

## Annual Peak-Flow Frequency Analysis

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

### Streamgauge number and name:

05267900 Hillman Creek near Pierz, Minn.

### Peak-flow information:

Number of systematic peak flows in record	39
Systematic period begins	1964
Systematic period ends	2002
Length of systematic record	39
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	-0.21
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
2.6395	0.4377	-0.617

#### Low-outlier information:

Number of low outliers	0
Low-outlier threshold	30

**Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
2.6397	0.4380	-0.417

**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	21.9	2.62	47.7	--	--	--
0.9900	30.8	5.27	61.3	--	--	--
0.9500	74.3	27.40	122.0	--	--	--
0.9000	115.0	55.80	177.0	--	--	--
0.8000	192.0	114.00	278.0	--	--	--
0.6667	300.0	199.00	422.0	--	--	--
0.5000	468.0	328.00	649.0	450	336	602
0.4292	558.0	396.00	774.0	--	--	--
0.2000	1,030.0	748.00	1,480.0	966	718	1,300
0.1000	1,510.0	1,080.00	2,340.0	1,390	1,000	1,920
0.0400	2,190.0	1,520.00	3,930.0	1,960	1,340	2,870
0.0200	2,740.0	1,820.00	5,560.0	2,380	1,550	3,680
0.0100	3,330.0	2,080.00	7,620.0	2,840	1,740	4,630
0.0050	3,950.0	2,310.00	10,200.0	--	--	--
0.0020	4,800.0	2,570.00	14,700.0	3,890	2,100	7,210

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

Explanation of symbols and codes

> Greater than

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1964	1,380	--	1984	430	--
1965	1,550	--	1985	800	--
1966	795	--	1986	680	--
1967	620	--	1987	30	--
1968	190	--	1988	80	--
1969	2,960	--	1989	220	--
1970	290	--	1990	740	--
1971	670	--	1991	490	--
1972	2,490	--	1992	265	--
1973	680	--	1993	348	--
1974	77	--	1994	460	--
1975	840	--	1995	225	--
1976	450	--	1996	550	--
1977	48	--	1997	820	--
1978	300	--	1998	162	--
1979	590	--	1999	1,320	--
1980	200	--	2000	236	--
1981	190	--	2001	1,250	--
1982	810	--	2002	>321	--
1983	620	--			