

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05338500 Snake River near Pine City, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	60
Systematic period begins	1914
Systematic period ends	2011
Length of systematic record	98
Years without information	38
Number of historical peak flows in record	1 1950

**Frequency analysis options:**

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.27
Standard error of generalized skew	0.4266
Low-outlier method	Fixed Threshold

**EMA systematic record analysis results:**

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

	Standard	
Mean	deviation	Skewness
3.6704	0.2583	-0.715

**Low-outlier information:**

Number of low outliers	0
Low-outlier threshold	690

**Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
3.6677	0.2561	-0.503

**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	773	280	1,170	--	--	--
0.9900	954	411	1,370	--	--	--
0.9500	1,630	1,020	2,100	--	--	--
0.9000	2,130	1,520	2,630	--	--	--
0.8000	2,890	2,270	3,460	--	--	--
0.6667	3,770	3,120	4,430	--	--	--
0.5000	4,890	4,150	5,700	4,920	4,220	5,730
0.4292	5,410	4,620	6,300	--	--	--
0.2000	7,710	6,660	8,900	7,760	6,700	8,990
0.1000	9,530	8,220	11,100	9,640	8,220	11,300
0.0400	11,700	10,000	14,200	11,900	9,830	14,500
0.0200	13,300	11,100	16,800	13,600	10,800	17,100
0.0100	14,700	12,000	19,500	15,200	11,700	19,900
0.0050	16,100	12,700	22,400	--	--	--
0.0020	17,800	13,500	26,500	19,000	13,300	27,200

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

Explanation of symbols and codes

-- none

H Historic, outside of systematic record

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1914	4,140	--	1977	1,670	--
1915	1,890	--	1978	5,200	--
1916	7,240	--	1979	7,360	--
1917	4,580	--	1980	1,920	--
Gap in systematic record			1981	2,040	--
1950	12,500	H	1982	6,100	--
Gap in systematic record			1983	4,760	--
1952	7,550	--	1984	7,860	--
1953	5,380	--	1985	6,460	--
1954	7,710	--	1986	8,140	--
1955	4,480	--	1987	791	--
1956	7,670	--	Gap in systematic record		
1957	6,730	--	1992	3,380	--
1958	1,500	--	1993	2,320	--
1959	1,600	--	1994	3,520	--
1960	2,000	--	1995	3,950	--
1961	2,290	--	1996	7,350	--
1962	7,730	--	1997	10,200	--
1963	2,910	--	1998	1,910	--
1964	6,820	--	1999	4,490	--
1965	11,500	--	2000	2,030	--
1966	6,050	--	2001	11,000	--
1967	7,670	--	2002	6,460	--
1968	3,200	--	2003	5,500	--
1969	10,200	--	2004	3,940	--
1970	4,350	--	2005	5,310	--
1971	6,560	--	2006	4,840	--
1972	14,300	--	2007	3,670	--
1973	5,560	--	2008	5,370	--
1974	4,300	--	2009	7,360	--
1975	9,400	--	2010	3,900	--
1976	6,010	--	2011	6,280	--