

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

05125000 South Kawishiwi River near Ely, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	22
Systematic period begins	1952
Systematic period ends	2011
Length of systematic record	60
Years without information	38
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.154
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
3.2743	0.2801	-0.508

**Outlier criteria and number of peak flows exceeding:**

Low	392.6	0
High	9008.4	0

**Bulletin 17B Final analysis results:**

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

	Standard	
Mean	deviation	Skewness
3.2743	0.2801	-0.111

**Annual frequency curve at selected exceedance probabilities:**

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	334	176	501
0.9900	398	221	579
0.9500	638	407	862
0.9000	817	557	1,070
0.8000	1,100	802	1,390
0.6667	1,440	1,100	1,800
0.5000	1,900	1,510	2,410
0.4292	2,130	1,700	2,730
0.2000	3,250	2,560	4,450
0.1000	4,260	3,270	6,230
0.0400	5,670	4,190	8,950
0.0200	6,800	4,880	11,300
0.0100	8,000	5,590	14,000
0.0050	9,260	6,320	16,900
0.0020	11,000	7,310	21,300

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

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1952	2,130	--
1953	1,900	--
1954	5,130	--
1955	1,270	--
1956	3,780	--
1957	4,380	--
1958	666	--
1959	1,130	--
1960	2,670	--
1961	1,740	--
Gap in systematic record		
1976	4,980	--
1977	1,430	--
1978	2,630	--
Gap in systematic record		
2003	788	--
2004	1,970	--
2005	1,680	--
2006	2,870	--
2007	1,620	--
2008	2,900	--
2009	2,220	--
2010	404	--
2011	1,200	--