information:**

Number of low outliers	1
Low-outlier threshold	160

**Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
2.9933	0.3330	-0.587

**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	90	12.4	171	--	--	--
0.9900	120	21.6	211	--	--	--
0.9500	249	95.1	371	--	--	--
0.9000	356	182.0	500	--	--	--
0.8000	533	342.0	713	--	--	--
0.6667	756	542.0	983	--	--	--
0.5000	1,060	804.0	1,360	1,030	806	1,310
0.4292	1,210	930.0	1,550	--	--	--
0.2000	1,900	1,490.0	2,470	1,850	1,470	2,330
0.1000	2,480	1,940.0	3,380	2,420	1,900	3,100
0.0400	3,190	2,460.0	4,810	3,160	2,360	4,220
0.0200	3,700	2,760.0	6,050	3,720	2,660	5,200
0.0100	4,190	3,010.0	7,460	4,290	2,920	6,300
0.0050	4,660	3,200.0	9,040	--	--	--
0.0020	5,250	3,380.0	11,500	5,680	3,440	9,380

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

Explanation of symbols and codes

-- none

\* Less than low-outlier threshold

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1974	825	--	1993	2,750	--
1975	1,500	--	1994	849	--
1976	160	--	1995	882	--
1977	921	--	1996	964	--
1978	1,410	--	1997	2,830	--
1979	1,570	--	1998	2,410	--
1980	399	--	1999	1,570	--
1981	1,760	--	2000	309	--
1982	1,040	--	2001	2,400	--
1983	1,140	--	2002	1,660	--
1984	1,010	--	2003	599	--
1985	1,020	--	2004	2,250	--
1986	1,670	--	2005	628	--
1987	226	--	2006	1,020	--
1988	97	*	2007	869	--
1989	434	--	2008	1,260	--
1990	892	--	2009	541	--
1991	1,300	--	2010	1,380	--
1992	1,770	--	2011	2,450	--